Federal Public Service Foreign Affairs,
Foreign Trade and Development Cooperation

Special Evaluation Office of the Belgian Development Cooperation

Evaluation of the international climate finance by the Belgian federal government

Draft Final Report
Volume II – Annexes

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SEO No. S4/2020/03

The evaluation is being conducted by ADE and Trinomics in collaboration with Climact. It is benefiting from the support of a Reference Group in Brussels. The Special Evaluation Office ensures that the evaluation complies with the Terms of Reference.

Table of Contents

Full report available on volume I

Liste of annexes in the present volume II

Abreviations and acronyms

AEF	Access to Energy Fund
AF	Adaptation Fund
AFD	Agence Française de Développement
APEFE	Association pour la Promotion de l'Education et de la Formation à l'Etranger
ARES	Académie de recherche et d'enseignement supérieur
AWEX	Wallonia Foreign Trade and Investment Agency
BARVAFOR	Projet de Bassin de Rétention et de Valorisation de Forages dans les régions de Diourbel, Fatick, Kaoloack, Kaffrine et Thies
BIO	Belgian Investment Company for Developing countries
BTC	Belgian Technical Cooperation
CAADP	Comprehensive African Agricultural Development Programme
CAEP	Climate Acion Enhancement Package
CERMI	Center for Renewable Energy and Industrial Maintenance
CDKN	Climate & Development Knowledge Network
CIF	Climate Investment Fund
CIO	Climate Investor One
COACCH	CO-designing the Assessment of Climate CHange costs
COP	Conference of the Parties
CPI	Climate Policy Initiative
CSA	Climate Smart Agriculture
DFCD	Dutch Fund for Climate & Development
DFI	Development Finance Institution
DGD	Directorate-General for Development Cooperation and Humanitarian Aid (Belgium)
DG INTPA	Directorate-General for International Partnerships
DGPRE	Direction de la Gestion et de la Planification des Ressources en Eau (Senegal)
DRC	Democratic Republic of Congo

€	Euros
EEAS	European External Action Service
EDFI	European Development Finance Institutions
EIB	European Investment Bank
EIT	Environmental Integration Tool
EQ	Evaluation Question
ETF	Enhanced Transparency Framework
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FDW	Sustainable Water Fund
FMO	Dutch Entrepreneurial Development Bank
FPS	Federal Public Service
FPS Foreign Affairs	Federal Public Service Foreign Affairs, Foreign Trade and Development Cooperation
FPS Environment	Federal Public Service Health, Food Chain Safety and Environment
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIRE	Integrated Water Resource Management / Gestion Intégrée des Ressources en Eau
GIZ	German International Cooperation
IA	Institutional Actors
IATI	International Aid Transparency Initiative
ICF	International Climate Finance
ICFA	International Climate Finance Accelerator
IDH	Sustainable Trade Initiative
IFC	International Finance Corporation
IPCC	Intergovernmental Panel on Climate Change
JSF	Joint Strategic Framework
KPI	Key Performance Indicators
LDC	Least Developed Country
LDCF	Least Developed Countries Fund
MD8	Climate, Environment and Sustainable Development service of DGD

M€	Million euros
M&E	Monitoring and Evaluation
MoU	Memorandum of Understanding
MMR	Monitoring Mechanism Regulation
MRV	Measure, Report and Verify
NAMA	Nationally Appropriate Mitigation Action
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NDC	National Determined Contributions
NGA	Non-Governmental Actors
NGO	Non-Governmental Organisation
NL	The Netherlands
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
OECD-DAC	Development Assistance Committee of the OECD
OOF	Other Official Flows
PARERBA	Projet d'Appui à la Réduction de l'Émigration Rurale dans le Bassin Arachidier
PASEPAR	Programme d'amélioration des services de l'eau potable et de l'assainissement en milieu rural
PATPA	Partnership on Transparency in the Paris Agreement
PMV	Participatiemaatschappij Vlaanderen
PPP	Public-Private-Partnership
RE	Renewable Energy
RVO	Netherlands Enterprise Agency
SBI-BMI	Belgian Corporation for International Investment
SCCF	Special Climate Change Fund
SDGs	Sustainable Development Goals
SEO	Special Evaluation Office of the Belgian Development Cooperation
SIDS	Small Island Developing States
SME	Small and medium-sized enterprises
ToC	Theory of Change
ToR	Terms of Reference

UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNHCR	United Nations Refugee Agency
UNFCCC	United Nations Framework Convention on Climate Change
UNFCCC TFSA	United Nations Framework Convention on Climate Change Trust Fund for Supplementary Activities
UNFCCC TFP	United Nations Framework Convention on Climate Change Trust Fund for Participation
USD	United States Dollar
WB	World Bank
WFP	World Food Programme
WRI	World Resources Institute

List of Photos

Country Case Study – Senegal

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Photos 1 & 2 : Solar energy production in Ten Merina

Photo 3: Solar powered water pump and borehole in irrigation perimeter

Photos 4 & 5 : Waste collection in Sokone (VVSG)

Photo 6: Irrigated perimeter set up by PARERBA following BARVAFOR support

Photos 7 & 8: Tree sapling production in Eclosio supported moringa school nursery and VVS supported Sokone Municipality

Photo 9: Onion cultivation in a Ten Merina supported vegetable park

Photo 10: VVSG supported compost production in Sokone municipality

Photo 11: Eclosio supported nursery

Photos 12 & 13: Water management and vegetable production perimeter

Country Case Study – Tanzania

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Sustainable Agriculture Kigoma Regional Project (SAKiRP), Tanzania

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EMSFA, springs rejuvenation

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Kikagati, construction of the facility, Tanzania

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DRR Tanzania, trees planting

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EMSFA, Selela village in 2018 and 2019, Tanzania

Annex 1: Terms of Reference

KINGDOM OF BELGIUM

Federal Public Service

Foreign Affairs,

Foreign Trade and

Development Cooperation

Open procedure for the evaluation of the international climate finance by the Belgian federal government

June 2020

SPECIFICATIONS

No. S4/2020/03

Table of contents

B. TECHNICAL SPECIFICATIONS

Introduction This section contains the terms of reference for the evaluation of the international climate finance by the Belgian federal government.

Party responsible for the evaluation. This evaluation shall take place on behalf of the Special Evaluation Office (SEO) of the Federal Public Service Foreign Affairs, Foreign Trade and Development Cooperation. The Climate Change Service of the FPS Health, Food Chain Safety and Environment (FPS HFCSE) follows the international negotiations on climate financing and contributes funds to federal climate financing. The Environment & Climate Service of the FPS Foreign Affairs, Foreign Trade and Development Cooperation monitors dossiers relating to climate change and the environment, as well as the organisations that are active in these areas, in their policy, operational and financial dimensions. The SEO is therefore working closely with these two services for this evaluation.

B1. Context

B1.1. International climate finance

Article 4 of the 1992 UN Climate Convention provides that countries with more resources - the countries listed in Annex II of the Convention - shall financially support more vulnerable countries for the implementation of the Climate Convention. To this end, a Financial Mechanism has been set up and is managed by the Global Environment Facility. The Climate Convention does not stipulate how much this contribution should be.

In 2009, for the first time, a quantitative target for climate financing was set. Developed countries committed in the Copenhagen Accord to collectively mobilise USD 30 billion of new and additional resources for the period 2010 - 2012, preferably allocated in a balanced way to mitigation and adaptation. According to this Accord, funding for adaptation must go to the most vulnerable countries as a matter of priority, in particular the Least Developed Countries (LDCs), the small island developing states and Africa.

In the same Accord, developed countries undertook to mobilise USD 100 billion a year by 2020 to meet the needs of developing countries. Various sources, public and private, bilateral and multilateral, including alternative sources, will contribute to this sum. The Copenhagen Accord also states that a significant share of this funding must come from the Green Climate Fund (GCF) established in this Accord.

The Parties decided in 2015, at the adoption of the Paris Agreement, to extend this annual target to 2025, and agreed to set a new collective annual target of at least USD 100 billion by 2025, based on the needs and priorities of developing countries. The financial resources must be allocated in a balanced way to mitigation and adaptation, taking into account the priorities and needs of developing countries. The Paris Agreement recognises that adaptation measures mainly benefit from public funds and grants.

The Paris Agreement requires developed countries to provide indicative information every two years, both quantitative and qualitative, on the level of public financing they envisage for transfers to developing countries for the following years and to report transparently and consistently on the contributions and amounts mobilised in recent years.

The Parties to the Agreement have set up 4 special climate funds:

- the Special Climate Change Fund (2001, focusing on adaptation, technology transfer and capacity building in all economic sectors, and economic diversification)
- the Least Developed Countries Fund (focusing on supporting LDCs in the design and implementation of their national adaptation programmes, among other things)
- The Green Climate Fund, since 2011, in addition to the Global Environment Facility, also an operating entity for the Financial Mechanism under the UN Climate Convention.
- The Adaptation Fund was established under the Kyoto Protocol and is funded by an emissions trading tax (2001, to finance specific adaptation projects and programmes). It was decided that the Adaptation Fund would continue to operate under the Paris Agreement.

B1.2. Overview of Belgian climate finance

What do the Belgian actors understand by climate finance?

There is no generally accepted definition for climate finance. The Belgian actors use the OECD DAC Rio markers for climate mitigation and adaptation to identify climate activities financed through ODA or other official channels.

Internal burden sharing

In the context of the Copenhagen Accord, the European Council pledged €2.4 billion annually for the period 2010-2012, corresponding to about 1/3rd of the overall commitment of USD 30 billion. As part of this commitment, Belgium then announced a contribution to international climate financing of €50 million per year. There were no internal agreements on burden sharing.

In 2015, Belgium again undertook to contribute €50 million a year to international climate financing by 2020. The contribution of the various Belgian authorities to this objective was laid down in Article 41§1 of the Cooperation Agreement of 12 February 2018 between the Federal State, the Flemish Region, the Walloon Region and the Brussels-Capital Region concerning the sharing of the Belgian climate and energy objectives for the period 2013 - 2020:
"The annual Belgian contribution of €50 million for international climate financing for the period 2016 to 2020 shall be shared as follows:
1° for the Flemish Region: €14.5 million;
2° for the Walloon Region: €8.25 million;
3° for the Brussels-Capital Region: €2.25 million;
4° for the Federal State: €25 million."
Paragraph 2 of the same Article further states that "Each contracting party may increase its contribution referred to in paragraph 1".

Although the regions have a role to play in Belgian climate finance, this evaluation will only cover the federal government's contributions, given that the Special Evaluation Office of the FPS Foreign Affairs, Foreign Trade and Development Cooperation is not authorised to evaluate the federated entities. However, without being part of the scope of the evaluation, the regions will be invited to participate in an interview with the

evaluators, so that their views on the strategy, resources and instruments can be taken into account.

Belgian public climate finance over the period 2013 - 2018

Although the evaluation period continues to date and therefore includes the most recent data, this section provides an overview of Belgian climate finance for the period 2013-2018. The overview of Belgium's effective contribution to climate finance over the period 2013-2018 in the table below clearly shows that the Belgian authorities exceeded the 2015 pledge. The federal government's share of Belgian climate financing over this period amounts to 83%.

Table 1. Belgian contribution in euro to international climate finance for the period 2013 - 2018 (source: DGD)

	2013	2014	2015	2016	2017	2018
Federal government	84,131,798	90,004,158	35,866,420	67,302,443	88,778,291	64,210,128
Brussels-Capital Region	504,278	605,258	740,187	5,367,815	1,055,948	1,668,434
Flanders	3,621,648	3,722,108	7,021,696	18,951,564	5,691,470	5,964,244
Wallonia	2,336,429	1,198,310	3,446,323	9,293,659	9,398,674	8,841,243
Total	**90,594,154**	**95,529,834**	**47,074,626**	**100,915,481**	**104,924,383**	**80,684,049**

The method used by the various authorities to arrive at these figures is explained in Belgium's report under Article 16 of the Monitoring Mechanism Regulation. This methodology is not the subject of this evaluation exercise.
For the period 2016 - 2018, 92% of the contributions consisted of resources also reported as ODA, 7% of Other Official Flows (OOF) and 1% of other resources. 99% of the contributions in this period were in the form of grants and 1% consisted of concessional loans.
In the context of this evaluation, only the climate financing of the DGD and the FPS HFCSE will be analysed. Table 2 below gives an overview of the channels via which these resources are deployed. The resources of the FPS HFCSE are included in the category "Other".

Table 2. Federal contribution in euro to international climate finance for the period 2013 - 2018 (source: DGD)

Type of actor	2013	2014	2015	2016	2017	2018
BIO	11,622,822			1,785,498	9,103,205	
Civil society	8,040,634	10,610,237	9,488,734	9,019,535	35,681,871	14,503,265
ENABEL	14,392,055	14,304,417	16,882,441	23,706,477	21,602,206	31,871,941
FPS Finance[3]	9,196,478	5,318,394	3,385,839	2,494,139		207,494
Local authorities	3,500	60,297	85,494	89,646	122,692	122,626
Multilateral	39,595,244	59,383,577	3,665,355	27,592,029	15,973,566	9,844,951
Other	283,329	49,579	86,570	1,644,309	65,419	1,100,921
Public[4]	804,013	73,336	1,779,759	79,831	4,356,999	4,009,007
University cooperation	193,723	204,321	492,228	890,979	1,872,333	2,549,923
Total	84,131,798	90,004,158	35,866,420	67,302,443	88,778,291	64,210,128

Federal government	Climate financing 2013-2018	% Total
Adaptation	218,248,640	51
Cross-cutting	123,551,243	29
Mitigation	76,486,810	18
Other	6,546	0
Technology transfer	12,000,000	3
Total	430,293,239	100

On average (across all years and all actors) 34% of federal funds were given to projects in LDCs, 51% went to adaptation, 18% to mitigation and 29% to projects that were more cross-cutting.

Mobilising private climate finance

All Belgian entities strive to mobilise additional resources in the host countries, including from the private sector. In 2015, Trinomics, on behalf of the federal Climate Change Service, made an estimate of the private resources mobilised by the public bilateral climate finance in the period 2013 - 2014.[5]

The concessional and non-concessional loans from Finexpo and BIO (the Belgian Investment Company for Developing Countries), together worth €36.99 million, had mobilised a total of €18.21 million in private climate financing. The leverage factor was therefore 0.49: for every euro of mobilised private capital, 2 euros of public funds were spent. No information was available on private funding mobilised through multilateral channels.

[3] Includes state-to-state interest subsidies and loans

[4] Includes, inter alia, managed state-to-state loans of which DGD is budget holder and other projects in cooperation with public actors

[5] Trinomics (2016). Promoting private sector actions in the fight against climate change in Belgium and abroad. Part A - International Climate Finance. Final Report available at https://www.klimaat.be/files/4314/5873/7318/private_climate_finance_report.pdf

The vast majority of Belgian public climate finance consists of grants aimed at supporting development. These grants are not made with a view to mobilising private resources. Nonetheless, they can play an important role in creating enabling environments which can foster private investment over time. However, quantifying this impact is very difficult, for several reasons.

According to Article 12 §2 2° of its second management contract with the Belgian State, BIO may set up special initiatives in which private investors participate in investment projects in target companies.

Mobilising private resources will be included in the evaluation as a point of interest but will not the subject of a quantitative analysis.

B1.3. Federal approach

Vision and strategy

The Belgian federal government attaches great importance to a balanced financial contribution for both adaptation and mitigation, and also aims to specifically support the poorest and most vulnerable countries. LDCs and African countries are thus the main beneficiaries of (federal) Belgian climate finance (see also DGD's climate vision in annex). One of the consequences in this regard is that, up until now, Belgian climate finance has primarily consisted of grants, with only a small part being loans.

The federal climate finance goes through various channels: 40% is channelled through multilateral organisations (UNDP, UNEP, etc.), the Global Environment Facility (GEF), multilateral climate funds such as the Green Climate Fund (GCF), the Least Developed Countries Fund (LDCF), the Special Climate Change Fund (SCCF) and the Adaptation Fund, while the remaining 60% is channelled through bilateral cooperation programmes (Enabel, BIO, Non-Governmental Actors and others).[6]

The sharing of federal climate finance by actor is shown in Table 2.

Federal actors

Various federal bodies contribute to federal climate finance: DGD and the Belgian development agency (Enabel), BIO, Finexpo, the Belgian Corporation for International Investment (SBI-BMI), and the Climate Change Service of the FPS Public Health, Food Chain Safety and Environment (FPS HFCSE) (for more information, see Chapter 4 of the report "Public Climate Finance in Belgium").

According to their new mandates, both BIO and Enabel must contribute to the fight against climate change in the South through the use of existing as well as new instruments. Their management contracts specify a number of important conditions for the implementation of federal bilateral cooperation, which also apply to climate finance:
1/ strive for cooperation on the ground;
2/ possibility of using new instruments/initiatives;
3/ mobilise additional resources (from private or other third actors).

[6]Information on Belgian bilateral climate support is included in the annual Monitoring Mechanism Regulation reports (MMR): https://www.cnc-nkc.be/en/reports.

The new management contract also allows Enabel to carry out projects for other donors. Enabel was officially accredited by the Green Climate Fund in July 2019 and can therefore carry out specific climate-relevant projects for the GCF in the context of third-party funding.

In recent years, with the aim of supporting the private sector in the South, BIO has received additional funds for investments in climate-relevant projects, e.g. in the renewable energy sector.

The Climate Change Service of the FPS HFCSE contributes to a number of UNFCCC budget items aimed at facilitating the participation of representatives from developing countries in international climate negotiations, but it also finances a number of climate-related projects in developing countries, as well as activities within the framework of various international partnerships. The focus of its support is often on enhancing the transparency of the policies pursued by developing countries.

B2. Motives

In 2020, Belgium's existing commitment to climate finance will come to an end. According to the international commitments, the USD 100 billion will be maintained until 2025 and the Parties to the Paris Agreement will agree on a new global target for international climate finance by 2025. This must be at least USD 100 billion a year. The negotiations on this new collective target will start in November 2020.

At the UN Climate Summit on 23 September 2019, Prime Minister Michel undertook on behalf of Belgium to call on Parliament to double Belgian climate finance.[7] As a result, on 24 October 2019 the Federal Parliament adopted a resolution in which it called on the federal government to "double the federal financial contribution to the Green Climate Fund in a budget-neutral manner from 2020".[8] On 13 December 2019, the Council of Ministers decided to act on this parliamentary resolution. For the period 2019-2023, €20 million will now be set aside annually as a federal contribution to the Green Climate Fund.

The primary objective of this evaluation is formative and should thus draw lessons for the future on the basis of a critical analysis of past approaches. An analysis of how resources have been used in previous years should help fuel the debate on post-2020 climate finance. Indeed, whatever the amount of the next climate financing, it is important that the resources are used as optimally as possible (in terms of efficiency, effectiveness, impact and sustainability).

The evaluation must therefore result in concrete recommendations on the basis of which Parliament, the Federal Minister for Development Cooperation, the Directorate General for Development Cooperation and Humanitarian Aid (DGD) of the Federal Public Service Foreign Affairs, Foreign Trade and Development Cooperation, the FPS HFCSE and the various actors directly or indirectly involved in defining and implementing Belgium's commitment to climate finance can shape federal climate finance in the future.

[7] https://www.youtube.com/watch?v=PhUy6U53e_8

[8] https://www.dekamer.be/doc/flwb/pdf/55/0572/55k0572001.pdf#search=%22klimaatfonds%20%2055%20%3Cin%3E%20keywords%22

B3. Scope of the evaluation

The evaluation therefore pertains to how the federal actors are implementing the objective of federal climate finance. It does NOT pertain to:

- the methodological choices made by DGD about the way in which climate finance is calculated (cfr. BeFind-studies)
- what a fair Belgian contribution to international climate finance should be.

The interventions funded through the multilateral channel will be included in the mapping at the beginning of the evaluation, but will not be the subject of a detailed evaluation. These funds (e.g. LDCF) have recently been evaluated externally and the results should be used by the evaluators to assess, among other things, the link between the allocation of resources to these funds and the setting of federal policy priorities on international climate finance (focus on LDCs, adaptation, etc.), and to draw conclusions on this basis (e.g. is it sufficient to spend (on average) 40% of the federal budget envelope through multilateral channels?). Moreover, in the case studies, the interventions financed through the multilateral channel should be considered from the specific perspective of synergies and complementarity with the Belgian development actors (primarily: Enabel, BIO and NGA-IA[9]) and the FPS HFCSE.

In the context of this evaluation, a mapping will be made of the various federal actors in the area of climate finance.

Based on this mapping, four actors will then be analysed in more detail:

- BIO
- Enabel
- Non-Governmental Actors (NGA) and Institutional Actors (IA)
- The Climate Change Service of the FPS HFCSE

The evaluation will compare the instruments and channels used in the context of Belgian climate finance (the actors of the mapping) with those of three other bilateral partners (e.g. Sweden, Denmark and United Kingdom) and/or multilateral partners that are active in LDCs and/or which consider support for adaptation to climate change as a priority.

B4. Objective of the evaluation - evaluation questions

The objective of the evaluation is primarily formative: to make strategic recommendations for the future through a critical analysis of past experiences, approaches and lessons learned. The central question for this evaluation is therefore:

> *"Do the (regulatory, strategic and operational) frameworks and the channels and instruments used by the federal government to contribute to international climate finance make it possible to meet the needs of the intervention countries in this area, and to make an impact in line with federal priorities?"*

[9] Non-Governmental Actors (NGA) and Institutional Actors (IA).

To answer this question, the evaluators need to focus on the contributions to climate finance made since 2013, and to formulate recommendations for the future on the basis of their findings.

It is therefore not the intention of this evaluation exercise to assess the policy choices (priority countries, focus on adaptation, etc.), but rather to examine the extent to which the approach followed has been implemented and whether it has been done in the most effective, relevant, efficient and sustainable manner.

In order to assess the relevance, effectiveness, efficiency, impact and sustainability of climate finance, the following evaluation questions are proposed as a minimum:

QE1. Is the federal development cooperation **strategy** on climate finance (cf. climate vision) in line with the challenge and international commitments for our country, and does it take into account Belgium's strengths and possibly niche expertise? Is the federal regulatory framework adapted to this strategy?
Is the strategy adapted to the **political character of international climate finance** (e.g. ad hoc pledging versus multi-annual strategy/requests from developing countries for funding predictability)? Does the regulatory framework offer sufficient possibilities for the flexible use of budgets to respond to opportunities (link with the political importance of international climate finance)?

QE2. Does the **choice of channels and instruments** allow this strategy to be implemented? Do they allow an **efficient use of resources** (complementarity of actors, the notion of integration of climate into other policy priorities, creation of levers to attract additional financing)?

- For the actors of bilateral cooperation: do they have sufficient expertise to implement the vision/strategy? How can they operationalise the possibilities offered in the management contracts in practice?
- For Enabel: can federal climate finance leverage additional financing from the GCF? If so, how exactly?
- For BIO: are climate-relevant criteria included in the investment criteria used and how are any risks further monitored?
- To what extent does DGD take into account the evaluation reports of the funds/multilateral institutions in which it invests?

QE3. Are the financed interventions **relevant** to the needs of the partner countries, and more specifically the LDCs (local context, expected impact, etc.)? Do the resources deployed contribute to the climate policies of the partner countries, and more specifically the LDCs? In drawing up their projects, do the Belgian actors take into account the climate priorities of the partner countries concerned? Is effective priority given to support adaptation to climate change? Has the crisis surrounding the covid-19 pandemic had consequences for the implementation of interventions or the launch of new interventions?

QE4. What **results** can Belgian climate finance provide in the fight against climate change? Was the accomplishment of results (positive or negative) influenced by the covid-19 pandemic crisis?
Are there systems that allow to estimate the **impact** of federal climate financing in terms of:

- reduction of greenhouse gas emissions?
- tangible adaptation benefits?
- producing innovative concepts, technologies, etc. that can be scaled up?
- achieving a catalytic effect of bilateral climate-related projects (e.g. mainstreaming through the incorporation of project results into the laws of the

host country, policies, programmes, etc.; scaling-up, replication, market change, etc.)?
- mobilising private climate finance?
- …

If not, what is necessary to achieve this? What factors influence the sustainability of federal climate finance? In what way can it best contribute to *transformational change*?

The evaluators may base the evaluation framework on the above sub-questions without necessarily limiting themselves to them. Tenderers can therefore add or modify main and sub-questions as long as all the stated objectives of the evaluation are met.

B5. Expectations of methodological quality and type of recommendations

In the first instance, the contractor must propose an evaluation methodology that should allow to provide answers to the above evaluation questions (which may be further supplemented by the tenderers).

The methodological proposal will have to credibly demonstrate how the evaluators will work to achieve the evaluation objectives, answer the evaluation questions and provide results that are useful and meet the quality standards for the evaluation of development cooperation as set out by the OECD Development Assistance Committee.
The proposed methodology is an essential element in the evaluation of tenders. It must contain at least the following elements:

- **Preliminary analysis of evaluability.** The analysis of evaluability will highlight the main conditions and limitations that the evaluation will face in achieving its objectives and in answering the evaluation questions. The evaluators must also indicate how they intend to address any problems regarding evaluability they may identify.
- **General theoretical/methodological approach.** The evaluators will propose their approach, taking into account the limits in time and available resources imposed in these specifications.
- **Evaluation framework.** This framework includes the evaluation questions and their elaboration into sub-questions, judgement criteria, resources and sources of information. It is a tool for carrying out the evaluation questions, and therefore does not replace the general theoretical/methodological approach that needs to guide this evaluation.
- **Data collection and data analysis methods.** A description of the methods that will be used to collect and analyse the required data will be provided. The methods must be coherent with the broader methodological approach and adapted to the nature of the desired data in order to answer the various evaluation questions. The contribution, relevance, complementarity and necessity of each method needs to be accurately and clearly described, without falling into generic and known considered descriptions.

This methodology will be refined at the beginning of the evaluation and will be the subject of a final methodological note. This methodological note will have to be discussed and approved by the reference group.

During implementation of the evaluation, the evaluators will draw up reasoned concrete recommendations to enable policy makers (Parliament, Ministers, etc.) to shape (higher) federal climate finance in the future: how should the Belgian federal government best use its resources? These recommendations must go beyond generalities and should therefore be formulated as specifically as possible and, where possible, already provide an impetus for operationalisation in practice. This means that there should at least be recommendations on:

- strategy
- institutional framework - architecture
- regulatory framework
- instruments and channels

Following the various findings of the evaluation, certain forward-looking elements may be addressed in the recommendations. Here are a few suggestions:

- [RELEVANCE]: *How can the Belgian federal government increase its relevance? By participating in partnerships? By searching for a niche in which federal climate financing can be complementary to the contributions of other actors? By keeping a certain share of the federal funds available in order to be able to respond flexibly to new opportunities (e.g. the Climate Action Enhancement Package of the NDC Partnership?).*
- [EFFICIENCY] Does the regulatory framework (for each of the individual entities concerned) provide sufficient guidance? *Are adjustments necessary here?* Has DGD used the right levers in the new management contracts with BIO/Enabel to bring this about? *If not, which adjustments are necessary?*
- [EFFICIENCY]: *How can greater coherence be ensured between climate and the other policy priorities, and what is the potential for mutual reinforcement between climate and these other policy priorities?*
- [EFFECTIVENESS]: Do the new management contracts with BIO and Enabel offer different/new opportunities for using federal climate finance? *Are there ways to combine these instruments for greater impact (blending - cooperation with other national and international actors)?*
- [IMPACT]: *Visibility: Is pooling all federal resources in one climate fund an option (also linked to flexible use of resources)?*

B6. Practical - Evaluation method

The evaluation method contains the following elements:

- Document study
- Analysis of financial data
- Drafting of a mapping of the federal actors involved in international climate finance
- Analysis of the instruments and channels compared to three other bilateral donors (e.g. Sweden, Denmark, UK), and/or multilateral funds targeting LDCs and/or adaptation
- Interviews with organisations responsible for implementation (cf. the four selected organisations for in-depth evaluation)
- Interviews with the representatives in charge of climate finance within the regional entities

- Interviews with other (civil) society actors (11.11.11, CNDC, FRDO, etc.)
- Comprehensive analysis of project documents (initial reports, results, evaluations, etc.)
- 2 case studies in the field[10]

The evaluators will be able to draw on the mid-term and final evaluations of relevant bilateral projects, on the evaluation reports of the multilateral funds involved, etc.

Two case studies/field missions are envisaged for this evaluation exercise. At the start of the evaluation process, the choice of countries will be made on the basis of the share they represent within the allocated financial resources of the four actors that are the subject of an in-depth evaluation (BIO, Enabel, NGA & IA, Climate Change Service of the FPS HFCSE). On the other hand, countries are also chosen on the basis of the presence of climate projects financed through the multilateral channel.

The evaluators are encouraged to contact the national parties responsible[11] for climate finance in Benin, Burkina Faso, Burundi, DR Congo, Guinea, Mali, Morocco, Mozambique, Niger, Uganda, Palestinian Territories, Rwanda, Senegal, Tanzania and will be supported by DGD to do so (e.g. letter of endorsement). Through these contacts, the aim is also to gain a better insight into the climate activities of the multilateral actors in the country, to evaluate the complementarity between Belgian and multilateral activities and to gather information on the quality of Belgian interventions.

The evaluation exercise is supervised by a committee with representatives of the various federal actors and other actors involved.

B7. Process

In this section, a road map for the conduct of the evaluation is proposed. However, the evaluators are free to formulate different proposals for the course of the evaluation, as long as there is no impact on the expected output of the evaluation, as formulated below.

Start phase

During an initial meeting with the evaluators, the methodology, approach and working calendar, as proposed in the technical bid, will be discussed and proposals for possible adjustments will be made.

Based on the discussion, the evaluators will prepare a detailed **methodological note**, which will further elaborate on the evaluation framework to be used for answering the evaluation questions, including the final evaluation questions. The transfer of documentation will also be arranged during the meeting.

This phase will be concluded with the first meeting of the reference group (see also below, B9. Roles and responsibilities). The methodological note must be approved by the SEO before the next phase can be started.

[10] These 'case studies' are realized during field missions. The presence of a local evaluator as a full member of the evaluation team during the field mission is required.

[11] National focal points of GEF and/or GCF.

Study phase

At the beginning of the evaluation, a document study and an interview round will take place in Brussels. During this phase, the necessary information is collected regarding the elements within the scope of the evaluation (see above) and (preliminary) hypotheses are formulated, which will be tested during the further course of the evaluation and in particular during the case studies/field missions.

At the end of this phase, the evaluators will provide an **interim report**. This report will contain the initial findings of the study carried out, in addition to substantiated preliminary hypotheses. The report will also outline how the quality of the evaluation will be monitored in its various aspects (data collection, analysis, exchange of information, etc.).

This phase will be concluded with a meeting of the reference group.

Case studies/Field phase

During this phase, Belgian climate finance will be analysed on the basis of case studies/field missions in two partner countries of the Belgian Development Cooperation, where projects related to tackling climate change were implemented.

For each of the field missions, the evaluators must envisage the necessary time for the evaluation to be carried out in a participatory manner and for data to be collected, to be subjected to an initial analysis and, if necessary, for additional data to be collected. In order to limit international travel, priority may be given to the use of local experts and remote collection methods.

At the end of this phase, the evaluators will provide **reports** of the case studies/field missions, with preliminary findings and conclusions. These reports will be presented and discussed during a meeting of the reference group in Brussels.

Final analysis and restitution

The final phase comprises the further analysis and triangulation of the collected data and findings - in the light of the evaluation objective and the evaluation questions - and results in a **final report** with findings, conclusions and recommendations, and to the restitution of the results.

The draft final report will be presented and discussed during a meeting of the reference group, whereby remarks can be formulated and final adjustments for the report can be explored. On the basis of this, the definitive final report will be drawn up, for which the evaluators are free to take into consideration, or not, the formulated remarks. If they choose not to take certain remarks into consideration, they will have to justify the reason why. This justification will be added to the final report as an appendix, along with the comments.

Before the final report is approved, a workshop will also be organised to discuss the proposed recommendations, so that the various actors involved in the evaluation can ask questions, exchange views on the recommendations and even propose reformulations for a better understanding of them, and to encourage ownership of them.

Once the final report has been approved, two restitution periods are envisaged: (i) for the DGD Strategic Committee; and (ii) for a wider audience of relevant actors. It is explicitly requested that two days and the necessary resources should be allocated in the bid, in this regard.

B8. Output and planning

B8.1. Expected output

Evaluation products. According to the timetable agreed during the start phase of the evaluation, the evaluators will provide the following reports, both in an editable version (Word) and a non-editable electronic version (pdf):

- methodological note
- interim report
- reports of the case studies/field missions
- final report and policy note

All documents must be drawn up in English. The final report must contain a summary in English, French and Dutch. In the summary, the most important conclusions and recommendations must be explained and substantiated. The text should be able to be read and understood by a broad public.

The policy note must be drawn up in a clear style in French, Dutch and English. The note must present the theme of the evaluation and the political context of climate finance, the history of climate change decisions and the main elements related to the evaluation, followed by the evaluators' basic findings and recommendations for the future. The main purpose of the policy note is to inform policymakers.

The final report must be between 40 and maximum 60 pages long. The summary must be between 5 and 10 pages long. The policy note must be maximum 3 pages. Annexes are not included in this regard.

The final report must be organised as follows:

- summary
- introduction
- methodology
- findings
- conclusions
- recommendations

Quality requirements. The quality of the reports will be assessed using a quality grid. The findings, conclusions and recommendations must be linked to each other in a logical and substantiated manner. The conclusions and recommendations must be used in an optimal manner by the actors directly involved in the evaluation. This means that the conclusions and recommendations must be very clear and limited in number, and they must be drawn up with a management response in mind. The recommendations must also be sufficiently realistic. They may contain multiple strategic avenues, and clarify any associated risks.

The reports must be written in an easily readable and correct language, which is also comprehensible to readers who are not experts in the subject. It is expected that the translations of the summary and the policy note will be made by a professional translator and proofread by a member of the evaluation team with a knowledge of the mother tongue (C2 level of the European framework of reference).

At the start of the contract, the evaluators will receive instructions on the layout of the evaluation products. These instructions must be followed closely and result in print-ready electronic files.

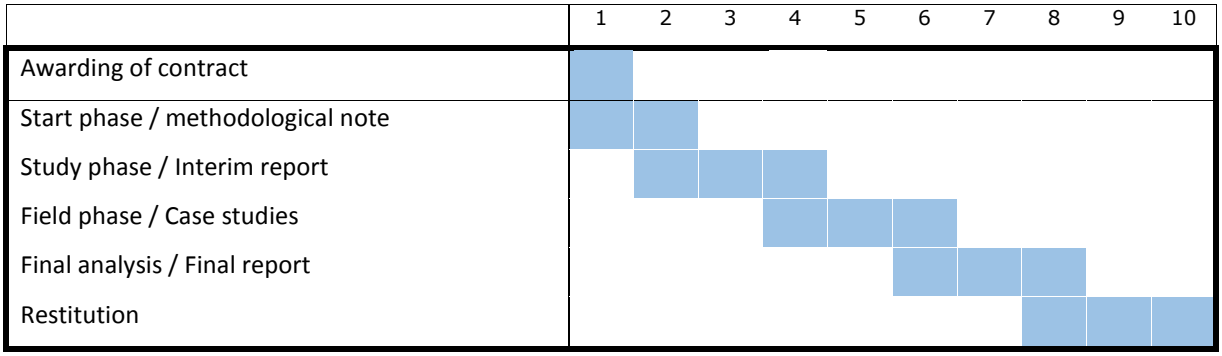
Presentation of results. After submitting the methodological note, the interim report, the reports on the case studies/field missions and the provisional final report, the evaluators must report and present to the reference group following up the evaluation. The presentation will be in English.

The reports submitted for discussion must be received by the SES at the latest seven working days before the date of the meeting. The presentations must be given to the SEO by the latest three working days before the start of the meeting, for approval and possible adjustment.

B8.2. Indicative planning

The **maximum duration of the evaluation is 10 months**.

The complete evaluation process must run from the beginning of September 2020 until the end of June 2021 at the latest. The SEO is aware of the implementation difficulties that may arise from the covid-19 pandemic crisis and will therefore show some flexibility as regards respect for the indicative planning and milestones set out in the timetable below.



B9. Roles and responsibilities

Evaluation team

Required expertise and experience. Overall, the evaluation team must fulfil the following conditions:

- expertise and experience in evaluating interventions in the area of climate finance
- expertise and experience in evaluation methodology
- knowledge of Belgian Development Cooperation
- good mastery of English, Dutch and French

Required language skills. The team leader must have knowledge of English (level C2 of the European framework of reference). For a good understanding of the documents drawn up by the Belgian administration, at least one member of the evaluation team must have knowledge of French and Dutch respectively at mother tongue level (level C2 of the European framework of reference). If the team leader does not have a good mastery of French or Dutch, he or she must at least be assisted by a co-team leader who has such knowledge.

Composition. Gender balance is encouraged in the team. It is also requested that local evaluators are associated as full members of the evaluation team in the field analysis in the (yet to be determined) partner countries of Belgian development cooperation.

Constructive set-up. The SEO believes that the use of an evaluation partly depends on the progression of the evaluation process and the level of participation of the various stakeholders involved. The team which carries out the evaluation plays an important role in this respect. It is therefore also expected that the evaluators present themselves in a manner which promotes the goodwill of the stakeholders involved with regard to this evaluation. This means, among other things, that the evaluation team should present itself constructively with regard to the remarks of the SEO and the reference group, that they should pay sufficient attention at all times (and therefore not just during meetings, but also during interviews) to communication in the language or languages which is/are acceptable for the stakeholders involved, and that they should ensure that presentations and reports are clearly designed. Moreover, the evaluation team is requested to act proactively and with punctuality, and to limit as much as possible the additional burden that the evaluation process may cause for all the parties involved.

SEO – Leading official

The SEO is charged with the government contract and with the administrative framework. The service represents the contracting authority and as such acts as the leading official for the evaluation. In this capacity, the leading official will control the conformity of the evaluation (based on the legal framework and the special specifications), but also the quality of the procedure and the results of the evaluation.

The leading official will manage the entire evaluation process, from beginning to end. In this regard:

- He is responsible for the public procurement procedure (drafting of the specifications, awarding of the contract, scheduling of the invoices, etc.);
- He is the guarantor for the conformity and coherence of the evaluation procedure, from the terms of reference to the publication of the final report and its distribution;
- He coordinates and directs the activity of the various stakeholders (reference group and evaluation team); he or she prepares the meetings and leads them, produces the minutes, handles possible conflicts, etc.;
- He supervises and verifies the quality of the work in the various phases (making sure, among other things, that the conclusions are based on a robust methodology and foundations based on facts);
- He is the guarantor of the proper execution of the evaluation (facilitating, among other things, the work of the evaluators and their access to information sources);
- He is the guarantor of the independence of the evaluators and makes sure that the remarks and advice of the parties involved are taken into account (remarks and advice which are not taken into account will be the subject of a reasoned response from the evaluators);
- He approves both the various interim reports and the final report (and the final payment for services provided) on the basis of an assessment grid;
- He organises the dissemination of the evaluation results and requests the *management response*; he also organises the restitution sessions.

In its capacity as leading official, the SEO is solely responsible for managing (steering) the evaluation process.

Stakeholders involved

The stakeholders involved are individuals, groups or organisations who have direct or indirect responsibilities and/or interests in the evaluation process (project, programme, sector, country, etc.).[12] At certain points in the evaluation, they will be consulted for their advice on the terms of reference and the output of the evaluation. In some cases, their cooperation will be requested in the collection of data and in organising the field missions. They may also be interviewed by the evaluators without the presence of the SEO or other involved stakeholders. Moreover, some of the stakeholders involved may be part of the reference group. The SEO has the authority to decide who is ultimately selected or invited to participate in the reference group.

Reference group

The SEO will put together a reference group composed of the various stakeholders involved in the evaluation, and possibly also independent experts. The SEO will chair the committee and is also responsible for the general supervision of the evaluation contract and the definitive approval of the output of the evaluation.

The reference group will convene at least four times: on the occasion of (i) the methodological note, (ii) the interim report, (iii) the reports of the case studies/field missions, and (iv) the draft final report.

The reference group monitors the quality, credibility and usefulness of the evaluation. It gives - on the basis of the available collective knowledge - remarks and advice on both the proposed methodological approach and on the findings, conclusions and recommendations resulting from the evaluation.

More specifically, the role of the reference group is to ask critical questions in the course of the evaluation and in the various reports submitted to it. The reference group may also provide avenues to further assist the evaluators in their evaluation. The reference group will discuss the methodological note, the interim report, the report of the case studies/field missions and the draft final report, and will formulate relevant remarks. If necessary, the committee will supplement or correct the information of the evaluators. It is expected of the evaluators that they will take this input into account, and if this is not the case, that they justify why.

B10. Tender requirements

It is requested that tenderers submit a concise tender - comprising both a technical and a financial bid.

Financial bid. The financial bid must include an estimate of the cost, with expenditure headings per phase of the evaluation, per expert and per field mission. The technical bid must include four components: (i) a description of the proposed methodological approach and how the evaluation team will interpret the terms of reference of the evaluation, (ii) a description of the practical approach of the evaluation and of the mutual task allocation within the evaluation team, (iii) the expertise and experience of the team leader, and (iv) the expertise and experience of the team members.

In drawing up the financial bid, explicit account must be taken of the fact that it is only at the start of the evaluation that two partner countries of the Belgian Development Cooperation will be selected for the case studies. In other words, the estimated cost

[12] In accordance with this definition, the SEO is not an involved stakeholder itself.

should take account of the fact that, depending on the final selection and the modalities chosen, field missions can take place in different partner countries, regardless of the possible differences in costs (international travel or cooperation with local evaluators, local travel, accommodation, etc.).

Technical bid. In the section on methodology and understanding of the terms of reference, it must be clarified how the evaluation team intends to provide a solution to the questions and expectations posed. Repeating what is stated in the terms of reference is not necessary. A different interpretation of the terms of reference concerning the objectives and expected output is not permitted: formulating a personal approach and methodology in order to formulate a solution to the questions and expectations stated in the terms of reference, is permitted. In particular, the bid must clarify the evaluation team's vision on the context, objectives and evaluation questions of the evaluation, but also on its own terms of reference and added value in the context of the evaluation. More specifically, it must be explained how the evaluation team understands the evaluation questions - and possibly how they wish to supplement or adjust them - and which methodological approach the evaluation team proposes to respond to the evaluation questions in a reliable and credible manner.

In the section on the practical methodology and organisation of the evaluation, the following aspects must be described as a minimum:

- the timetable and work planning;
- a correct and sufficient estimate of the duration of the case studies/field missions;
- the number of work days per evaluator and per phase of the evaluation, with a detailed overview of the specific tasks of each evaluator;
- the application of quality control at the various stages of the evaluation;
- the coherence of the approach (role of the team leader, of the other team members, logistical support, quality control, etc.);
- the language and gender balance within the team;
- the handling of potential conflicts of interest.

The technical bid must clearly describe who will take on exactly which tasks within the evaluation team. This applies for both international evaluators and local evaluators. Given the importance of a coherent task allocation and coordination of the team members, the role and availability of the team leader must also be explained in detail.

The estimated overall number of working days for the evaluators is between 140 and 155, of which a quarter should be devoted to field analysis (in the countries to be selected). The financial bid must clearly indicate the number of working days estimated by the tenderer.

Assessment of the bid. The financial and technical bid will be assessed on the basis of the criteria and weightings explained in section A11.3.

B11. Studies on Belgian climate finance

A number of studies on Belgian climate finance have already been carried out in the past. These studies were primarily aimed at supporting the reporting of Belgian climate finance

and focused, among other things, on definitions to be used, identification of relevant actors, methodological questions, calculating the resources deployed, proposing a reporting methodology, etc. Although these studies did not evaluate the efficiency, sustainability, impact, etc. of Belgian climate finance, they did make a number of relevant recommendations that could be relevant for this evaluation exercise.

The study on mobilising private climate finance (Trinomics, 2016) made the following recommendations, among others, which are relevant to this evaluation exercise:

- Harmonisation of the methods used by the various Belgian authorities for measuring and reporting climate finance;
- Development of clear instructions and a uniform template for all relevant Belgian actors for the collection of data related to (mobilised) climate finance;
- Making clear choices about how to measure climate finance and what exactly to include in reporting on it;
- Improved cooperation and coordination between all Belgian actors through the creation of a "Climate finance coordination unit";
- Improved integration of the different financing instruments in order to improve the results of climate projects;
- Integration of climate finance and mobilisation of private climate finance in all relevant policy areas.

The BeFinD research group formulated the following recommendations, among others:

- Translate the national burden-sharing on climate finance into an operational programme for at least 3 years, with a vision and concrete actions on how each of the authorities will deliver on their commitment (Working Paper 12);
- Recommendations on reporting: ensure transparency on the methods used, reform internal procedures for data collection and reporting, and coordination between the various Belgian actors as regards the methods used (particularly weighting methods) (Working Paper 12).

B12. List of reference documents

- Environment strategy note 2013 https://diplomatie.belgium.be/sites/default/files/downloads/Strategienota_Leefmilieu.pdf
- Trinomics, 2016 https://climat.be/doc/private_climate_finance_report.pdf
- BeFinD, Working Paper 12
- Climate Vision, MD8: this note, which is not publicly accessible, is attached to the specifications.
- Programme evaluation of the Least Developed Countries Fund (LDCF) 2016
- GEF Climate Change Focal Area Study 2017
- Evaluation Reports of the Adaptation Fund
- Policy notes on development cooperation (with information on climate finance)
- Information on climate finance by the Climate Change Service
- Information on climate change by the FPS FA

B13. List of acronyms

BIO	Belgian Investment Company for Developing countries
DGD	Directorate General for Development Cooperation and Humanitarian Aid
FPS	Federal Public Service
FPS HFCSE	Federal Public Service Health, Food Chain Safety and Environment
GEF	Global Environment Facility
GCF	Green Climate Fund
IA	Institutional Actor
LDC	Least Developed Country
LDCF	Least Developed Countries Fund
NGA	Non-Governmental Actor
OECD	Organisation for Economic Cooperation and Development
OECD DAC	Development Assistance Committee of the OECD
SCCF	Special Climate Change Fund
SEO	Special Evaluation Office
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USD	United States Dollar
UN	United Nations

Annex 2: List of Interviewees

This annexe presents the list of stakeholders interviewed during the evaluation process, first at a general level, and then relating to the Senegal and the Tanzania country case studies.

General

Organisation	Position/Affiliation
ARES	Director
BIO	Manager Development & Sustainability Unit
BIO	Senior Development Officer
BIO	Investment Officer, Portfolio - Infrastructure
BIO	Manager of the Infrastructure Portfolio
BIO	Senior Investment Officer at the Infrastructure Portfolio
Bruxelles Environnement	Climate & Energy Policy Advisor
Centre National de Développement Durable (CNDD)	Head of Research & Advocacy
Centre National de Développement Durable (CNDD)	Researcher – Climate Justice & Sustainable Development
Centre National de Développement Durable (CNDD)	NDC partnership support – Niger, Intervention and UNFCCC focal point
CITEPA	NDC partnership support – Niger, Responsable du Département Atténuation et Adaptation
Contour Global	Chief Financial Officer Africa - Thermal
Contour Global	Chief Operations Officer Africa & Director KivuWatt
DGD	Policy Officer MD8
DGD	Policy Officer MD8 (and recent Deputy Director Environment and Climate Policies and Cooperation)
DGD	Director Climate & Environment at Ministry of Foreign Affairs & Development Cooperation

DGD	Deputy Director Environment and Climate Policies and Cooperation
DGD	Operational Focal Point MD8
Enabel	Environment & Climate Advisor
Enabel	Coordinator - Infrastructure Unit
Enabel	Coordinator - Desk Agriculture / Food security
Enabel	Rural development expert
Enabel	Responsible for study on climate change
Fiabel	Policy Officer
Fiabel	Policy Officer
Flemish department for Environment	International Environmental Policy Officer, Department of Environment & Spatial Development, Division Strategy, International Policy and Animal Welfare
FPS – Health, Food Chain Safety and Environment	Head of Unit International Cooperation Team / Climate Change Section
FPS – Health, Food Chain Safety and Environment	Climate Change Expert
FPS – Health, Food Chain Safety and Environment	Climate advisor at Minister for Climate, Environment, Sustainable Development & European Green Deal - Reference Group representative for the cabinet of Minister Khattabi
FPS – Health, Food Chain Safety and Environment	Task Manager
FPS – Health, Food Chain Safety and Environment	Worked previously in the International Cooperation Unit of the Federal Climate Change Department of the FPS Health
Independent consultant	NDC partnership support - Burkina Faso, NDC facilitator
KU Leuven	KU Leuven (VLIR, KLIMOS)
LuxDev	Expert - Environment and Climate Change
Ministry of Foreign Affairs of Denmark	Chief counsellor climate finance, Green diplomacy department
Ministry of Foreign Affairs of Denmark	Office for Evaluation, Learning and Quality
Ministry of the Environment, Climate and Sustainable Development of Luxembourg	Attaché. Sustainable development, Climate finance, EU and international affairs

NDC Partnership Support Unit	Country Engagement Director
NDC Partnership Support Unit	Country Engagement Specialist
NDC Partnership Support Unit	Country Engagement Regional Specialist for Francophone Africa
NDC Partnership Support Unit	Country Engagement Project Coordinator
Permanent Secretariat of the National Council for Sustainable Development, Ministry of Environment	NDC partnership support - Burkina Faso, Intervention focal point
VLIR-UOS	Director
VLIR-UOS	Programme Manager
11.11.11. NGO coalition	Person in charge of the "BIO evaluation"
11.11.11 NGO coalition	Policy Officer – Climate and Natural Resources

E-mail exchanges were also held around a short questionnaire submitted to respondents on behalf of Credendo-Export Credit Agency and Finexpo.

Senegal

Organisation	Position/Affiliation
Belgian Embassy in Senegal	Head of Cooperation
Belgian Embassy in Senegal	Attaché de Coopération
Enabel	Agropole Centre project coordinator
Enabel	Country Portfolio Manager
Ten Merina Ndakhar Project	
BIO	Project Manager
GIE des PAP de Merina Ndakhar	10 members
Mutuelle FADEC Kajoor	Responsible of the mutuelle
Overseas Social Impact and	President

Envrionnenmental Consultants	
Ten Merina Ndakhar	Operations Manager
Ten Merina Ndakhar field visit	Staff at the production site
Ten Merina Ndakhar field visit	Staff at the production site
Ten Merina Ndakhar field visit	Staff at the production site
Eclosio Senegal programme 2014-2016	
APIL - Association pour la promotion des Initiatives Locales	Member of the association
Eclosio	Coordinator
Eclosio	Chargé de programme
Eclosio	Chargée de projet/ Réferente agroécologie
ONG MDD	17 Femmes de Passy-Djossong
Sous-prefet de Ngoye	Adjoint au Sous-prefet de Ngoye
Retention Basins and Well Development Project (BARVAFOR)	
Enabel	HQ project Manager
Enabel	PARERBA project coordinator
Projet d'amélioration des services d'Eau Potables et d'assainissement en milieu rural (PASEPAR)	
Enabel	Project Manager
Enabel	TA to DGPRE
Ministère de l'Eau et de l'Assainissement, Senegal	Directeur de la Gestion et de la Planification des Ressources en Eau
Contributing to good local governance through strengthening administrative strength in the South and local policy coherence in Flanders Project	
Sokone Municipality	Conseillers municipaux
Sokone Municipality	Conseillers municipaux
Sokone Municipality	Conseillers municipaux
Sokone Municipality	Conseillers municipaux
Sokone Municipality	Conseillers municipaux
VVSG	Project Manager at HQ
VVSG	Member of project identification team

Tanzania

Organisation	Position/Affiliation
Belgian Embassy in Tanzania	Ambassador
Belgian Embassy in Tanzania	Head of cooperation
Ministry of Blue Economy and Fisheries, Zanzibar *Authority*	Principal Secretary
Kikagati hydropower facility through an investment in the AREF	
BIO	Senior Investment Officer
Berkeley Energy	Environmental And Social Manager
Berkeley Energy	Managing Director
Natural Resources Management for Local Economic Development, Kigoma region (NRM4LED)	
Enabel	Expert Agriculture & Rural Development
Sustainable Agriculture Kigoma Regional Project (SAKiRP)	
Enabel	Project Manager
Environmental management of strategic forest areas on a sustainable, inclusive and participatory way (EMSFA)	
Bos+	Program Manager
MVIWATA	Director
MVIWATA	Project Coordinator
Oxfam Disaster Risk Reduction in the Great Lakes Region	
CABUIPA/RUDI-DRR	Officer
Oxfam	Contracts Supervisor
Oxfam	Projects Supervisor
Oxfam	Programme Manager DRR
Oxfam	Project Coordinator
REDESO-DRR	Officer
REDESO-DRR	Project Officer

Annex 3: Bibliography

This annexe presents the list of documents consulted during the evaluation process, first at a general level, and then relating to the Senegal and the Tanzania country case studies.

General

Author	Year	Title
Adaptation Fund	2018	Second Phase of the Overall Evaluation of the Fund
APE	2017	Evaluation FMO Access to Energy Fund https://www.government.nl/binaries/government/documents/reports/2018/04/24/evaluation-fmo-access-to-energy-fund/BHOS%2B2.3%2B14837%2BAEF%2B20170324.pdf
B.W. Griscom et al, PNAS		Natural climate solutions. https://www.pnas.org/content/114/44/11645
Belgian Chamber of Representatives	Several years	Notes de Politique Générale – Développement International https://diplomatie.belgium.be/nl/over_de_organisatie/ministers/alexander_de_croo/beleidsnota
Belgian Chamber of Representatives	2018	General Policy Note International Development https://diplomatie.belgium.be/sites/default/files/downloads/beleidsnota_os_2018.pdf
Belgian Chamber of Representatives	2019	Voorstel van Resolutie over de Belgische bijdrage aan de financiering van de strijd tegen klimaatverandering. https://www.dekamer.be/doc/flwb/pdf/55/0572/55k0572001.pdf#search=%22klimaatfonds%20%2055%20%3Cin%3E%20keywords%22
Belgian FPS Foreign Affairs, Foreign Trade and Development Cooperation	2014	Document de stratégie : L'Environnement dans la Coopération Belge au Développement https://diplomatie.belgium.be/sites/default/files/downloads/Strategienota_Leefmilieu.pdf
Belgian FPS Foreign Affairs, Foreign Trade and Development Cooperation	2016	Climate Vision
Belgian FPS Foreign Affairs, Foreign Trade and	2019	Website, Climate page

Author	Year	Title
Development Cooperation		
Belgian FPS Foreign Affairs, Foreign Trade and Development Cooperation	2020	Meryame Kitir announces EUR 8 million additional humanitarian aid to the Sahel https://diplomatie.belgium.be/en/newsroom/news/2020/meryame_kitir_announces_eur_8_million_additional_humanitarian_aid_sahel
Belgian FPS Foreign Affairs, Foreign Trade and Development Cooperation	2020	Open procedure for the evaluation of the international climate finance by the Belgian federal government. Terms of Reference, Table 1 p. 23
Belgian FPS Health, Food Chain Safety and Environment	2019	Second rapport biennal sur le Changement Climatique
Belgian Ministry of Foreign Affairs	2018	New law on BIO https://www.bio-invest.be/files/BIO-invest/About-BIO/Governance/BIO-law-Full-text-20181120-ENG-sworn.pdf
Belgian Policy Research Group on Financing for Development (BeFinD)	2016	Public climate finance in Belgium https://www.befind.be/Documents/WPs/wp12
BIO	2011	KivuWatt Power Project – Rwanda, Investment Analysis
BIO	2019	Annual Report 2019 and Investment Strategy 2019-2023
BIO	2019	Project Review - KivuWatt
BIO	2020	Energy-Climate finance investments table
BIO	n.a.	BIO Theory of Change, Powerpoint presentation
Cabo Verde Government	2017	National Communication of Cabo Verde under the UNFCCC
Chambre des Représentants de Belgique	2020	Beleidsverklaring. Ontwikkelingssamenwerking en Grote Steden https://www.dekamer.be/FLWB/PDF/55/1610/55K1610018.pdf
Climate Investment Funds	2020	How can climate finance support Covid-19 recoveries? https://www.climateinvestmentfunds.org/sites/cif_enc/files/knowledge-documents/how_can_climate_finance_support_covid-19_recoveries_cif_lessons.pdf
COACCH	2019	The Economic Cost of Climate Change in Europe https://www.coacch.eu/wp-content/uploads/2019/11/COACCH-Sector-Impact-Economic-Cost-Results-22-Nov-2019-Web.pdf

Author	Year	Title
Convergence	2017	Danish Climate Investment Fund Case Study https://www.convergence.finance/resource/4RSEwoMnRCQsWOwO2QWGsQ/view
Credendo	2019	Annual Report. Turning Uncertainties Into Opportunities.
Danida	2017	The World in 2030 https://um.dk/~/media/um/danish-site/documents/danida/det-vil-vi/strategier/the%20world%202030%20%20denmarks%20strategy%20for%20development%20cooperation%20and%20humanitarian%20action.pdf?la=da
Danida	2019	Denmark's Fourth Biennal Report https://unfccc.int/sites/default/files/resource/Denmarks-BR4-under-the%20UNFCCC_20December2019.pdf
Danida	2020	Testing Real-time Evaluations for Enhanced Adaptatability in Danish Aid Programmes https://prerelease3.um.dk/~/media/um/danish-site/documents/danida/resultater/eval/2020-rtestudy.pdf?la=en
Danida	2020	Evaluation of Danish Support for Climate Change Adaptation in Developing Countries https://um.dk/en/danida-en/results/eval/eval_reports/publicationdisplaypage/?publicationID=A9CC034B-9F7B-4F61-B733-6F8370EC442B
Danida	n.a.	Website https://um.dk/en/danida-en/strategies%20and%20priorities/government-priorities---danish-development-assistance/
Dutch Fund for Climate and Development (DFCD)	n.a.	Website https://thedfcd.com/our-approach/
DFCD	n.a.	Website www.thedfcd.com
Eawag	2009	Management prescriptions for the development of Lake Kivu gas resources
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BIO	2016	Senergy : financement de la mise en place de la plus grande centrale solaire d'Afrique de l'Ouest
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DGD	2019	Landenfiche Belgische Ontwikkelingssamenwerking Tanzania
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Annex 4: Evaluation Matrix

The central question for this evaluation is:

"Do the (regulatory, strategic and operational) frameworks and the channels and instruments used by the federal government to contribute to international climate finance make it possible to meet the needs of the intervention countries in this area, and to make an impact in line with federal priorities?"

The table below summarises the **six evaluation questions (EQs)** which are being proposed as the evaluation framework to structure data collection and analysis and answer this question. The EQs have been defined on the basis of the elements found in the ToR and the ToC. The set of EQs is structured around the standard OECD/DAC evaluation criteria of Relevance (EQs 1 and 2), Coherence[1] (EQ3), Efficiency (EQ4), Effectiveness and Impact (EQ5) and Sustainability (EQ6).

A set of judgment criteria is associated to each EQ along with corresponding indicators and sources of information.

Although the EQs will not evolve following the approval of this methodological note by the Reference Group. It should be underlined that the judgment criteria and indicators remain **indicative**. During the study and case study phases, on the basis of preliminary discussions and more in-depth analysis, they may be updated if due approval for such adjustments is obtained from the SEO or the Reference Group.

<table>
<tr><th>EQ1</th><th colspan="2">To what extent have the federal development cooperation regulatory, strategic and operational frameworks and the channels and instruments it uses to contribute to climate finance been in line with the global climate challenge and international climate finance commitments of Belgium, and has it taken into account Belgium's strengths and possibly niche expertise?</th></tr>
<tr><th colspan="3">Proposed Judgement Criteria, Indicators, Sources, Tools</th></tr>
<tr><td colspan="3">JC-1.1 - The regulatory, strategic and operational frameworks have been adapted to the political character of international climate finance (e.g. ad hoc pledging versus multi-annual strategy/requests from developing countries for funding predictability and political visibility of climate finance contributions in the context of the climate negotiations)</td></tr>
<tr><th>Indicators</th><th>Information sources</th><th>Tools</th></tr>
<tr><td>I-111. Alignment of Belgian strategic orientations on the Climate Vision, the multi-annual strategy and requests from developing countries</td><td rowspan="3">• Bibliography (including the Belgian Climate Vision 2018, the joint Strategy between DGD and ENABEL on climate and the environment 2020, the management agreements with ENABEL, BIO, NGAs and IAs).
• Views of key stakeholders</td><td rowspan="3">• Literature review
• Documentary analysis
• Interviews
• Case studies</td></tr>
<tr><td>I-112. Alignment of Belgian strategic orientations in the Climate Vision and international commitments</td></tr>
<tr><td>I-113. Degree of climate related dialogue between Belgian authorities/development actors and developing country authorities</td></tr>
<tr><td colspan="3">JC-1.2 - The federal regulatory framework has been adapted to and has prioritised action on climate finance</td></tr>
</table>

[1] The criterion of Coherence was adopted by OECD DAC in 2019.

Indicators	Information sources	Tools
I-121. Instances of discrepancies between the federal regulatory framework and the development cooperation climate finance strategy and/or objectives	• Regulatory framework • Strategy documents of key actors • Views of key stakeholders	• Documentary analysis • Interviews
I-122. Number of climate related adaptations of the federal regulatory framework which have been undertaken (such as a thematic portfolio on climate…)		
I-123. Degree of feasibility of needed adaptation measure (level of political, social or economic sensitiveness)		
JC-1.3 - The regulatory, strategic and operational frameworks and the channels and instruments used to contribute to climate finance have offered sufficient possibilities for the flexible use of budgets to respond to opportunities (link with the political importance of international climate finance, and with new initiatives, such as the NDC Partnership)		
Indicators	**Information sources**	**Tools**
I-131. Existence of budgetary reallocations linked to climate change	• Regulatory framework • Budget data • Views of key stakeholders, including Belgian cooperation actors	• Documentary analysis • Mapping of Belgian climate finance • Interviews
I-132. Timeliness of budgetary reallocations linked to climate change		
I-133. Strategic and financial importance of needed reallocations (undertaken or not)		
I-134. Opinion of Belgian cooperation actors on feasibility of budgetary reallocations		
JC-1.4 - Belgian cooperation built upon strengths and specificities to develop federal development cooperation action on climate finance		
Indicators	**Information sources**	**Tools**
I-141. List of Belgian strengths and specificities	• Strategic documents of key actors • Project documents • Views of key stakeholders, including Belgian cooperation actors	• SWOT analysis • Interviews • Case studies
I-142. Link of Belgian strengths and specificities to climate change related processes		
I-143. Strategic orientations in the Climate Vision linked to Belgian strengths and specificities		
I-144. Distribution of responsibilities between development partners		
EQ2	**To what extent have the financed interventions been relevant to the needs of the partner countries and their populations, in particular the LDCs (local context, expected impact, etc.)?**	
Proposed Judgement Criteria, Indicators, Sources, Tools		
JC-2.1 - The resources deployed contributed to the climate policies of the partner countries, and more specifically the LDCs		
Indicators	**Information sources**	**Tools**
I-211. Number (and proportion) of partner country climate policy components, particularly NDC and NAP components, addressed by Belgian climate resources	• Strategy documents of key stakeholders • NDC and NAP documents • Project documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
I-212. Frequency of Belgian project alignment on partner country climate policies, NDC or NAP.		
I-213. Proportion of the partner country's climate policy budget covered by the Belgian support		
JC-2.2 - In drawing up their projects, the Belgian actors took into account the climate priorities of the partner countries concerned at both government and civil society level		

Indicators	Information sources	Tools
I-221. Number and proportion of projects addressing partner country climate priorities, particularly NDC and NAP priorities	• Project documents • NDC and NAP documents • Views of key stakeholders • Joint strategic framework documents	• Documentary analysis • Interviews • Case studies
I-222. Existence and extent of dialogue with partner country around climate change during project identification		
I-223. Proportion of budget addressing climate change per project		
I 224. Increased visibility of climate and environment in NGA joint strategic frameworks		
JC-2.3 - Project identification is based on suitable climate related criteria		
Indicators	**Information sources**	**Tools**
Project selection is based on climate related criteria available at national and/or international level	• Project documents • NDC and NAP documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
Whenever climate related policies, NDC and NAP integrate clear climate related criteria, climate attenuation or mitigation interventions relate to them		
JC-2.4 - A comprehensive range of stakeholders are meaningfully involved in the formulation of the interventions		
Indicators	**Information sources**	**Tools**
Number and proportion of climate stakeholders actively participating in intervention formulation	• Project documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
Role and responsibilities assigned to climate stakeholders in intervention formulation		
JC-2.5 - Belgian focus on adaptation corresponds to the priorities of partner countries		
Indicators	**Information sources**	**Tools**
I-251. Number and proportion of projects addressing adaptation to climate change	• Project documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
I-252. Proportion of budget addressing adaptation to climate change per project		
JC-2.6 – Belgian and international Covid-19 related support is aligned with climate action and the Covid-19 crisis had no negative influence on the implementation of climate change interventions or the launch of new climate interventions		
Indicators	**Information sources**	**Tools**
I-261. Level of budgetary transfer from climate change issues to COVID-19 related interventions or level of increase in climate related investments in the context of "Green/Resilient Recovery".	• Project documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
I-262. Delays in projet implementation due to COVID 19 crisis		
I-263. Change in effects and/or impact (positive or negative) of climate change projects due to the COVID-19 crisis		
EQ3	**To what extent has greater coherence been ensured between the federal climate finance policy and other Belgian development policy priorities at federal, regional and EU level?**	
Proposed Judgement Criteria, Indicators, Sources, Tools		
JC-3.1 - The Belgian federal climate finance policy has been framed in consultation with all Belgian actors concerned and with a view to maximise coherence with the other policy priorities at federal, regional and EU level		

Indicators	Information sources	Tools
I-311. Degree of consultations held between Belgian actors to frame the Climate Vision	• Strategy documents • Views of key stakeholders	• Documentary analysis • Case studies
I-312. Extent to which other international development policy priorities bear relation to activities with significant negative effects on climate change	• Strategy documents • Views of key stakeholders	• Documentary analysis • Interviews
I-313. Extent to which negative effects on climate change are addressed (mitigated, avoided…) in other policy priorities	• Strategy documents • Views of key stakeholders	• Documentary analysis • Interviews
I-314. Extent to which solutions to address negative effects on climate change exist or have been put in place	• Strategy documents • Project documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
JC-3.2 - Synergies materialised between federal climate finance operations and other Belgian development work at partner country level (themes, actors, financing…)		
Indicators	**Information sources**	**Tools**
I-321. Number or frequency of project components / issues common to both climate operations and other development work	• Project documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
I-322. Degree of complementarity between Belgian and multilateral interventions		
I-323. Number or frequency of project actors or institutions supported by Belgian cooperation which are common to both climate operations and other development work		
I-324. Amount and proportion of project budget addressing issues that contribute positively to both climate operations and other development work		
I-325. The set of actors implementing the action is complementary. No duplication is noticed.		
JC3.3 - Belgium action and positions are coherent within the mark of the international negotiations concerning issues affecting developing countries and climate finance, including in the preparation of the Global Stocktake		
Indicators	**Information sources**	**Tools**
I-331. Opinion of stakeholders on Belgium's role in international climate negotiations	• Views of key stakeholders	• Interviews
JC3.4 : Climate finance related issues have been integrated into other Belgian development policy priorities (SDGs, biodiversity, gender,…)		
Indicators	**Information sources**	**Tools**
I-341. Proportion/number of other policy documents which integrate climate related concerns	• Policy documents • Views of key stakeholders	• Documentary analysis • Interviews
I-342. Opinion of key stakeholders on level of effectiveness of the incorporation of climate related concerns in other policies		
EQ4	**To what extent has the framework, choice of actors, channels and instruments allowed the federal strategy on climate finance to obtain results and do so in a cost-effective way?**	
Proposed Judgement Criteria, Indicators, Sources, Tools		

JC-4.1 - Belgian Development actors funded by DGD have sufficient expertise to implement climate related actions and use it to build on the possibilities offered in their management contracts or agreements, providing an appropriate level of added value		
Indicators	**Information sources**	**Tools**
I-411. Actors of bilateral cooperation possess experience in the various components of the Climate Vision I-412. Actors of bilateral cooperation have sufficient human resource to implement the Climate Vision	• Strategy and operational documents from Belgian actors • Views of key stakeholders	• Documentary analysis • Interviews • Case studies • Benchmarking
JC-4.2 -- The regulatory, strategic and operational frameworks and/or management contracts (for each of the individual entities concerned) have provided sufficient guidance		
Indicators	**Information sources**	**Tools**
I-421. A clear regulatory framework and role exits for each institution implementing climate actions. I-422. Each individual entity is aware of its role in relation to climate adaptation and mitigation I-423. Each individual entity is recognised it its role in relation to climate adaptation and mitigation and likely to contribute positively to it I-423. Specific calls for proposals for climate projects launched for NGA	• Regulatory framework • Project documents • Views of key stakeholders • Calls for proposal	• Documentary analysis • Interviews • Case studies
JC-4.3 - The choice of channels and instruments has allowed a cost-effective use of resources (e.g timeliness, creation of levers to attract additional financing)		
Indicators	**Information sources**	**Tools**
I-431. The implementation of activities has been timely I-432. Results have been attained at similar or below costs of comparable actions I-433. The new management contracts with BIO and Enabel have offered different/new opportunities for using federal climate finance? I-434. Federal climate finance channels and instruments have enabled to leverage additional funding (Channel, amounts and origin)	• Project documents • Views of key stakeholders • Regulatory framework / Management contract documents	• Documentary analysis • Interviews • Case studies • Financing overview of the 4 focus actors • Benchmarking
JC-4.4 - BIO has implemented the climate related chapters of its management contracts and investment strategy, developed or included climate-relevant investment criteria and monitored climate effects of its investments		
Indicators	**Information sources**	**Tools**
I-441. Amount/proportion of climate relevant criteria included by BIO in the investment criteria they use I-442. Existence of a Climate risk monitoring system with adequate indicators I-443. Weight of CC related criteria in investment decisions	• Strategy documents • BIO documents • Project documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies • Financing overview of the 4 focus actors • Benchmarking
JC-4.5 - DGD has taken into account the evaluation reports of the funds/multilateral institutions in which it invests and has acted on them in an appropriate manner		
Indicators	**Information sources**	**Tools**
I-451. DGD receives regular evaluation reports of the funds/multilateral institutions in which it invests	• Evaluation reports • Views of key stakeholders	• Documentary analysis • Interviews

I-452. Proportion of recommendations from evaluation reports of the funds/multilateral institutions in which DGD invests that are implemented		• Case studies
I-453. Opinion on quality of reports and related recommendations of the funds/multilateral institutions in which DGD invests		
JC.4.6 - Belgian cooperation actors have developed complementarities and synergies both between themselves and with non-Belgian development partners in climate related work, for instance in the context of initiatives such as the NDC partnership		
Indicators	**Information sources**	**Tools**
I-461. The new management contracts with BIO and Enabel have offered different/new opportunities / tools / instruments for combining federal climate finance with other national or international tools and actors (blending…)	• Management contracts • Views of key stakeholders	• Documentary analysis • Interviews • Case studies • Financing overview of the 4 focus actors
I-462. BIO/Enabel are satisfied about the role they play as it is established in the new management contracts	• Regulatory framework • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
I-463. Amount of additional financing (GCF...) leveraged by the federal climate related actions	• Financial flows • ENABEL documents • Project documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies • Financing overview of the 4 focus actors
I-464. Number of development partners interested in partnering with the Belgian cooperation over CC related projects		
EQ5	**To what extent have climate adaptation and climate mitigation results been reached through Belgian climate finance, through which operational frameworks, channels and instruments, and how far have they contributed to strengthen the resilience of partner countries to climate change and ultimately to fight climate change? (If not, what is necessary to achieve this?)**	
Proposed Judgement Criteria, Indicators, Sources, Tools		
JC5.1 - Climate change has been mainstreamed or taken into account cross cuttingly into federal development cooperation programmes and projects ?		
Indicators	**Information sources**	**Tools**
I-511. Proportion of federal development cooperation actions which take climate adaptation and mitigation into account	• Statistical data • Strategy documents • Project documents • Views of key stakeholders	• Mapping of Belgian climate finance • Documentary analysis • Interviews • Case studies
I-512. % of the budget of federal cooperation which addresses climate change		
I-513. Level of climate adaptation and mitigation expertise present within Belgian cooperation institutions and projects		
I-514. Number of climate related research and development initiatives supported and level of financing		
I-515. Increased focus on disaster preparedness and management of Belgian development stakeholders		

JC-5.2 - Knowledge management systems have been set up and allowed to measure, report and verify (MRV) the effects and the impact of federal climate financing in partner countries in terms of (for example):

- reduction of greenhouse gas (GHG) emissions
- tangible adaptation benefits
- producing innovative concepts, technologies, etc. that can be scaled up
- achieving a catalytic effect of bilateral climate-related projects (e.g. mainstreaming through the incorporation of project results into the laws of the host country, policies, programmes, etc.; scaling-up, replication, market change, etc.)
- mobilising private climate finance

Indicators	Information sources	Tools
I-521. Number of systems that allow to estimate the impact of federal climate financing	• Monitoring systems • Project documents • Views of key stakeholders	• Literature review • Documentary analysis • Interviews • Case studies
I-522. Variety of issues addressed by systems that allow to estimate the impact of federal climate financing		
I-523. Opinion on quality of systems that allow to estimate the impact of federal climate financing and on obstacles to their design		
I-524. Proportion of Belgian cooperation supported projects (climate change and non-climate change) that integrate a knowledge management system that allows to estimate the impact of federal climate financing		
I-525. Amount of recommendations issued by knowledge management systems to improve climate adaptation and mitigation projects		
I-526. Frequency of reorientation measures in response to recommendations issued by knowledge management systems set up to monitor progress in climate adaptation and mitigation		

JC5.3 - Belgian development actor teams involved in project identification and implementation possess climate adaptation and mitigation expertise

Indicators	Information sources	Tools
I-531. Number of years of professional experience in climate adaptation and mitigation of personnel involved in project identification and implementation of actions supported by the Belgian cooperation	• Strategy and operational/project documents • Views of key stakeholders and project teams	• Documentary analysis • Interviews • Case studies
I-532. Proportion of personnel involved in project identification and implementation of actions supported by the Belgian cooperation that possess academic degrees related to CC adaptation and/or mitigation		

JC5.4 - Intervention effects are positive in terms of climate change mitigation and adaptation at country and global level

Indicators	Information sources	Tools
I-541. Proportion of interventions with positive climate change effects	• Project, programme and strategic evaluation documents • Views of key stakeholders and project teams	• Documentary analysis • Interviews • Case studies

I-542. Quantitative estimates of climate change mitigation (GHG emission reduction, GHG stocking…) and climate adaptation effects	• Project, programme and global evaluation documents • Information from of key stakeholders and project teams	• Documentary analysis • Interviews • Case studies
I-543. National and global temperature trends	• UN and OECD statistics	•
JC5.5 - Change has been systemic and contributed to the resilience and adaptive capacity of partner countries		
Indicators	**Information sources**	**Tools**
I-551. Existence of assessments which identify structural aspects of climate change adaptation and mitigation	• Strategy documents • Finance channels documents • Views of key stakeholders • Project, programme and strategic evaluation documents	• Documentary analysis • Interviews • Case studies • Benchmarking
I-552. Proportion of structural aspects of climate change adaptation and mitigation that are addressed by federal climate financing		
I-553. Effectiveness of interventions which address structural aspects of climate change adaptation and mitigation		
JC-5.6 - The accomplishment of results and effects (positive or negative) has been influenced by the COVID-19 pandemic crisis		
Indicators	**Information sources**	**Tools**
I-561. How far has the COVID 19 pandemic delayed the implementation of climate change related projects?	• Project documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
I-562. Proportion of results affected by the COVID 19 pandemic in a negative way		
I-563. How far are the effects of the COVID 19 crisis on results likely to be structural/long term or only transitory?		
EQ6	**To what extent are the results obtained likely to persist beyond the project implementation period?**	
Proposed Judgement Criteria, Indicators, Sources, Tools		
JC6.1 - Factors influencing the sustainability of federal climate finance are identified		
Indicators	**Information sources**	**Tools**
I-611. Existence of assessments which identify determinants of the sustainability of climate change adaptation and mitigation at a national and global level	• Views of key stakeholders • Strategic level and national programme documents on climate change	• Documentary analysis • Interviews • Case studies
I-612. Project and programme documents identify determinants of the sustainability of climate change adaptation and mitigation	• Views of key stakeholders • Project and programme documents	• Documentary analysis • Interviews • Case studies
JC-6.2 - Sustainability has been addressed satisfactorily at project design stage		
Indicators	**Information sources**	**Tools**
I-621. The project proposal outline's an exit strategy	• Project and programme documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
I-622. Technical, economical, socio-organisational and environmental aspects of sustainability are addressed in the project proposal		
I-623. An ESIA and related management plan is designed		

I-624. The project proposal gives specific attention to appropriation by beneficiaries and local authorities		
I-625. Proportion of structural aspects of climate change adaptation and mitigation that are addressed by federal climate financing		
JC-6.3 - Sustainability has been addressed satisfactorily during project implementation and an adequate exit strategy has been implemented		
Indicators	**Information sources**	**Tools**
I-631. An exit strategy is implemented systematically	• Project documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
I-632. A social and environmental management plan is implemented		
I-633. A participative approach is implemented		
I-634. Rules and regulations for the management of natural resources, territories and/or project infrastructure are clearly established		
I-635. Effectiveness of interventions which address structural aspects of climate change adaptation and mitigation		
JC-6.4 - The institutional framework upon which climate change interventions are based is likely to maintain results after project closure and subject to endogenous and long-term financing		
Indicators	**Information sources**	**Tools**
I-641. Institutional strengthening of development actors is implemented	• Project documents • Views of key stakeholders	• Documentary analysis • Interviews • Case studies
I-642. Rules and regulations framing institutional processes and ensuring their financing are in place		
I-643. Institutional membership is inclusive and participative		

Annex 5: Comparative Country Analysis

This annex includes factsheets of the selected countries for the comparison analysis:

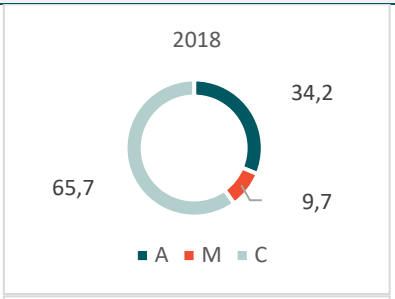
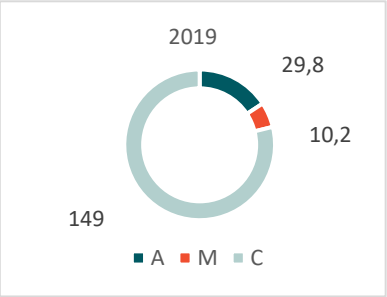
Fact sheet 1: Luxembourg

Fact sheet 2: The Netherlands

Fact sheet 3: Denmark

Factsheet 1: Luxembourg

Climate finance architecture (channels/instruments)[2]

Country & providers	Climate finance architecture (channels and instruments)					
Luxembourg (LU)	Main bilateral climate-dedicated funds & programmes	Main multilateral climate-dedicated funds & programmes	Volume %$_2$ per financial instrument	Volume in mln EUR[3]	Focus adaptation (A) mitigation (M) Cross-Cutting (C) (volumes in mln EUR)	Focus (geographies)
Ministry of Finance; Ministry of Environment, Climate Change and Sustainable Development; Ministry of Foreign Affairs.	• National Energy & Climate Fund (financed by national CO_2 tax and EU ETS credits) • International Climate Finance Accelerator (ICFA) • Cofinance/framework agreements with NGOs (implemented by LuxDev)	Green Climate Fund (GCF)	2018 Grants: 69% Equity: 0.8% Guarantees: 31% 2019 Grants: 63% Equity: 1% Guarantees: 36% Treasury bonds: 0.5%	110 (2018) 189 (2019)	 	Bilateral partners in developing cooperation (Laos, Niger, Mali, Burkina Faso, Cape Verde, El Salvador, Nicaragua, Vietnam, Senegal)

[2] Government of Luxembourg (2018-2019). Reporting on financial and technology support provided to developing countries pursuant to Article 16 of the MMR.

[3] Luxemburg reports both committed and disbursed amounts: 'Committed amounts are only reported for programs/actions/projects which are still on-going or for which the whole committed amount has not yet been disbursed at the end of 2018. Therefore, (net) committed amounts = remaining committed amounts for the post-2018 years.' Figures included in this fiche follow the same methodology, picturing both disbursed and committed funds.

Key characteristics

Context

Luxembourg's (LU) budget for international climate finance is part of the national Climate and Energy Fund. The Fund was established based on Luxembourg Law in 2004 (MECDD 2018). The Ministry of Environment, Climate and Sustainable Development is managing the Fund, although other Ministries can make use of the funding (Development Cooperation, Finance and Energy) as well. One major benefit of the structure of the Fund is that its funding is specifically earmarked for international climate finance, allowing budget flexibility without boundaries to a fiscal year of the national budget. The Fund also enhances mainstreaming of international climate action in development activities, as it 'tops up' ODA projects with a climate component and thereby safeguards the additionality principle. Moreover, the strict distinction between ODA and OOF-funding from the Fund enables LU to use OOF-funding to work with innovative mechanisms, such as the Climate Finance Accelerator Programme (CFA) of the MECCD and Ministry of Finance to de-risk private climate investments. LU's focus on integration of climate action in development cooperation has been reinforced in its development cooperation strategy *'En Route 2030' (Gouvernement du Luxembourg* 2018*)*. The Strategy focuses on **climate risk, additionality to ODA and private sector engagement**. LU has committed to a contribution of EUR 200 million annually between 2020-2024, which gives it the highest climate finance contribution per capita of the EU-27.

Bilateral channels

Luxembourg's bilateral climate finance is driven by the **partner countries' needs**, as it builds upon the long-lasting development cooperation agreements with partner countries. LuxDev is the national implementing agency of development cooperation and has a mandate to advise the State of Luxembourg, not specifically one of the ministries, such that they are considered a trusted technical agency. The key characteristics of the bilateral climate finance interventions of LuxDev can be summarised as follows:

- The main intervention type of LuxDev **is technical assistance** (training) for 'green skilling' as well as related to **Climate Smart Agriculture** (CSA).
- The work of LuxDev is **partner-country driven**, as the agency collaborates with local and regional actors in target countries.
    - The partnership with Vietnam is the first example of a general development cooperation agreement which contains the objective of climate action (LuxDev 2020). Because the general agreement already structures the cooperation between the Vietnamese government and LU, e.g., through service contracts or letters of Intent, best practices can easily be shared between authorities. This is also the case for the agreement with Cape Verde (see 1.2).
- **Between 2012-2018, mainstreaming efforts led to around 25% of LuxDev's portfolio to be climate relevant (LuxDev 2020)**. Future efforts should lead to climate action being mainstreamed throughout the whole portfolio with a focus on climate mitigation and adaptation action on the ground.
- LuxDev is monitoring climate impacts & risks ex-ante through an **environmental and climate risk screening,** which to be undertaken for all activities in the project formulation phase (LuxDev2019). **Ex-post monitoring happens through (interim) project evaluations and is based on a set of indicators that are tailored to the project**. In an interview with LuxDev,

it was mentioned that common indicators could enhance the compatibility of the results. However, since LuxDev does not have multi-country programmes, not one project is identical to the other. At the Ministerial level, ex-post monitoring is based on existing indicator frameworks of the World Bank and the EIB, using guidance provided by the European Commission.

Multilateral channels

Multilateral climate finance is mainly channelled through the GCF, with the MECCD representing LU in the Board of the GCF. LuxDev also has an accreditation to the GCF, which is further explained in Section 1.4.

Best practices

Supporting the RE transition in Cape Verde

LU's climate action intervention in Cape Verde (CV) can be considered a best practice, because it builds upon a long-lasting partnership in which climate action became more central on the agenda. The upcoming cooperation agreement with CV, titled *"Development-Climate Energy 2021-2025"*, illustrates this success. For the first time, climate action will occupy a central place in the ICP-DCE (LuxDev 2019).

Since 2015, LU is supporting the energy transition in Cape Verde by focussing on vocational training and financing interventions to increase the RES share and access to clean and sustainable energy in the country. The Cape Verdean government has committed to the objective of 30% of renewable energy-based electricity in 2025 (LuxDev 2015). The need for RES is high in Cape Verde, because of issues with energy supply and access to energy due to remote locations or unaffordable tariffs for households and businesses (8% of the population is lacking access to energy) (LuxDev 2015). Two key issues in Cape Verde that complicate the RES transition relate to the weak institutional capacity within the energy sector and the lack of awareness on the role of education and the media (International Journal of Sustainable Energy Planning and Management).

Key results

- ✓ Establishment of The Center for Renewable Energy and Industrial Maintenance (CERMI): this training institute has been established in a partnership between LU and Cape Verde to build capacities on different energy technology types (ECREE 2015). The CERMI has the ambition to become a regional centre of excellence in West-Africa (LuxDev)
- ✓ Strengthened political and regulatory frameworks by improving of access to the electricity grid for energy generation on a micro scale as well as the infrastructure for charging stations of Electric Vehicles (EVs) (LuxDev 2019).
- ✓ With CERMI as implementing partner, GIZ and the NAMA Facility have committed to the promotion of Electric Mobility (EM) in 2020-2024. This will be done through the purchase of 600 EVs and the installation and network of 95 charging stations to overcome financial barriers for the acquisition of EVs and charging stations (NAMA).
- ✓ The success of LU's interventions has led to a renewed multi-annual programme in which climate action forms (2016-2020) with Cape Verde, in which renewable energy is a key pillar next to employment and water & sanitation.

Key drivers of success

- ✓ **Country ownership**: LU's intervention showed evidence of great buy-in from national authorities, as the support provided by LU was aligned with the National Cape Verdean RE Strategy (reference to joint declaration in 2014)(Grand-Duché de Luxembourg 2015).
- ✓ **Focus on sustainability of the intervention**: through the establishment of CERMI, the intervention has focused on in-country skilling regarding RE.

Learnings

Although creating an enabling environment for RE investments of the private sector is an objective of the cooperation between LU and Cape Verde, this remains challenging (LuxDev 2019). This is related to the central challenge of incentivising the private sector to co-invest in climate & environmental projects. In an interview with LuxDev, it was mentioned that LuxDev's expertise is in traditional grants financing. As a result, they are lacking sufficient knowledge and expertise of customised tools and instruments to pro-actively engage the private sector.

One area for improvement would therefore be to **work closely with Development Finance Institutions** (DFIs) to increase knowledge & expertise regarding blended finance and to apply this on the project level. This also works the other way around, as DFIs are often looking for additional funding for the concessional part of the financing intervention of an RE investment.

Engagement with GCF

LuxDev has been accredited to the GCF since October 2019 (LuxDev2019). Until now, they have submitted concept notes, although no projects have been implemented yet.

Key opportunities for LuxDev's accreditation to the GCF

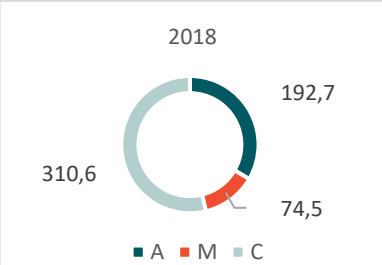
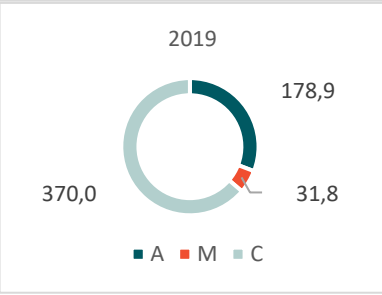
Through the GCF accreditation, LuxDev can:

- ✓ Identify climate-relevant projects without being bound to the political agenda of LU. They can focus on the countries' needs related to climate mitigation and adaptation action, without being tied to the partnership agreements between LU and the 14 partner countries.
- ✓ Enhance country ownership at the recipient country level:
  - LuxDev already has strong relationships with several National Designated Authorities (NDAs) in recipient countries, which are mainly with the Environment Ministries. LuxDev e.g. already possesses several letters of 'no-objection' of the NDA's, which form a condition to start a project with GCF funding.
  - Seeing they are a small entity, they can adapt to the needs of national authorities.
- ✓ Find ways to mobilise additional finance through Technical Assistance support to national financial entities (e.g. la Banque Agricole (BAGRI) in Niger or le Fonds d'intervention pour Environnement (FIE) in Burkina Faso. This enhances country ownership as well as the possibility to mobilise additional climate finance.
- ✓ Participate in scalable and replicable projects: with GCF funding, they can participate in projects up to 10 million USD, which are much higher than the projects implemented through LU development cooperation (LuxDev 2020).

One barrier related to the GCF accreditation is that the administrative efforts required from the implementing entities, even after the accreditation process, remain burdensome for an organisation of the size of LuxDev. Moreover, the operational processes in the GCF are still under development, which means that they take longer than in other multilateral funds, such as the Adaptation Fund. This explains why LuxDev has not started yet the implementation of GCF projects.

Fact sheet 2: The Netherlands

Climate finance architecture (channels/instruments)[4]

Country & Providers	Climate finance architecture (channels and instruments)					
Netherlands (NL)	Main bilateral climate-dedicated funds & programmes	Main multilateral climate-dedicated funds & programmes	Volume % (disbursements) per financial instrument	Volume in mln EUR (disbursements)	Focus adaptation (A) mitigation (M) Cross-Cutting (C) (volumes in mln EUR)	Focus (geographies)
Ministry of Foreign Affairs	• Dutch Fund for Climate and Development (DFCD) • Access to Energy Fund (AEF) • Sustainable Water Fund (FDW) • Other Partnerships /Programmes with Civil Society (IUCN, NL Red Cross etc).	• Green Climate Fund (GCF) • Global Environment Facility (GEF) • Climate Investment Funds (CIFs) • Sustainable Trade Initiative (IDH) • Climate Investor One (CIO)	2018 Grants: 100% 2019 Grants: 100%	578 (2018) 581 (2019)	 	Mainly bilateral partners in developing cooperation (Bangladesh, Burundi, Ethiopia, Ghana, Indonesia, Kenya, Mali, Mozambique, Rwanda and Uganda)

[4] Government of the Netherlands (2018-2019). Reporting on financial and technology support provided to developing countries pursuant to Article 16 of the MMR

Key characteristics

Context

The Netherlands (NL) Ministry of Foreign Affairs is responsible for international climate finance. The international climate finance budget is integrated in the Development Cooperation budget and all the finance can be considered 'ODA'. NL aims to maintain a flexible choice of channels and instruments. Except for some multi-annual commitments, such as the commitment to the Dutch Fund for Climate & Development (DFCD), NL can consider on an annual basis which partners to work with to obtain the best fit with the local context (Ministry of Foreign Affairs 2020). NL's strategy is guided by the Climate Theory of Change (Ministry of Foreign Affairs 2018), and supported by the standardized 'climate change profile' of each beneficiary country (see 1.2.2).
NL considers international climate finance as a means to achieve climate results, but also as a goal to obtain a fair share towards the USD 100 billion mobilisation of climate finance annually from 2020 onwards (Ministry of Foreign Affairs 2018). It has identified the following interventions to achieve this goal (Ministry of Foreign Affairs 2018):

- Increasing climate-specific funding, e.g. through the DFCD (see Section 1.3.);
- Mainstreaming of climate change into all multi-annual country strategies;
- Supporting innovative finance initiatives to mobilise private climate finance;
- Actively engaging in international fora, such as the OECD, UNFCCC and the EU to push the agenda for transparency of climate finance reporting. This also includes leading by example through good reporting. NL is the only EU Member State which publishes a report on its private climate finance mobilised through public interventions annually (Government of the Netherlands 2019).

Climate finance contributions are generally monitored through ex-ante assessments based on the Riomarker methodology. Additionally, the Ministry reports on the following result areas using external programme evaluations*: amount of people with access to renewable energy*, *amount of hectares of forest under sustainable management*, *amount of farms more resilient to climate change*, *amount of people benefiting from improved water management*.

Bilateral channels

NL bilateral climate finance is intended to address priorities that are not sufficiently taken up by multilateral climate funds (Ministry of Foreign Affairs 2018). The key characteristics can be summarised as follows:

- Bilateral climate finance is strongly driven by the **partnerships with civil society organisations.** NGOs implement the projects with the objective to mobilise local capacity to address climate change in developing countries (Ministry of Foreign Affairs 2018).
- Strong focus on **private sector engagement through Public-Private Partnerships (PPPs)** in the water, food and energy sectors. This strategy aims to boost private sector involvement, mobilise additional climate finance and promote innovation. It is facilitated by, for example, the Netherlands Enterprise Agency (RVO) or the Dutch Development Bank (FMO).
    - Public investments are used to provide Technical Assistance to create an enabling environment for the private sector, e.g. through overcoming the bankability gap.

- **Strong focus on relationships with knowledge institutes**, such as the World Resource Institute (WRI), the Climate & Development Knowledge Network (CDKN) and Climate Policy Initiative (CPI), to further explore the opportunities for mainstreaming climate & development.
- **Strong focus on mainstreaming of climate in development activities,** with the largest opportunities in the water, food security and infrastructure sector (less in migration policies). Moreover, NL prioritises a focus on gender policies in climate action. NL designed 'climate change profiles' for the countries it directly works with to help integrate climate actions into development cooperation activities. These profiles give insights in the (1) climate change effects and impacts, (2) the policies, priorities and commitments of the countries concerned and (3) key climate-relevant activities that are financed with international assistance already in place in the countries (Ministry of Foreign Affairs).

Multilateral channels

NL contributes to multilateral climate funds, such as the GCF and the CIFs. Moreover, it directly contributes to UN agencies, such as UN Environment. Funding to UN Environment is not ear-marked for climate, but the aim of the Netherlands is to fund the climate ambitions in its Work Programme. NL also takes a *leading role* in several multilateral funds & programmes: it is co-chair of the NDC-Partnership and initiated the multilateral Climate Investor One (CIO) fund (see Section 1.3.). The role of NL as alternate board member within the GCF is further explained in Section 1.4.

Best practices

Climate Investor One (CIO)

CIO is a collective investment vehicle that offers investment opportunities for the private sector in renewable energy projects in developing countries, initiated by FMO(APE 2017). CIO can be considered a best practice, because it is an example of a blended finance facility that is able to engage the private sector in climate action in developing countries. CIO finances these projects through several stages of a projects' life to ensure projects get off the ground and attract new investors (The Global Innovation Lab for Climate Finance):

- A **'Development Fund'** funded by grants from donor countries, finances 50% of the development costs for projects to overcome the 'bankability gap' for the private sector. The fund provides technical assistance, environmental and social due diligence support, and the secure of titles and permits at an early stage.
- A **'Construction Fund'** provides 75% of the investment's costs on commercial terms to projects. It is funded by DFIs and commercial investors (PEs) with different risk profiles. The objective is to reduce the complexity and development time with fewer financiers for project developers to negotiate with, and by doing so also reducing the overall cost of financing and project development.
- A **'Refinancing Fund'** will unlock new capital through a pooled refinance fund that may be appealing to institutional investors, although this fund is not yet in the stage of implementation.

Key results & drivers of success

- ✓ CIO was initiated by the NL MFA and FMO to overcome the mismatch between on the one hand the need for project development of bankable projects and on the other hand project financing available for executing these projects. This is made possible through the de-risking mechanisms of the Development Fund and Construction Fund.
- ✓ FMO participated with the CIO-plan in a competition of the Global Innovation Lab for Climate Finance, which The Lab endorsed CIO as an innovative initiative for its 'one-stop shop' and helped to develop the CIO concept.
- ✓ Compared with conventional project financing, CIO removes the need for complex multi-party financing structures, with the potential to thereby reduce the time and cost associated with delivering renewable energy projects.
- ✓ CIO has received a notable investment of the GCF, which unlocked further funding opportunities to new and existing commercial and institutional investors (see Section 1.4) (GCF 2018).

Learnings

CIO is a one of the first of its kind examples of a blended finance facility for construction investments in the renewable energy sector. Although no "formal" evaluation of the CIO operations has been carried out to date, the innovative character of the facility and its "waterfall" effect by the sequence of onboarding donors, DFIs and commercial finance seems to be a success story, attracting a lot of interest of donor governments and the private sector (based on an interview with Andrew Johnstone, CEO of Climate Fund Managers, managing CIO). The 'Refinancing Fund' is not operational yet, which makes it also difficult to evaluate CIO's effectiveness as one-stop-shop principle.

Dutch Fund for Climate and Development (DFCD)

The DFCD has been established in 2018 **as an additional instrument for the Dutch government's efforts in contributing to the Paris Agreement and the SDGs**. The DFCD's investment strategy focusses on **high-impact finance and projects around climate adaptation and resilience** in particular (e.g. climate-resilient water systems, water management and freshwater ecosystems, forestry, climate-smart agriculture, and restoration of ecosystems) via **three (3) separate but operationally linked facilities** based on the strengths of each of the consortium partners (FMO, Climate Fund Managers, SNV International and WWF Netherlands):

1. **Origination Facility** (managed by WWF and SNV): this facility is exclusively for project identification and (pre)-feasibility developments through grant funding and TA). Projects that 'graduate' from this facility will be financed by the other two facilities mentioned below.
2. **Land-use Facility** (managed by FMO): this facility focuses on investments related to agroforestry, sustainable land use and climate resilient food production. Financial instruments consist of grants, equity and debt.
3. **Water Facility** (managed by Climate Fund Managers): this facility focuses on sectors related to water and sanitation infrastructure, as well as environmental protection. Financial instruments consist of grants, equity for construction and operational debt. it will utilise the proven fund structure of Climate Investor One (CIO) and will target a €50 million Development Fund, a €500 million Construction Equity Fund and a €500 million Refinancing Fund, known as Climate Investor Two.

Key results & drivers of success

- ✓ The DFCD intends to scale up adaptation finance in the most vulnerable countries with a 65% target for adaptation. This makes it complementary to CIO, which mainly targets mitigation.
- ✓ The fund is managed by a pioneering consortium of the FMO (lead), Climate Fund Managers, WWF-NL and SNV International, which is rather unique in its kind by bringing development finance institutions, investment managers, NGOs and civil society organisations together in one fund for addressing SDG needs in developing countries.
- ✓ A 'landscape' strategy for deal origination and execution has been adopted in order to allow consortium parties to actively source and develop private sector investment opportunities in-and-around, as well as downstream opportunities from own investment activities, and create a value-chain between the different facilities.

Learnings

Although public and private commitments to the DFCD have been made, it is not possible yet to evaluate The DFCD's targets to use 65% of its finance for adaptation and leverage private mobilisation up to EUR 500 million. In discussions with FMO, it was mentioned that harmonising the timeframe of the long-term landscape development approach with the shorter timeframe in which funding needs to be spent is challenging.

Engagement with GCF

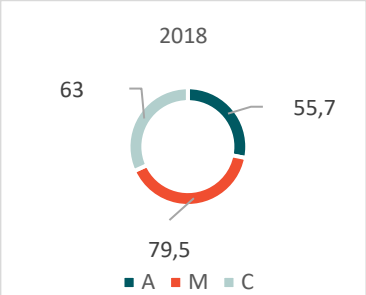
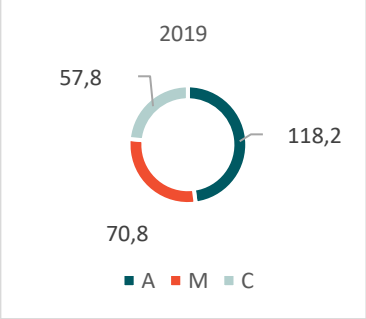
FMO has been accredited to the GCF since October 2018. It is currently engaged in the CIO project, which runs from 2018-2038. Of the 11 target countries, activities have been implemented in three countries (Uganda, Djibouti and Morocco) (GCF 2019). Despite the opportunities formulated below, the GCF policies remain too stringent for DFI's the size of FMO to efficiently pursue GCF funding for smaller projects.

Key opportunities for FMO's accreditation to the GCF

- ✓ The GCF accreditation enables FMO to expand its project pipeline to the GCF target countries most vulnerable to the impacts of climate change (LDCs, SIDs, African States);
- ✓ FMO contributes with its blended finance knowledge and tools to the GCF's Private Sector Facility (PSF), which has the objective to fund and mobilise institutional investors and leverage GCF's funds to encourage private co-investment (GCF 2019);
- ✓ Mid-term results of the CIO project show evidence of country ownership in all three countries: in the recipient countries of CIO funding, renewable energy remains a national priority, Letters of No Objection (NOLs) of the recipient countries have been received, and continued government engagement has been noted through continuous stakeholder engagement support of the entities that CIO has invested in (GCF 2019).

Fact sheet 3: Denmark

Climate finance architecture (channels/instruments)[5]

Country & Providers	Climate finance architecture (channels and instruments)					
Denmark (DK)	Main bilateral climate-dedicated funds & programmes	Main multilateral climate-dedicated funds & programmes	Volume % (disbursements) per financial instrument	Volume in mln EUR (disbursements)	Focus adaptation (A) mitigation (M) Cross-cutting (C) (volumes in mln EUR)	Focus (geographies)
Ministry of Foreign Affairs; Ministry of Climate, Energy & Buildings (MCEB).	• Climate envelope (climate action in partner countries implemented by Danida) • Investment Fund for Developing Countries (focused on private sector mobilisation)	• Green Climate Fund (GCF) • Global Environmental Facility (GEF) • Least Developed Country Fund (LDCF) • Global Green Growth Institute (GGGI)	2018 Grants: 100% 2019 Grants: 97% Equity: 3%	198 (2018) 247 (2019)	 	Bilateral partners in developing cooperation (Bolivia, Burkina Faso, Uganda, Kenya, Ethiopia, Indonesia, Bangladesh, Egypt, Afghanistan, Georgia)

[5] Government of Denmark (2018-2019). Reporting on financial and technology support provided to developing countries pursuant to Article 16 of the MMR

Key characteristics

Context

Denmark (DK) organises its climate finance interventions through its dedicated climate envelope and traditional development cooperation mechanisms.
Since 2012, climate finance management revolves around the work of the Ministry of Climate, Energy and Building (MCEB) and of the Ministry of Foreign Affairs (MFA). The MFA is formally responsible for the climate envelope and for the determination of the Danish sustainability and climate strategy, although strong cooperation occurs between the two ministries, with the MCEB managing roughly half of the envelope funds. This system allows DK to cover a broad base of needs and contexts: MFA follows a **tradition of cooperation development and mainly targets adaptation in low-income countries**, while the MCEB has **expertise on larger energy-related projects in emerging countries**.
DK's international climate finance strategy is guided by the overarching Danish development strategy. The strategy focuses on green growth, as well as balancing mitigation and adaptation actions towards LDCs. This focus reveals in the strategic objectives of the framework 'The World in 2030' (Danida 2017), in a long-term perspective of climate finance impacts, and, practically, in a mainstream use of technology transfers and capacity building.

Bilateral channels

Bilateral projects are conducted in recipient countries by the decentralized Danish representations and by local partners (mostly public sector institutions and NGOs) (Danida 2019).
Although MFA leads the climate finance policy and owns the Danish Development Financing Institution (IFU), bilateral finance is divided between MFA and MCEB projects on one side (ODA) and IFU projects on the other (equity and loans). Bilateral flows share the following commonalities:

- ✓ Projects are conducted in a long-term perspective and aim at **providing conditions for sustainable growth and development**, both for mitigation and adaptation. This approach makes bilateral cooperation the primary vehicle for technology transfer and capacity building both through dedicated programmes such as the Low Carbon Transition Unit and by including a technical assistance component into projects (support in policy planning, training).
- ✓ Efforts to mainstream climate change matters occur mainly at the policy and project-planning levels. In this perspective, the Government's annual priorities for development assistance are an important instrument to orient Danish support (Danida). At the recipients' level, **measures for mainstreaming take shape in policies and plans**.

Monitoring and evaluation processes are currently under review (interview, representative from Danida). The reform should combine higher flexibility -with the possibility to evaluate and amend projects during their implementation- and the use of Theories of Change as baselines for evaluation (Danida 2020). These new baselines offer consistency with the long-term perspective of DK's climate finance that prevents a straightforward evaluation of projects. They account for broad impacts on the development pathways of recipient countries and for the effects on co-benefits (notably employment and resilience), while still allowing to set project-specific goals for climate matters.

On the IFU side, DK's climate finance has **strong links with the private sector**. This specificity builds on a particular institutional architecture and on the use of innovative instruments (see Best

Practices section). Institutionally, IFU manages the Danish Climate Investment Fund (DCIF) and the Danish SDG Investment Fund which are public-private partnerships whereby public funds are supplemented by pension funds. This setting broadens the sectoral scope of projects and investable resources. IFU uses specific monitoring systems -which are still under development, similarly to other Danida's bodies. Monitoring relies on standardized Sustainability Reports submitted by project developers. Results are then assessed against Key Performance Indicators, each corresponding to a SDG (E.g. SDG 2 aiming at zero hunger is assessed by the 'share of agribusiness projects that support smallholder farmers') (IFU 2019). Cross-cutting issues such as environmental protection are monitored through environmental management plans, tailored to each project.

Multilateral channels

DK dedicates most of its climate finance to multilateral channels, although in 2019 almost two thirds of disbursements corresponded to non-climate specific, core-fundin (Government of Denmark 2019). The Least Developed Countries Fund (LDCF) receives the largest share of Danish multilateral climate finance. However, at an aggregated level, DK's multilateral climate finance is mainly channelled through non-climate specific multilateral institution (e.g. World Bank, UNDP) (Government of Denmark 2019). The repartition of multilateral funding, notably the prevalence of multilateral financial institutions and of Climate Investment Funds, and the reorientation of funds towards the LDCF reflect DK's **preference for green growth and for the inclusion of the private sector** (Danida 2020).

This approach also mirrors the use of climate finance as an instrument for Danish diplomacy. It provides DK with a broad representation in the climate finance realm and ensures an influent position at a high scale (Danida 2020). Indeed, DK perceives itself as a **steering actor in international climate finance fora**, advocating on one hand for an efficiency-based management in multilateral funds, and on the other hand for an inclusive climate finance that advances aid principles (Danida 2020).

Best practices

Public-private partnerships between IFU and institutional investors

DK's action can be considered a best practice in attracting institutional investors at a high scale, beyond single projects (OECD 2021). The IFU **combines ad-hoc funding mechanisms and targeted programmes.**

Key results

- ✓ ***Establishment of public-private partnership funds*** *(Danish SDG Investment Fund, Danish Climate Investment Fund, Danish Agribusiness Fund, IFU Investment Partners). Close-end funds with specific focuses have been established since 2016, with funding balanced between public and private sources. The largest Danish institutional investors have been the recurring private partners of IFU since 2016 (notably PKA, PBU, PensionDanmark) thus developing a specific expertise and building a structural involvement of private actors in Danish climate finance (IFU 2019).*
- ✓ ***Growing flows of climate finance****, including in the covid-19 context (FinanzNachrichten 2020). A total of 1300 projects have been supported by IFU and related funds (IFU). Overall, it is estimated that 2.42 EUR Bn were mobilized from institutional and private investors by IFU between 2012 and 2017 (IFU). Beyond large institutional investors, 900 private companies have co-invested along with IFU. Added to a high financial additionality of IFU's investments with private actors being attracted at a project scale in recipient countries, this results in a leverage factor of 7.9 in 2019 for IFU's funds (IFU 2019)*
- ✓ ***Improved competitivity of Danish and recipient countries companies.*** *The use of blended finance has been a prime instrument to champion knowledge sharing between Danish and local companies. On the recipients side, blended finance is used to foster education and training, in line with the Danish ambition to initiate lasting growth beyond IFU's support. On the Danish side, although IFU is no longer officially tied to Danish interests[6], the Fund screens projects for mobilizing private Danish expertise.*

Key drivers of success

- ✓ **Emergence of a momentum for private climate finance (FinanzNachrichten 2020).** Danish institutional investors structured these last years (see the Institutional Investors Group on Climate Change and the Climate Investment Coalition) following the renewed expectations of their clients for sustainable investment (Institutional Investor 2016). This emerging network has been paving the way for similar experiences abroad, providing a first-mover advantage to Danish institutional investors, thus sustaining the momentum and their involvement.
- ✓ **Framing of climate finance as an economic opportunity for the Danish private sector.** In particular, IFU highlights the possibilities of market extension and higher efficiency for Danish companies, as the MFA acknowledges that economic incentives are a condition to attract private resources in climate finance.
- ✓ **Existence of a pipeline of bankable projects.** The framing of climate finance as an economic opportunity for Danish companies is backed by the existence of large mitigation projects, which yield higher benefits for the private sector than adaptation activities. The historic Danish focus on energy-related projects facilitated the development of a relevant pipeline of projects for the private sector.
- ✓ **Development of new instruments and governance practices to mitigate economic risks.** The 'High risk-High impact' pilot project aims at mitigating risks for the private sector in projects based in LDCs and African fragile states (Ministry of Foreign Affairs 2019). The pilot entails strengthened IFU

[6] The Strategic Sector Cooperation, counterpart to Finexpo, is responsible for a advancing Danish companies' interests in development projects (Danida).

direct financial support and the flexible use of financial instruments. Blended instruments are tailored to each project to combine the benefits of concessional and conventional finance. Moreover, acknowledging that Danish private investors face socio-cultural uncertainty when joining projects, DK established a Project Development Facility. Since 2016, the Facility co-finances the costs of project development in developing countries.

Learnings

- ✓ Although the inclusion of institutional investors was facilitated by a momentum exogenous to IFU, with Danish institutional investors shifting towards climate-sensitive portfolios, IFU's actions proved determining to build a long-term involvement of private actors. IFU's strategy to **convert climate finance into business terms appears to have been successful** given the growing amounts of blended finance mobilized. Such a strategy requires to mitigate risks for private actors beyond economic matters by balancing socio-cultural and governance risks and necessitates an explicit framing of climate finance projects into investment projects relevant to Danish companies.
- ✓ In line with recent reports, the Danish experience points to a need for tailoring the blended finance strategy to adaptation projects. Indeed, the sole support to bankable mitigation projects jeopardized pledges for balanced climate finance between adaptation and mitigation (OECD 2021). The experimentation **'High risk-High impact'** is a promising avenue, along with the support to the African Guarantee Fund, which targets smaller adaptation projects while fitting the private sector risk acceptance.

Engagement with GCF

Along with the Netherlands, Denmark shares a Board seat at the GCF since 2014. This position was strengthened in December 2020 during the GCF replenishment period, as Denmark provided EUR 3.493 million to the Fund (GCF 2020).

Key opportunities for engaging in the GCF

The GCF offers a series of opportunities for Danish climate finance. It notably:

- ✓ Supports DK's priorities for climate finance. On one side, GCF projects balance bilateral Danish climate finance with a stronger focus on adaptation. On the other, the GCF provides a strategic diplomatic forum to advocate for Danish priorities through dialogue and trust building -priorities typically include aa 70% floor of adaptation finance geared towards the most vulnerable countries and country ownership (Danida 2020).
- ✓ Broadens the resources and knowledge base to progress towards private sector inclusion. The close links between Denmark and the GCF, and particularly with the Private Sector Advisory Group, have generated discussion on the roles of the private sector in adaptation. This resulted in a meeting and subsequent paper, thus delivering additional input for one of Danida's priority topics.
- ✓ Offers expertise on adaptation. GCF publications, networks and adaptation initiatives provide an untapped potential of additional knowledge for Danida. Danish collaborators working at the Danish GCF representation offer a supplementary source of expertise, especially when coming back to Danida's headquarters.

The growing amount of paperwork produced by the GCF Secretariat requires substantial human resources (Danida 2020). Added to the structural divisions among Board members, this may jeopardize the ability of Denmark to effectively pursue advocacy efforts. The insufficient reporting of results also weakens the credibility of the fund, and indirectly DK's involvement.

Annex 6: Country Case Study – Senegal

List of Photos

1. Introduction

This country report is part of the Evaluation of international climate finance by the Belgian federal government. This independent evaluation has two main objectives:

- Provide an independent assessment of the international climate finance by the Federal government's development cooperation policy.
- Provide specific actionable policy and operational recommendations for the various Belgian actors and policy makers involved in defining and implementing Belgium's commitment to international climate finance. Such recommendations will concern strategy, institutional framework, regulatory framework, instruments and channels.

Following a general documentary review, a set of interviews with Belgian climate actors, and a preliminary portfolio analysis enabling, on the basis of the Monitoring Mechanism Regulation (MMR) databases covering the period 2013-2019, to provisionally categorise the various types of Belgian climate interventions, the evaluation team has launched a case study phase.

The objective of this case study phase is to obtain a more detailed and concrete view of how climate action is identified, formulated, implemented and monitored at project and country level and better understand the climate logic within the various types of interventions as well as characterise the exact nature of their climate effects.

In order to do this and obtain a systemic view of how climate change may be tackled at a country level, two countries have been selected as case studies: **Senegal**, in West Africa, and **Tanzania**, in the Great Lakes region. These geographical areas were considered representative of the two main areas of Belgian development cooperation focus. 5 projects were selected for a detailed analysis in both countries (i.e. 10 in total). Additionally, to better cover the diversity of Belgian climate action both at a thematical and an institutional level, the two main criteria for project selection, 4 other interventions have been selected: National Determined Contributions (NDC) support by the Federal Public Service (FPS) environment in Burkina Faso and Niger, University cooperation in Vietnam and a methane gas capture project in Rwanda.

1.1. Case study evaluation approach

The country case study evaluation on Senegal was conducted remotely between March and mid-April 2021. Senegal was chosen as a showcase of Belgian development cooperation in the Sahel region, and selected for offering a sufficient variety of projects, carried out by the Belgian actors Enabel, BIO and the NGA & IA's, which, along with the FPS Environment, are the actors being examined in detail in this evaluation.

The Senegal case study covered the 5 following interventions:

- Enabel's "Projet d'Amélioration des Services d'Eau Potable et d'Assainissement en milieu rural (PASEPAR)"
- Eclosio's Senegal Programme 2014-2016
- BIO's Ten Merina Ndakah solar power project

- Enabel's Projet de Bassin de Rétention et de Valorisation de Forages dans les Bassins de Diourbel, Fatick, Kaolack, Kaffrine et Thiès (BARVAFOR) and subsequent Projet d'Appui à la Réduction de l'Emigration rurale et à la Réintégration dans le Bassin Arachidier (PARERBA)

- The VVSG "Contributing to good local governance through strengthening administrative strength in the South and local policy coherence in Flanders" project.

The five projects selected in Senegal cover the following themes: water & sanitation, agriculture, energy, natural resource management and waste management. Along with BIO, Enabel and NGO projects, the selection of a project by Association of Flemish Cities and Municipalities / Vereniging van Vlaamse Steden en Gemeenten (VVSG), allowed for an insight into decentralized cooperation through a partnership between Belgian and Senegalese municipalities. The interventions represent 73% of the total budget allocated to international climate finance within Belgian-Senegalese cooperation during 2013-2019. The selection includes projects without a primary focus on climate change, allowing the assessment of the level of climate mainstreaming into development projects.

Further data on key evaluation points is available in Annex A, including a short narrative describing each project.

Due to the COVID-19 pandemic, the core evaluation team could not implement the evaluation study in the field. Interviews were undertaken by the core evaluation team in Europe and a Senegalese local consultant. They took place from 17th March to 21st April 2020 in Europe and Senegal with a set of Belgium and Senegalese stakeholders of each project (see annex C). Field visits were undertaken by the Senegalese consultant in the first two weeks of April so as to visit Eclosio project sites, BIO's Ten Merina Ndakah solar power plant and Sokone were VVSG implements its collaboration with the municipality through a partnership with the Flemish town of Zemst.

1.2. Triangulation of results

Triangulation relied on the diversity of data types (internal documentation, evaluations, interviews, field visits) and of interviewees. Interviews were conducted with a variety of Belgian and Senegalese stakeholders (14 with **Belgian key actors,** 8 with **local operators or authorities** and 33 **beneficiaries' representatives**). In addition, the Team Leader is acquainted with the PARERBA project for having conducted its Mid Term Evaluation in February - March 2020 during which he met over 66 stakeholders and groups of producers representing 11 producer organisations benefiting from the BARVAFOR's infrastructures. Table 1 depicts this repartition. For a detailed overview of the interviews, please see Annex C.

Table 1 - Type of actors interviewed

Project	PASEPAR	BARVAFOR (PARERBA)	Ten Merina Ndakah	Eclosio programme	VVSG	Other
Belgian stakeholders	1 (Task manager)	2 (HQ Task Manager an project coordinator)	1 (Task Manager)	3 (Director and 2 local programme officers)	2 (Task Managers)	5 : Belgian Embassy in Dakar, Water management consultant, TA to Agropole Centre, Enabel country portfolio Manager)
Local stakeholders	1 (DGPRE)	Through MTR (66 _ representatives of 11 producer organisations)	16 (Beneficiaries of community project)	19 (17 women beneficiaries + 2 local authorities)	5 local authorities	-

The heavy work burden of various stakeholders (particularly VVSG) complicated the organization of some interviews, as well as the COVID-19 crisis but globally, the team feels it has accessed sufficient information to draw robust conclusions.

In the case, of the PASEPAR project, both due to the fact that the intervention has been closed for over a year and that climate change was not an explicit project issue, it was decided not to visit the project site and speak to beneficiaries but rather analyse the possible impact of the project on the wider water management strategy of Senegalese authorities through discussions with the water resource management authority as well as the TA that had supported that authority.

Moreover, both the local consultant and the team leader having conducted the Mid Term Evaluation of the PARERBA project a little over a year ago and therefore visited the project area and met extensively with its various stakeholders, it was decided not to visit the BARVAFOR / PARERBA project area and concentrate field visits on the 3 other interventions so as to make the most of scarce time. It should however be recalled that Eclosio is also a partner of the PARERBA so interviews with Eclosio, though mainly focused on its 2014-2016 programme were also the opportunity to touch upon the effects of the BARVAFOR.

Finally, though this interview will occur after this report is handed in, an interview is still planned with a representative of the Municipality of Zemst. The information collected will serve in the final report.

1.3. Reading guide

This evaluation report contains the following chapters:

- Chapter 2 explores the country context, the Belgian interventions and climate finance landscape of Senegal;
- Chapter 3 includes the key findings following the evaluation questions (EQ's);
- Annex A contains a short presentation of each project;
- Annex B presents the specific assessment of each project;
- Annex C contains a list of interviewees;
- Annex D provides a list of bibliographical references.

2. Context

2.1. General context Analysis

2.1.1. Country context

Senegal is a Sahelian country with middle-income status despite a low Human Development Index (HDI) which, at 0,512, ranks it 168th in the world (UNDP, 2021). Estimated at over 16 million in 2020, the population is growing rapidly with over 4 children per women on average. Poverty remains widespread, estimated at almost 47% of the population (ANSD, 2013).

The economy is driven by services (55% of employment) and agriculture[1] (32%). However, due to its geographical situation and political stability, Senegal is also one of the most industrialised African countries, harbouring a range of international companies. Tourism is increasingly important, with mining, construction and fishing also significant sectors. Migration, national and international, also plays an important role in the economy through remittances. Available documents indicate that 60% of Senegalese households have at last one migrant member (IPAR[2], 2013).

The PSE (Plan Sénégal Emergent) adopted in 2012 till 2035 is the global framework for all economic and social policies. It seeks to increase employment, supports food sovereignty, fruit and vegetable exports based on improved access to water as well as the development of renewable energies.

2.1.2. Main country climate challenges

Climate change poses a threat to Senegal's socio-economic development. In general, climate models suggest that West African countries will likely experience increased temperatures, decreased annual rainfall, increases in the intensity and frequency of heavy rainfall events, a decrease in surface waters and alluvial water tables, and a rise in sea level. These changes will significantly affect the socio-economic and environmental resources of Senegal.

Due to the semi-arid climate, agriculture and pastoralism in particular are threatened by draught and land degradation with major repercussions on food sovereignty. Water and sanitation, already deficient are a further major concern particularly considering the current unsustainable management of water tables in highly populated areas such as the Dakar-Thies-Mbour triangle. A further issue is coastal erosion; 25% of Senegal's coastline carries an important risk of erosion and the average coastline regression reportedly varies between 1 and 1,33 meters/year in Senegal. The Intergovernmental Panel on Climate Change (IPCC) predictions predict major sea intrusions in areas such as the Siné-Saloum in the next 30-40 years depriving farmers or significant surfaces of arable land[3]. A major Senegalese city such as Saint Louis is reportedly at risk of frequent inundations.

Senegal is currently not a major contributor to global greenhouse gas emissions. The country contributes less than a ton of CO_2 per person per year (compared to the global average of over 6 tons per person per year), placing it 150th in the list of countries by CO2 emissions.

[1] Including pastoralism and fishing.
[2] Initiative prospective agricole et rurale
[3] https://www.dakarexpress.net/2019/05/10/les-consequences-du-changement-climatique-au-senegal/

2.2. Belgian development work in Senegal

Development cooperation between Belgium and Senegal exists since 1968. Senegal is one of the 14 partner countries of Belgian governmental cooperation. In the past, main sectors of activity were Health, Water (irrigation, drinking and sanitation) and rural development.

In March 2018, a new general cooperation convention was signed between Belgium and Senegal. Amongst others, it notifies the new status of Enabel as the entity in charge of implementing governmental cooperation. In July 2019, the new Governmental cooperation programme 2019-2023 was signed for 45 million euros. Its first pilar concerns the soco-economic development of the Sine Saloum (Kaffrine, Fatick and Kaolack regions), particularly through contributing to decent work creation and the development of 2 industrial parc within the «Agropole centre» mainly focused on agroindustry (22,5 million euros). The second pilar seeks to promote reproductive health as well as the prevention and assistance of sexual violence based on gender (8,8 million euros). The 3rd pilar concerns capacity building through training, studies and expertise (4,5 million euros). The remaining budget is assigned to a reserve and to technical assistance.

Senegal is one of the 5 Sahelian countries which will benefit from the thematic regional programme currently under formulation in the area of environment and resilience. This programme will be implemented by Enabel. Within the mark of this programme Senegal should benefit from about 10 million euros over 5 years.

Beyond the governmental programme, Belgian development actors active in Senegal are varied and include Non-Governmental Organisations (NGO), towns and communes (Anderlecht, Hastières, Sint-Niklaas, Zemst…), scientific and academic institutions. They are active in a variety of areas including rural development, women entrepreneurship, agroecology… These Non-Governmental Actors and Institutional Actors (NGA & IA) are currently finishing their 2017-2021 multiannual programme (Joint Strategic Framework – JSF) and preparing a proposal for their next JSF. The 2017-2021 JSF for NGOs represented a 20 million budget distributed amongst the about 20 Belgian NGOs active in Senegal.

BIO is active in the areas of Renewable Energy, agribusiness, finance and microfinance through loans and equity.

Belgian regions are also active in Senegal, particularly the Wallonie-Bruxelles International (WBI) agency.

Though Senegal is not one of its main partners, Finexpo's portfolio also includes support to Senegal.

Economic and commercial relations between Belgium and Senegal have grown regularly over the last few years and represented 700 million euros over the first 10 months of 2019; most of this amount corresponds to Belgian exports. Senegal is amongst the top countries benefiting from Belgian exports in Sub-Saharan Africa. Main Belgian exports include minerals (particularly refined petroleum and derivatives, transport material, machinery, chemical products, food and alcoholic beverages. Belgium is the 7th Senegalese import provider. In terms of service exports, it can be noted that Tractebel is involved in the development of the second biggest wind farm in Africa, at Taiba Ndiaye (158 MegaWatt- MW).

2.3. Panorama of climate action and climate related policies

2.3.1. Climate related policies and action in Senegal

Recognizing the climate related challenges, it faces, the Senegalese government, and international and national institutions and organizations, have begun to identify climate change impacts, vulnerabilities, and threats as well as to determine adaptation priorities, develop adaptation strategies, and mainstream adaptation into development planning.

In particular, the 2006 National Adaptation Programme of Action (NAPA) identifies water resources, agriculture, and coastal zones as the country's most vulnerable sectors. It incorporates participatory methods in the implementation and monitoring of projects, community ownership of solutions, capacity building, poverty alleviation, strategies for improving and diversifying livelihoods for vulnerable groups, and consideration of gender issues. The NAPA also highlights the importance of regional and international cooperation and the mainstreaming of climate change efforts into all relevant national ministries, institutions, and policies.

The second national communication in 2010 represents the reference framework for any intervention implemented as part of the climate change adaptation policy. It puts forward coastal areas as well as agriculture, water, tourism, infrastructure, fishing and health as keys areas of action, partly because of their importance for the economy.

In 2015, Senegal released it Intended Nationally Determined Contributions (INDC's) that indicated climate change would be treated as a national priority. Activities which emit greenhouse gases (GHG) have been identified as transport, waste management, energy, industry, forestry and agriculture. These may be associated to mitigation interventions. Areas sensitive to climate change that are conducive to adaptation actions have been identified as coastal erosion, agriculture, fishing, pastoralism, health and biodiversity.

The NDC plan implementation combines an unconditional objective depending on national actors and resources (State, local authorities, private sector, NGO…) and a conditional objective which will be attained with support from the international community.

In its latest NDC submission, the country commits to reduce GHG emissions by 5% and 7% (unconditional) and 23.7% and 29.5% (conditional) compared to "Business as Usual" levels in 2025 and 2030 respectively. The NDC submission also has an adaptation component. The country has also communicated on unconditional renewable energy programmes that will be implemented:

- Solar PV: power plants with a total cumulative capacity of 160 MW
- Wind Turbine: power plants with a total cumulative power of 150 MW
- Hydraulics: power plants with a total cumulative capacity of 144 MW/522 GWh; 392 villages electrified minigrid solar electrified or hybrid (diesel/solar); and Installation of 27,500 domestic biodigesters

The implementation of Senegal's contribution is estimated to have a cost of US$ 13 billion of which 8,7 billion are assigned to mitigation (3,4 unconditional and 5,3 conditional) and US$ 4,3 billion for adaptation (1,4 unconditional and 2,9 conditional). The total unconditional budget represents US$ 4,8 billion whereas the conditional budget sums US$ 8,2 billion.

However, an implementation gap remains between existing adaptation plans and project realization. Reasons for this gap include financial constraints and limits in available, accessible, and locally derived data on climate change and its impacts on various sectors and communities. No information concerning progress towards NDC or NAPA objectives was obtained.

2.3.2. Climate actors in Senegal

Institutionally, the Directorate of Environment and Classified Establishments is responsible for strengthening the awareness and knowledge of various government agencies on climate change and adaptation issues. Implementation of the NAPA is led by four directorates: National Parks; Environment and Classified Establishments; Water, Forests, Hunting, and Soil Conservation; and Water Retention Basins and Artificial Lakes. The National Climate Change Committee aims to contribute all necessary expertise for the implementation of the United Nations Framework Convention on Climate Change (UNFCCC) and its protocols in Senegal. This committee is comprised of the ministries of Agriculture, Tourism, Environment, and Education. Regional Climate Change Committees assist the national level committee.

Efforts have also been undertaken to endow greater responsibilities to local authorities with a significant transfer of competences in relation to environmental and natural resource planning and management. Moreover, similar to Kenya, Mali and Tanzania, Senegal entrusted local Climate Adaptation Funds to channel climate finance. The Funds' budgets are jointly planned by communities (locally appointed individuals) and local governments[4]. This mechanism has the advantage to reduce transaction costs when identifying adaption priorities, and to fulfil the multilateral Funds' criteria on local participation.

In terms of multilateral fund action, the GCF has 11 projects currently active in Senegal, with a total financing of 159.6 EUR millions. Most of the projects are classified as mitigation projects, with some being cross-cutting and adaptation focused[5]. Senegal has also received support from GEF and more specifically, from the LDCF in the preparation and implementation of the NAPA; the environment for the implementation of appropriate adaptation measures based on ecosystem management has also been strengthened[6]. Moreover, in Senegal, since 2013, the Adaptation Fund has completed the implementation of the "Adaptation to Coastal Erosion in Vulnerable Areas" project and has initiated a project focusing on reducing vulnerability and increasing resilience of coastal communities in the Saloum Islands[7].

In terms of climate action, the private sector is mainly active in the energy sector with significant private sector investments in renewable energy, solar and wind.

2.3.3. Belgian climate action in Senegal

Though it is becoming more so with the current formulation of the regional thematic programme, climate action by Belgian development actors in Senegal has been more implicit than explicit over the period 2013-2019. Not all interventions are associated to a Rio Marker. Amongst the 26 that are 20 are associated to Rio marker 1 and only 2 to Rio Marker 2. 4 interventions have components associated to Rio marker 1 and others to Rio marker 2.

No climate guidance specific to Senegal exists within Belgian strategic documents.

The MMR database over the period 2013-2019 indicates 43 climate related interventions representing a total "climate related budget" of 11 249 000 euros. 22 interventions are classified as contributing to climate change adaptation and only 2 to climate change mitigation; however, 19 interventions are considered to be crosscutting.

In terms of thematical category:

- 23 interventions deal with Agriculture
- 7 interventions are associated to Governance
- 4 interventions are associated to Education
- 3 interventions deal with Water & Sanitation
- 3 interventions deal with Environment
- 2 interventions deal with health
- 1 intervention deals with energy
- There are no humanitarian interventions

[4] https://www.iied.org/local-climate-finance-mechanism-helping-fund-community-prioritised-adaptation see also https://www.greenfinanceplatform.org/sites/default/files/downloads/resource/Devolved%20Climate%20FInance.pdf
[5] https://www.greenclimate.fund/countries/senegal
[6] https://www.thegef.org/topics/least-developed-countries-fund-ldcf
[7] https://www.adaptation-fund.org/projects-programmes/

Despite the large amount of agriculture projects related to climate change, in budgetary terms Energy (over 40%) and Water and sanitation (32%) dominate.

The majority of interventions (28) are implemented by NGOs (13 different NGOs), 4 through University Cooperation (ARES) or a training center (APEFE), 5 through Enabel, 1 through BIO, 2 through UNDP's youth volunteer programme and 3 through the Association of Flemish Cities and Municipalities (VVSG).

Though BIO only registers one project, it should be noted that with a climate finance grant equivalent budget of 4,568 Million euro, it represents over 40% of the climate related budget provided to Senegal over the evaluation period. Moreover, this does not take into account additional BIO finance linked to the Africa Renewable Energy Fund (AREF) which also benefits Senegal but is not linked to Senegal in the MMR database.

It should also be noted that Enabel's 5 interventions represent a climate finance budget of 4,376 million euros, almost 39% of the climate related budget received by Senegal over the evaluation period. As one can see, in budgetary terms Enabel and BIO dominate Belgian climate action in Senegal.

The FPS environment is not active in Senegal.

Donor coordination with respect to climate change is left to the corresponding Senegalese institutions, no specific donor led initiative exists. In practice little or no climate specific coordination between donors is noted.

3. Main Findings

3.1. Relevance to global and national climate challenges - EQ1 and EQ2

Main findings on relevance:

- Climate related framework documents are only loosely consulted when formulating projects.
- Sectors targeted by the Belgian federal development cooperation in Senegal are relevant to climate change.
- Belgium's geographical concentration on the Siné Saloum region is totally relevant from a climate action perspective.
- Climate change has only been a secondary consideration when identifying the programmes analysed; however, the crosscutting dimension given to environment and climate change results in climate change issues being integrated within all project identification processes though not always with all the possible intensity.
- The tools provided by Belgian Cooperation such as Klimos or the Klimsec platform are largely left unused.
- Criteria specific to climate action are only rarely identified when formulating projects.
- The closeness of Belgian climate actors to the field and their flexibility are identified as an added value in the sense that they enable to adapt to specific needs and contexts.

3.1.1. Contribution to climate change adaptation and mitigation

NDC plans, and more widely the NAPA and national communications, may be part of a global sum of documents and knowledge taken into account during planning but following them is far from the main determinant for Belgian development cooperation actor's action. They may provide ideas and can complement internal analysis, and as such can influence planning, but they are not the basis of the reflection. Moreover, NDC documents only provide very general guidance for identifying relevant climate action, mostly related to the potential sectors of intervention.

This does not mean that climate change is not given importance. In practice, one notices that sectors identified in the Senegal NDC plan as associated with climate change mitigation and GHG emission reduction or capture: energy (Ten Merina – BIO), waste management and natural resource management (VVSG), agriculture (BARVAFOR - Enabel and Eclosio's Senegal programme) or forestry (Eclosio and VVSG programme in relation to mangroves) are integrated within Belgian federal support to Senegal. Similarly, though the intervention does not appear in the MMR database for the period 2013-2019, Enabel's current support to the Agropole Centre is clearly in direct relation to industrial development and attempts at bringing industrial activity more in line with climate action requirements through carbon neutral industrial production processes.

In terms of areas of activity related to adaptation, once again a good match with Belgian support is noticed with Eclosio and VVSG's action in favour of mangroves contributing to

coastal erosion limitation, Eclosio and Enabel's support to more resilient forms of agriculture, and Enabel's action in relation to water management -both drinking (PASEPAR) and irrigation water (BARVAFOR). Though not subject of a case study, one also notes that Belgian Development Cooperation in Senegal has been active in the area of health and at least through Eclosio and VVSG's action in favour of mangroves has also, at least marginally, supported biodiversity preservation.

The main climate mitigation related sector absent from the Belgian Development portfolio in Senegal is transport; whereas in terms of adaptation, fishing and pastoralism are also largely absent.

In terms of geographical focus, Belgium's concentration on the Siné Saloum appears totally relevant in the sense that this river delta area at the junction of the Saloum and the North Atlantic allows saltwater to travel deep inland thus combining issues of coastal erosion, agricultural land management and drinking water management which are all deeply affected by climate change

3.1.2. Process of climate action identification or of climate mainstreaming

Despite the clear correspondence between Belgium action and Senegalese climate challenges and policy priorities, climate change has only been a secondary consideration when identifying the programmes analysed.

Rather than consciously mainstreaming climate action and specific climate-oriented processes, Belgian operators contextualise climate issues within projects designed with other objectives in mind. NGOs work on the basis of larger development models which are coherent and inherent to climate change adaptation and mitigation due to their strong attention to sustainability. As a result, climate action is embedded in such models and is not the object of further analysis at the level of intervention identification and formulation.

More widely the crosscutting dimension given to environment and climate change by Belgian federal cooperation results in climate change issues being integrated within all project identification processes though maybe not with all the possible intensity that would be associated with an active approach in favour of climate action or the identification of a climate specific project.

The tools provided by Belgian Cooperation such as Klimos or the Klimsec platform appear to be largely left unused. Eclosio does use Louvain Coopération's environmental planning tool which is similar to Klimos; and it has used Klimos in the framework of training courses. However, Eclosio largely considers such tools to be already integrated within its action and more useful for institutions which have little experience of environmental and climate change issues.

It should also be noted that an outspoken approach to climate change integration within development work can be counterproductive. Local communities are not always receptive to a climate change centered logic; they are much more into general development issues. As a result, it is not always necessary to talk about climate change to develop climate action. People are more interested in talking about resilience than climate change

Nonetheless, one should also note that tackling climate change as a crosscutting issue tends to see it amalgamated to wider environmental criteria not to say social aspects of development potentially leading to a limited treatment.

With climate often being a secondary consideration at the moment of project identification and formulation, criteria specific to climate action are only rarely identified. CO2 emission substitution is a major BIO indicator for the funding of the Ten Merina project but no other intervention analysed appears to have put forward climate specific indicators in its logical framework. Beyond CO2 emissions, no specific national climate related criteria are used by Belgian federal cooperation projects.

Photo 1 and Photo 2 : Mitigation - Solar energy production in Ten Merina

Private sector climate related investment opportunities mainly appear to revolve around energy and agriculture with a number of actors investing in renewable energy, particularly solar and wind and a further set, following the PSE and investing in fruit and vegetable production for export. Though it is clear that investment in renewable energy represents a positive contribution towards climate mitigation, it is less clear how far agricultural investments do. Indeed, fruit and vegetable exports to Europe carry a high carbon footprint due to transport. Moreover, irrigation water requirements do not contribute towards a sustainable management of water tables and at least some production models are input intensive. Nonetheless, although it does not monitor production systems themselves, support to the "Agropole" centre promotes carbon neutral forms of product transformation. To see how far this is positive, the agricultural modes of production associated to the Agropole should however be followed on the long run to see how far the concerned value chains (foreseen to be close to 10) can be associated with climate friendly investments.

3.1.3. Added value of Belgian action

From a thematic point of view no specificity of Belgian cooperation has been identified. However, the closeness of Belgian climate actors to the field, be it NGO's, Institutional actors or Enabel and their flexibility are identified as an added value in the sense that they enable Belgian interventions to closely adapt to specific needs and contexts.

Though Belgium climate action does not focus on a specific dimension of climate change adaptation or mitigation, the concentration of its activities in the Siné Saloum is perceived as adding value, not only because the size of Belgium's support pleads for geographical concentration, but also because it strengthens its knowledge of context, actors and dynamics.

One should also note that Senegalese authorities (Direction de la Gestion et de la Planification des Ressources en Eau - DGPRE…) tend to see Belgium development cooperation actors, particularly Enabel, as robust partners in term of capacity building and technical assistance.

In the face of already quite strong private investments in renewable energy, BIO maintains an added value as an investment partner because commercial banks remain wary of engaging in the long maturity investments required by the energy sector. By providing its support to such investments, BIO therefore catalyses the rise of renewable energy production.

Photo 3: Adaptation - Solar powered water pump and borehole in irrigation perimeter (PARERBA following BARVAFOR)

3.2. Coherence of Belgian climate action - EQ3

Main findings on coherence:

- Few climate related synergies or partnerships between Belgian interventions and/or actors are noted
- The future cross cutting programme on environment should improve the coherence of Belgian climate action
- Belgian climate action has contributed to leveraging climate funds from other donors
- In the Water sector, Enabel has had a significant cross cutting effect on policy which should be conducive to effect multiplication.
- Greater coordination and focus would be achieved if there was more clarity and guidance as to what is sought in terms of climate action. Coordination also needs more dedicated resources.
- No specific processes are put in place to mainstream climate mitigation or adaptation into federal development cooperation interventions.
- Belgian cooperation actors feel they have access to sufficient climate change expertise though they may have to call on external specialists at times.

3.2.1. Synergies

Very few climate related synergies between Belgian interventions are noted. One can however note the collaboration between Enabel and Eclosio as part of the PARERBA project, financed by the EU and implemented by Enabel, which follows up on the BARVAFOR, capitalising on its infrastructure to set up irrigation perimeters.

Beyond the collaboration between Enabel and some NGOs no other partnerships are noted between Belgian actors in the area of climate change. In practice, climate related actions are run in parallel with no real connections between them despite geographical concentration in Siné Saloum.

However, though presently, there is not much global coherence of Belgium climate action,the future cross cutting programme on environment should improve this coherence.

In terms of external synergies, one should note the leverage effect which the Enabel financed BARVAFOR project and the BIO supported Ten Merina Ndakah projects have had. The BARVAFOR has led to the current EU financed PARERBA which capitalises on BARVAFOR's infrastructure to develop irrigation perimeters in a number of locations throughout the Siné Saloum. It should be noted that the financing of an additional phase of the PARERBA project is currently being contemplated.

Further climate related synergies between Enabel's current EU financed activities in continuation of the BARVAFOR could also be noted with a set of partner NGOs (including Eclosio), as well as research institutions such as the ISRA through whom PARERBA supports research on rice varieties better adapted to land suffering from saline intrusion.

Solarsen the company which manages the Ten Merina Ndakah Solar energy plant manages 3 other solar parcs, one already functional (Senergy) and 2 in the process of being built (Kahone and Kael). Ten Merina has pioneered such projects, in particular the financing of the Senergy solar energy farm, the largest of its kind in West Africa, also with the support of France's PROPARCO. With a capacity of 30 MW, the Senergy plant will contribute to the equivalent of a reduction of 34000 tons CO2 emissions each year. In addition, BIO is also contributing to financing the Senergy II 25 MW ground-mounted PV solar power plant near Dagana in North East Senegal. This plant will contribute to an additional estimated GHG avoidance of about 22.320 t CO2/year. Such dynamics are in total harmony with Senegal's energy policy and the PSE.

Photo 4 and Photo 5 : Waste collection in Sokone (VVSG)

At a policy level, Enabel's PASEPAR project, beyond contributing to providing clean water and sanitation has worked closely with the DGPRE to build its capacity in relation to Integrated Water Resource management (GIRE) and water table contracts. Such approaches and water management tools have been adapted by Senegalese authorities at a national level and Belgium's pioneering role in promoting them is recognised.

Despite these successes, Belgian climate action operators in Senegal also recognise that, for many of their colleagues, what is behind climate finance remains vague. Greater coordination and focus would undoubtedly be achieved if there was more clarity and guidance as to exactly what is sought by Belgium in terms of climate action. Whereas this may not be so important for climate mitigation actions, it would undoubtedly support greater climate mainstreaming and coordination between actors.

Moreover, any form of internal Belgian coordination at the level of "Team Belgium" still remains wishful thinking in the current situation with scarce human resources available to make it happen, both in terms of quantity and thematical expertise, whether at the embassy or elsewhere.

At the level of Senegal authorities, despite the existence of the National Climate Change Committee, the use of ICF does not appear to be coordinated or jointly planned. In practice, no platform on how to manage climate change exists in Senegal though issues with links to climate change adaptation or mitigation may be coordinated at the level of platforms (Agroecology, GIRE, mangroves…). However, such platforms do not address climate change per se; rather they take it as a hypothesis that dealing with the issue will contribute to climate action positively.

The Covid 19 crisis is not reported to have affected climate action further than it has affected Development Cooperation in general due to the attention paid to the issue by all development partners.

3.2.2. Climate mainstreaming

As previously explained, beyond the attention given to climate change as a cross cutting aspect of Belgian development cooperation, no specific processes are put in place to mainstream climate mitigation or adaptation into federal development cooperation interventions. Climate action is most often inherent to more global development models (family farming, agroecology) or linked to the sector of intervention (water and sanitation, energy) giving the intervention its global coherence.

None of the Belgian institutions met build their portfolio around climate change, at least not at the level of Senegal. Though Enabel and Eclosio develop more of a programmatic approach, climate change is not at the heart of their programmes. In the case of BIO, there are no country representatives with activities being managed by 4 thematical teams based in Belgium; this implies that there is no programmatic approach. It is likely that, in such a situation, climate mainstreaming would be favoured by the development of clearer strategies and partnerships at the level of each country, within which climate action could be integrated.

Though they admit one can always build one's capacity further, the Belgian cooperation actors met all feel confident that they have access to sufficient climate change related expertise at identification and formulation stage so as to design satisfactory climate change specific interventions or mainstream climate change effectively within their operations. Obviously, they do not present themselves as climate change specialists but they feel they master the subject sufficiently to know when it is necessary to call on specialised knowledge.

Beyond actual intervention one should note than in coherence with its climate change sensibility, Eclosio has put in place a carbon compensation scheme at the level of its entire institution.

3.3. Efficiency of Belgian climate action -EQ4

Main findings on efficiency:

- Federal development cooperation institutions have strengthened their climate change expertise over the last few years.
- No specific climate change expert is part of the teams implementing the projects analysed, nor is climate change a specific focus of attention. However, with climate change not being the focus of the interventions it can be considered unnecessary for a full-time expert to have been part of the implementation teams.
- The model whereby specific climate expertise is called upon on an ad hoc basis at key moments of an intervention but not internalised within the Belgian operators is efficient as it enables to limit the size of project teams.

- Interviewees indicate that their institutions possess the basic foundation knowledge which development personnel should have so as to manage climate change adaptation and mitigation in a satisfactory way and identify when to call upon more specialised expertise. However, this could not be confirmed within the remit of this study.

- No dedicated budget to call upon specific climate expertise at key moment of a project's cycle exists.

- Belgian development cooperation actors should maintain a cross cutting approach to climate action rather than focus on specific thematic areas of climate action. However, they may also develop specific areas of expertise.

- Interventions analysed and corresponding Belgian operators have developed partnerships linked to climate action which generate significant multiplier effects.

- Belgian operators through their field experience, close contact with local partners and detailed knowledge of local context are efficient and cost effective in their work. Though specifically focusing on climate action efficiency is difficult, this should also be true of climate action.

- A clearer focus on climate action, as well as clearer guidance as to what should be sought and how it could be achieved would increase the cost effectiveness of climate results.

Photo 6: Adaptation - Irrigated perimeter set up by PARERBA following BARVAFOR support

3.3.1. Capacity to address climate change issues

With climate change having lately become much more prominent in the development agenda, federal development cooperation institutions such as Enabel have significantly strengthened their climate change expertise over the last few years. Moreover, as previously noted, Belgian operators interviewed tend to consider that they are sufficiently equipped to deal with climate change issues.

In practice, however, one notes that no specific climate change expert is part of the teams implementing the projects analysed, nor is climate change a specific focus of attention. Climate change mostly seems to be dealt with on an ad hoc basis through calling on partners and external expertise.

Eclosio for instance organises internships around climate change issues with support from Agence wallone de l'air et du climat (AWAC) "scholarships". Local personnel and partners undergo internships through which they receive training in Belgian and reflect on climate related projects from April to June (3 months). Such internships support the development of in country climate expertise as well as the identification of climate related actions. The idea is to support local actors in assuming a holistic approach to development

mainstreaming climate change as far as possible. Such actions demonstrate a form of complementarity between the Directorate General for Development (DGD) and AWAC which has a history of climate related action.

The PASEPAR can be considered to have made a significant contribution to Senegal's adaptation to climate change through its promotion of the GIRE approach and water table contracts. However, in both cases it called upon the support of international expertise (French and Moroccan) to support the water management approach and/or tool.

Despite having had its capacity strengthened in GIRE, the DGPRE admits that its specific expertise in the area of climate change related to water management could be strengthened, the Ministry of environment being more knowledgeable of such aspects. In particular, it identifies the integrated modelisation of the evolution of water resources and climate, as well as alert systems, as relevant issues for its future capacity building. This would feed into risk management as well as general technical management.

In the case of the BARVAFOR, closed over 4 years ago, no climate specific expertise was involved in the formulation process or during implementation. However, Enabel admits that with the current stronger focus on climate change this situation would probably be different today.

Overall, it appears that the model whereby specific climate expertise is called upon at key moments of an intervention but not internalised within the Belgian operators is efficient as it enables to limit the size of project teams. However, the question of the basic foundation knowledge which development personnel should have (so as to manage climate change adaptation and mitigation in a satisfactory way and identify when to call upon more specialised expertise) needs to be given further thought. Presently, it is unclear whether the widespread opinion that sufficient climate expertise is available within institutions is justified. In addition, no dedicated budget to call upon specific climate expertise at key moment of a project's cycle appears to exist either.

Indeed, when faced with the demand to coordinate climate action between Belgian actors, no institution considers that it has the internal capacity to do so, neither in terms of number of personnel or in terms of specific expertise. This is true of the Embassy, often expected to assume that role, but of other institutions too.

Finally, it can be noted that with climate change being mostly addressed through projects with other primary objectives in which climate action is subsequently mainstreamed, it does not appear desirable for Belgian development cooperation actors to focus on specific thematic areas of climate action. Maintaining a cross cutting approach to climate action appears preferable (though this may be associated to more specialised knowledge in specific fields).

Photo 7 and Photo 8: Adaptation and mitigation - Tree sapling production in Eclosio supported moringa school nursery and VVS supported Sokone Municipality

3.3.2. Partnerships or multiplicator effects

No platform on climate change exists in Senegal meaning climate action coordination is globally weak. However, the various interventions analysed and their corresponding Belgian operators have developed a set of partnerships linked to climate action which in turn have generated (or have the potential of generating) significant multiplier effects.

As explained, Enabel's support to the GIRE approach and water table contracts has been appropriated by Senegalese authorities -more specifically the DGPRE within which Enabel's GIRE Technical Assistance (TA) was anchored- and should be cross cuttingly integrated across all Senegalese water management policies and actions. Enabel's action in that sense is further strengthened by its coordination of the GIRE donor working group which brings together the World Bank (WB), European Union (EU), United States Agency for International Development (USAID), Japanese International Cooperation Agency (JICA) and Agence Française de Développement (AFD) amongst others. As a result of this, Enabel's work links into the EU's Programme d'eau potable et d'assainissement du Millénaire (PEPAM), also based on the GIRE approach.

More specifically, the PASEPAR was key in the implementation of the GIRE (Integrated management of water resources) approach, particularly through its support to the establishment of the GIRE action plan (PAGIRE, 2012-2017), updated and renewed for the period 2018-2030. In addition to this, the PASEPAR has worked on the establishment of a "Water table contract" / "Contrat de nappe" in the Niayes area. To support such work, an exchange was developed with citrus producers of the Souss mâssa-Drâa region in Morocco.

On the other hand, the BARVAFOR was implemented in a much more isolated way. However, despite initial shortfalls meaning it could not, within the project's duration, actually support the agricultural activities intended to be developed on the basis of the infrastructure built by the BARVAFOR, the project has led to further collaboration (and financing) by the EU in the form of the PARERBA project (and likely PARERBA 2).

It is recognised that the Ten Merina project has led to further solar investments such as Senergy with which Ten Merina has developed synergies, in addition to contributing to its design through the experience accumulated by Ten Merina. Moreover, by co financing solar plants through equity, sometimes in quite a limited way (10% of total cost in the case of

the Senergy[8]) through partnerships with private sector companies and other development Banks (PROPARCO in the case of Senergy), BIO has contributed to a further spree of investments in renewable energy.

In addition to this, Ten Merina has developed a UNDP led green certificate scheme through which it sells carbon credits through a German company that acts as a broker towards another company that buys the green certificates. The proceeds are invested in community projects such as a 14ha irrigation perimeter for vegetable production.

Eclosio's participation in the platform on agroecology constitutes a way of disseminating its experience as much as of strengthening itself. In addition, Eclosio is also part of a group which works on mangroves a well as a participant in a programme at the level of West Africa (supported by the EU and International Union for the Conservation of Nature (IUCN) through the 5-delta consortium). It also develops a partnership with Wetlands International in relation to mangroves. In addition, it receives significant additional support for its mangrove programme (through the EU and IUCN but also the Albert de Monaco Foundation). More generally, Eclosio has developed a consortium with Louvain Coopération through which it develops interventions with a climate action character.

Photo 9: Adaptation - Onion cultivation in a Ten Merina supported vegetable park

3.3.3. Cost effectiveness of climate change effects

It is difficult to judge how far the climate change effects obtained by the various interventions under analysis have been reached at satisfactory cost. There are few points of comparison moreover few interventions are climate action specific. In addition, the way interventions are categorised as climate specific (Rio marker 2) or climate relevant (Rio marker 1) is open to interpretation; similarly, the way climate budgets are allocated to each action in the MMR data base is also very approximative. For instance, why exactly the Eclosio programme and BARVAFOR project should only see 2,7% and 5,5% of their budget reflected in the MMR database whereas the PASEPAR has almost 47% of its budget accounted for as climate finance is unclear in view of their effects. The calculation of grant equivalents in the case of loans adds a further layer of complexity. The Ten Merina loan is accounted as climate finance for 28,5% of its value.

[8] Cofinanced by BIO (10%), Eiffage (15%) and Meridian a fench investment fund (75%)

Belgian operators (Enabel, NGA or University cooperation in particular), through their field experience, close contact with local partners and detailed knowledge of local context are considered as efficient and cost effective in their development work. This is also true of climate action, though parallel results -in addition to climate change adaptation and/or mitigation effects- would also have to be taken into account.

However, a clearer focus on climate action, as well as clearer guidance as to what should be sought and how it could be achieved would increase the cost effectiveness of climate results.

One should also note that, for some actors interviewed, though it should support further climate focus and mainstreaming, the regional programme includes a risk of bureaucratisation with a possible associated loss of efficiency.

3.4. Effectiveness and Impact of Belgian climate action - EQ5

Main findings on effectiveness and Impact:

- Climate related effects of Belgian cooperation projects are varied and encompass both climate change mitigation and adaptation.
- Climate related effects of Belgian cooperation projects, with the exception of energy related reductions in CO2 emissions, are difficult to quantify, particularly adaptation effects.
- Adaptation effects do not appear to be in line with the extent of the climate challenges faced by Senegal.
- Financing channels and instruments dedicated to climate change were lacking to support an intensification of climate action.
- Management contracts and letters of instruction do not appear to have spearheaded significant changes in project identification and formulation processes though they have led development actors to pay greater attention to climate change.
- Greater coordination of Belgian climate action at the level of Senegal was limited by a lack of dedicated resources. However, it is uncertain that such coordination would be efficient if it was limited to Belgian actors. Existing entities such as the NDC partnership or the National Climate Change Committee are more suited to promote a more global coordination of climate action at national level.
- Apart from the BIO funded Ten Merina project, the interventions under analysis do not incorporate climate specific indicators. The monitoring and evaluation systems designed by the interventions analysed do not integrate a climate dimension.

3.4.1. Climate adaptation and climate mitigation results

The 5 interventions under analysis lead to very different climate related effects:

- Investments in renewable energy and their related carbon emission reduction results contribute to climate change mitigation. Such effects are almost exclusively attributable to BIO funded projects (though Enabel also supports solar energy production at a smaller scale: solar pumps, solar energy for the "Agropôle centre"…).
- Improved water management through the financing of improved water and sanitation infrastructure, as well as irrigation equipment or the dissemination of sustainable water management approaches (GIRE) and tools (water table contracts) contributes to resilience and climate change adaptation though quantifying this contribution is tricky. Such results are obtained through Enabel's

water and sanitation programme as well as through Enabel and Eclsio'ss agricultural programmes. To a lesser extent BIO may also contribute to such effects through the community support it contributes to provide via carbon credit sales.

- Improved agricultural techniques, be they agroecological or based on salt resistant rice varieties contribute to food security and resilience thus representing another form of climate change adaptation. Such results are obtained through Enabel and Eclosio's agricultural programmes, as well as through the composting action promoted by VVSG (15 tons produced in 2020). Again, to a lesser extent BIO may also contribute to such effects through the community support it contributes to provide via carbon credit sales.

Photo 10: Adaptation - VVSG supported compost production in Sokone municipality

- Mangrove management and preservation by Eclosio and VVSG, as well as to a lesser extent the tree plantations undertaken by Enabel, Eclosio or BIO to protect the irrigation perimeters or solar farms they implement, contribute to climate change mitigation by stocking carbon. Agroforestry, promoted by Enabel and Eclosio, also contributes to such effects though in a limited way.
- Mangrove management by Eclosio and VVSG contributes to climate change adaptation by limiting coastal erosion.
- Strengthening local capacities to manage natural resources also contributes to climate change adaptation such as is the case in interventions implemented by Enabel, Eclosio and VVSG. Such effects remain difficult to quantify however.
- Through a carbon credit scheme whose proceeds are reinvested into local development, BIO has contributed to develop an incubator which offers vocational training in solar energy to local populations (panel maintenance, solar field maintenance…). This has been undertaken in collaboration with Dakar polytechnic University and Dakar University.
- Improved stoves and bio-digesters promoted by Eclosio (and VVSG in the case of improved stoves) limit use of wood for cooking and thus contribute to climate change mitigation by limiting CO2 emissions.
- By recycling plastic and paper waste as industrial fuel, recycling hard plastic to make chairs or basins, or recycling metal, the VVSG intervention limits carbon emissions and contributes to climate change mitigation.

- Eclosio and VVSG also integrate awareness raising components aimed at the Belgian population.

Despite the variety of these results and the difficulty of quantifying them (with the exception of energy related reductions in CO2 emissions), they do not appear to be in line with the extent of the climate challenges faced by Senegal. Although the governments' objective of 30% renewable energy production appears in line to be met, IPCC projections indicate that large parts of Sine-Saloum will be regularly flooded in the next 20-30 years due to the effects of rising sea levels, meaning that agricultural activity will be very compromised. Coastal erosion predictions are already pushing the government to relocate certain populations. In these conditions, adaptation action, whilst useful, may just not be enough; and the impact of current efforts remains to be confirmed.

Photo 11: Adaptation and mitigation : Eclosio supported nursery

3.4.2. Effectiveness of operational frameworks, channels and instruments

The launching of the regional programme is clearly perceived by Belgian actors as an opportunity to develop climate specific action, improve climate change mainstreaming and add more coherence and structure to Belgium's climate action.

In light of this one could surmise that dedicated financing channels and instruments dedicated to climate change are -quite logically- necessary to support an intensification of climate action.

The efficiency of operational frameworks such as management contracts and letters of instruction is questioned in the sense that they do not appear to have spearheaded significant changes in project identification and formulation processes though they have led development actors to pay greater attention to climate change. Without clearer guidance and tools, this greater attention has not however efficiently translated into greater climate action at the level of Senegal.

Greater coordination of Belgian climate action at the level of Senegal would require dedicated resources. However, it is uncertain that such coordination would be efficient if it was limited to Belgian actors and did not incorporate a wider set of development partners active in climate change mitigation and adaptation, sometimes in partnership with Belgium operators. If that is the case, how far Belgium should provide resources for such coordination is questionable; it could be more relevant to support existing entities such as the NDC partnership or the National Climate Change Committee and its corresponding regional entities, thus seeking to promote a more global coordination of climate action at national level. Nonetheless, supporting both types of coordination is desirable.

3.4.3. Monitoring and evaluation of climate action

Apart from the BIO funded Ten Merina project, the interventions under analysis do not incorporate climate specific indicators. Beyond CO2 emissions, no specific national NDC plan or PANA indicator appears to be followed by Belgian federal projects.

The evaluation of CO2 emission reduction is not undertaken by BIO itself but by independent experts or project partners.

In general, the monitoring and evaluation systems designed by the interventions analysed do not integrate a climate dimension. Climate specific tools are not used by Belgian operators. More generally, no common system of climate action monitoring and evaluation, shared between development partners or government institutions, exists.

What monitoring mechanisms do exist are ad hoc and do not enable to clearly evaluate the effects of climate finance, thus limiting the scale up potential of climate action.

3.5. Sustainability of Belgian climate action - EQ6

Main findings on sustainability:

- Though it is difficult to differentiate between climate specific effects and more global development ones, very limited attention is paid to the specific sustainability of climate change adaptation and mitigation results.
- Climate change effects appear sustainable from an economical, institutional and social point of view. However, though renewable energy projects are sustainable, agricultural and water and sanitation projects are affected by issues that go well beyond the control of Belgian development cooperation (rising sea levels, sustainable management of water tables). This sheds a doubt on their long-term impact.
- Support to existing institutions in charge of climate change is lacking for them to acquire more protagonism and support the consolidation of current climate change results in Senegal.

Photo 12 and Photo 13: Adaptation - Water management and vegetable production perimeter (PARERBA following BARVAFOR)

Very limited attention is paid to the specific sustainability of climate change adaptation and mitigation results. It is difficult to assess sustainability of effects beyond the general sustainability of the intervention as a whole.

Globally, sustainability appears quite promising in terms of solar energy generation. Moreover, such investments should spread with decreasing technology costs: in 2017 Ten Merina cost 40 million euros for a 30 MW production whereas in 2019, a similar investment cost 22 million for 35 MW (less than half the cost per MW).

Most agricultural or mangrove related activities are strongly dependent on predicted levels of sea rising. If current IPCC predictions materialise, agricultural action and mangrove management could see their results suffer strongly in the next 20 to 30 years. It is accepted for instance that BARVAFOR infrastructure has not been calibrated to sustain the predicted sea level rise. Similarly, water and sanitation infrastructure built by the PASEPAR appears sustainable but its functioning will strongly depend on Senegalese authority capacity to manage water tables in a sustainable way. This is also true of agriculture production. At this stage, uncertainties remain as to the sustainability of the management of certain key water tables.

In general, mechanisms to ensure the sustainability of Belgian interventions appear in place, though they tend to be set up after project implementation has begun. Climate change effects appear sustainable from an economical, institutional and social point of view.

However, rising sea levels and sustainable management of Senegalese water tables go well beyond the control of Belgian (or indeed any other single nation) development cooperation. In the case of sea level rise the issue goes well beyond Senegal; and in terms of water table management, the stakes for all the various water users are so high that political will may be put to strain when arbitration shall be required.

It is desirable to strengthen and support current climate specific institutions in acquiring more protagonism to defend and consolidate current climate change results in Senegal.

4. List of annexes

Annex A Short project presentations

Annex B Project sheets

Annex A Short project presentations

A short summary of each project is provided in the box below:

Box 1 – Short narratives describing selected projects

Eclosio Senegal programme 2014-2016
This programme was implemented between 2014 and 2016, targeting rural families and producers of the Rural Communes of Dialacoto, Diossong and Mont Rolland. Its total budget is 565 766; its MMR climate related budget is 15421 euros. The project supported agricultural development based on agroecological principles including improved access to seeds and inputs, local marketing systems and transformation of agricultural products, FO strengthening and good governance practices aiming at increasing food sovereignty. The programme also includes a Development Education component oriented towards Belgium. The main climate change effect associated with this programme's objectives is increased resilience to climate change through safer harvests and increased agricultural income ad possible greater organisational capacity with respect to adapting to Climate change.

Ten Merina Ndakah Solar Power Project
This project supported the construction and exploitation of a 29,5 MW photovoltaic park on 83ha of agricultural land in Mbouki, in the Thiès region, between 2016 and 2017. The BIO loan amounts to 16 million euros registered in the MMR database as a climate related grant equivalent of 4 567 515 euros. The direct beneficiaries of the projects were Meridiam and Eiffage, who own the Ten Merina Ndakhar. The connection to the grid is undertaken by Ten Merina for the Senelec (the national electricity company). The specific objectives of the project are to produce 29,5 MW of solar energy for the Senegalese national grid and reduce CO2 emissions by 33 000 tons/year.

Projet d'Amélioration des Services d'Eau Potable et d'Assainissement en milieu rural (PASEPAR)
The PASEPAR project, undertaken between 2015 and 2019 sought to provide good quality drinking water and sanitation services to the rural populations of the Diourbel, Fatick, Kaolack, Kaffrine, Thiès and Louga regions, in a sustainable way and following an integrated water management approach. Its total budget contribution by Enabel is 6,5 million euros; its MMR climate related budget is 3 028 714 euros. The project strengthened the capacity of the DGPRE in the GIRE approach and promoted water management tools at a national level. Corresponding effects specific to climate change relate to sustainable water management.

Projet de Bassin de Rétention et de Valorisation de Forages dans les Bassins de Diourbel, Fatick, Kaolack, Kaffrine et Thiès (BARVAFOR)
This project focused on improving agro-silvo-pastoral production for rural populations, rural communes (CR) and Regional Development Agencies (ARD) of Diourbel, Fatick, Kaolack, Kaffrine and Thiès regions, between 2011 and 2017. Its total budget contribution by Enabel is 11,9 million euros; its MMR climate related budget is 652 329 euros. The project improved access to water through the building and setting up of water management infrastructure and equipments, the preparation of microprojects emanating from eligible beneficiaries in view of their implementation, and the strengthening of the capacity of concerned actors. The project has built several different types of water management infrastructure: Anti salt dykes, retention basins at the level of lowlands and boreholes in particular. The specific climate change related effects relate to sustainable water management and improved resilience of agricultural producers (resulting from improved access to water).

The Association of Flemish Cities and Municipalities / Vereniging van Vlaamse Steden en Gemeenten (VVSG)'s "Contributing to good local governance through strengthening administrative strength in the South and local policy coherence in Flanders"
The VVSG intervention in Senegal intends to improve local governance and participation of local communities. Two Belgian-Senegalese municipal partnerships (Zemst-Sokone and Sint-Niklaas-Tambacounda) are the instrument for building the capacities of local authorities in the fields of sustainable waste management and sustainable management of natural resources, including activities such as reforestation, compost production, the installation of stone bunds or the enhancement of the coast. The Sokone-Zemst intervention ha a total budget of 190 000 euros of which 18838 ae registered as ICF in the MMR database. The intervention strengthens the political, administrative and technical capacities of local authorities so that they can provide better public service to their population.

Source: ADE/Trinomics

Annex B Project sheets

Title	Eclosio Senegal programme 2014-2016
Actor	Eclosio
Implementing agency (and partners)	Eclosio (with local partners APIL, OPDAD, UGPF)
Geographical coverage	Senegal (+ Bolivia – Cambodia – Peru) Within Senegal : Dialacoto, Diossong and Mont Rolland
Calendar	2014-2016
Beneficiaries	Rural families and producers of the Rural Communes of Dialacoto, Diossong and Mont Rolland
Global budget (and list of funding agencies)	565 766 euros MMR climate related registered budget : 15421 euros
Description of the intervention	Within Senegal, the programme supports agricultural development based on agroecological principles, local marketing systems, FO strengthening and good governance practices aimed at increasing food sovereignty. The project also includes a Development Education component orientated towards Belgium
Global objectives	Food sovereignty is sustainably reinforced in the Rural communes of Dialacoto, Diossong and Mont-Rolland, taking into account gender specificities
Specific objectives	• Sustainable access to seeds and inputs • Development of agroecological production techniques • Improved transformation and added value of agricultural production • Adequate marketing of agricultural production • Strengthened Farmer Organisations (FO) and local actors • Strengthened advocacy and right to food for all The main climate change effect associated to these objectives is increased resilience to climate change through safer harvests and increased agricultural income ad possible greater organisational capacity with respect to adapting to Climate change.
Comment on climate dimension of project	
How far is this project relevant to climate action?	The project is relevant to climate action. Eclosio supports a rural development model based on family agriculture and participative territorial planning. The model is based on an approach to sustainability and resilience which integrates climate change and effectively contributes to climate change adaptation. Climate change does not appear much in project documents because it represents more of a justification of their development orientations than an objective as such. They didn't even realise that the 2014-2016 programme was considered as climate action. The programme's key words are "family agriculture" and "food sovereignty". They think in terms of income, resilience and sustainability well beyond climate change. They have a mangrove management project, similar to forestry management which beyond managing mangroves

	sustainably, seeks to provide local communities with firewood, forest/mangrove restauration, promote economic activities based on non-wood products within the ecosystem. It integrates a reflection on environmental sustainability. Eclosio has much more CC specific actions implemented with AWAC which implements CC specific projects. In Bénin, they work on two issues (energy with wanru stoves) and on agroecology. When filling the project document, they put 1 for all the questions related to environment and climate change because there are links throughout their action but if they are asked to quantify and demonstrate effects it becomes difficult because these issues are not the core of their project. They believe links between family agriculture, agroecology and resilience, and climate adaptation are sufficiently clear today for them not to have to demonstrate all the time. Eclosio has no idea why their 2014-2016 programme is included in the MMR database but not their 2017-2019 one. In practice, they support similar activities.
How far is the project coherent with climate action at the level of the country and more globally to its development objectives?	The project addresses several key climate issues for Senegal: climate resilient agricultural practices, natural resource management -wood (mangrove) and water (irrigation)- coastline protection (mangroves). They have put in place a carbon compensation scheme (at the level of Eclosio in general). Working in the Siné Saloum is coherent with climate action (mangroves, salinity…).
How far is the project aligned to climate policies of the partner country?	NDC plans and NAPAs are part of a global sum of documents and knowledge taken into account during planning but following them is not the main justification for their action. They provide ideas and can complement internal analysis and as such can influence planning but they are not the basis of the reflection. However, climate change is considered as crucial but it is not the only issue.
How was climate action (and county climate priorities) taken into account when identifying/formulating the action? Where any climate specific processes implemented (use of KLIMOS, Klimsec…)? Were any climate related criteria used?	It's more a contextualisation of climate change issues than actually hitting them head on. The projects are designed with other objectives in mind but integrate climate change aspects because the development model they support are coherent and inherent to climate change adaptation and to a lesser extent (mitigation), linked to sustainability preoccupations, beyond the environment and climate change (also socio-political…). Eclosio develops other projects which are more specifically climate change oriented logic (forestry, mangrove management). Within their projects, there is more of a basic assumption supporting their strategic choices around the fact that the development models they pursue contribute to climate change adaptation and (to a lesser extent) mitigation; rather than an active approach in favour of climate action. Eclosio use Louvain Coopération's environmental planning tool rather than Klimos which is similar. They have used Eclosio in the framework of training courses. However, they already have

	such issues in mind; such tools are more useful for institutions less familiar with environmental and climate change issues. Eclosio considers it has already integrated climate change into its action. In the future, Eclosio would like to integrate climatic migration to its activities. Local communities are not always receptive to a climate change centered logic; they are much more into general development issues. As a result, it is not always necessary to talk about climate change to develop climate action. People are more interested in talking about resilience than climate change. They develop a territorial approach to development, working at the level of a community's territory or a river basin. In Senegal, this materialises through Territorial development plans / Plans de Développement Territoriaux. There is a strong link between such plans and climate action.
Did the intervention have enough climate change expertise at its disposal to mainstream climate action adequately? Was this expertise internal or external?	Eclosio organises internships with AWAC around climate change issues. People receive training and reflect on possible projects from April to June (3 months). This supports the development of in country climate expertise as well as the identification of climate related actions. The idea is to support local actors in a holistic approach to development, including climate change (mainstreaming). Such actions demonstrate a form of complementarity between AWAC and the DGD; AWAC has a history of climate related action.
Has projects developed partnerships with other interventions or climate actors. Is it part of a wider action? Is it jointly implemented? Has it contributed to leverage any additional funding?	No platform on how to manage climate change exists in Senegal but they take part in platforms on agro ecology. Eclosio is also part of a structure which works on mangroves; but it doesn't spend much time on the link between mangroves and climate change. It's an accepted hypothesis that managing mangroves sustainably will contribute to climate action positively. Federal climate finance is only a part of their mangrove programme. They are part of a mangrove programme at the level of West Africa (supported by the EU and UICN through the 5 delta consortium and developing a consortium with Wetlands International). The Albert de Monaco Foundation also supports mangrove protection. Eclosio is not part of the "Climate Justice / Justice Climatique" platform (nor is it part of the one to fight hunger). They are in consortium with Louvain Coopération.
Modalities of ICF channelling	ICF is part of development cooperation finance they receive part of which is labelled as development finance according to the type of issues they deal with. It is unclear to Eclosio how this occurs.
How far are climate mitigation and/or adaptation results obtained at a reasonable cost?	The climate effects they obtain are not quantified. It is accepted that the type of action they implement contributes to climate change adaptation but this is not followed precisely. In addition, the calculation of the budgets assigned to climate

	change is not clear to Eclosio which makes cost effectiveness difficult to estimate.
What climate related effects have been obtained or are likely to be obtained (quantity and quality)?	• Resilience • Short marketing circuits limit CO2 emissions. • Agroecological agriculture contributes to higher levels of soil carbon (not a amin effect). • Mangroves are recognised as limiting coastal erosion in addition to representing a carbon sink and a source of biodiversity. They limit the effects of rising sea levels. • Improved stoves and bio digesters limit use of woodfire thus limiting CO2 emissions
Are obtained results in line with initial expectations?	Yes
How effective at obtaining climate adaptation and/or mitigation results and impacts has the intervention been?	The projects contribute to climate adaptation. They have developed a reflection on the effects of agro-ecology on the environment (including but beyond CC) in terms of a sustainable production model. They do a lot of action research which includes reflections on sustainable food systems. They work with cooperatives which base their production plans on the use of certain quantities of chemical inputs; one cannot extract them from that in one go; it is necessary to support gradual change. Traditional practices leading to mangrove cutting are replaced by more sustainable practices
What is the intervention's contribution to national strategies and climate related objectives?	One should always reflect analytically but one must also work on the basis of hypothesis and not always make demonstrations otherwise it becomes a research programme. However, they also know that it's necessary to share their experiences and publish the results and effects of their work, including its effects on climate change. At a national strategic level, their effects are modest in the short run but they believe the models they support are appropriated by beneficiaries and local authorities with a potential effect at a wider level on the long run.
Does the project include indicators specific to climate action? If so which ones and how are they measured?	There is no specific system in place to follow climate effects. They are reflecting on a more detailed monitoring and evaluation of climate change effects at the level of Eclosio in general.
How sustainable are the climate related results obtained from an economic, environmental and institutional point of view?	They believe their results are sustainable in general, including climate effects.
Has sustainability of climate action been addressed at project design stage? If so, how?	No

Title	Ten Merina Ndakah Solar Power Project
Actor	BIO
Implementing agency (and partners)	The project was launched by its promoters Meridiam, Eiffage and FONSIS which own Solarsen, the company that controls and manages the Ten Meria power plant (75%, 15% and 10% respectively) which has signed a protocol (Protocole d'Accord) with Senelec (the national electricity company) and the government of Senegal for the construction of a solar plant on the Commune of Merina Dakhar.
Geographical coverage	Commune of Merina Dakhar
Calendar	Sept. 2016 - November 2017 (construction)
Beneficiaries	Meridiam and Eiffage directly (Senelec and Senegal indirectly)
Global budget (and list of funding agencies)	16,000,000.00 EUR loan in total ; 4,567,515 EUR grant equivalent (MMR database) - Additional funding is provided by PROPARCO.
Description of the intervention	The Ten Merina Ndakah project concerns the construction and exploitation of a 29,5 MWAC photovoltaic park on 83ha of agricultural land situated in Mbouki, in the Thiès region, about 145 km North-East of Dakar. A medium tension power line of 30kV is buried and links the park to the national grid via an electric post situated 2,5 km away. The installation is equipped with about 92000 modules for a peak power of 29,5 MWc so as to obtain 29,5 MWc at the interconnection point. The connection to the grid is undertaken by Ten Merina for the Senelec.
Global objectives	Furnish electrical energy to Senegal
Specific objectives	Produce 29,5 MW of solar energy for the Senegalese national grid and reduce CO2 emissions by 33 000 tons/year
Comment on climate dimension of project	
How far is this project relevant to climate action?	Reducing CO2 emissions is totally relevant to climate change mitigation.
How far is the project coherent with climate action at the level of the country and more globally to its development objectives?	The country has communicated on unconditional renewable energy programmes that will be implemented: • Solar PV: power plants with a total cumulative capacity of 160 MW • Wind Turbine: power plants with a total cumulative power of 150 MW • Hydraulics: power plants with a total cumulative capacity of 144 MW/522 GWh; 392 villages electrified minigrid solar electrified or hybrid (diesel/solar); and Installation of 27,500 domestic biodigesters Support by BIO to the Ten Merina project is totally aligned to such commitments to develop renewable energies. The project is also in line with the strategy of BIO's infrastructure department.

How far is the project aligned to climate policies of the partner country?	The project is well aligned to Senegal's climate polices (NDC, PANA). As specified above, it is totally coherent with the energy sector strategy as well as, more globally, the PSE.
How was climate action (and county climate priorities) taken into account when identifying/formulating the action? Where any climate specific processes implemented (use of KLIMOS, Klimsec…)? Were any climate related criteria used?	BIO's infrastructure department is quite recent. A team of about 5 people is involved in selecting infrastructure projects. Historically, BIO based its analysis on studies by other banks. They analysed them critically but on the whole, aligned to them. Now the strategy revolves around financing smaller projects and with their experience they undertake their analysis more and more independently. They use Legal Technical advisors (LTA). They are engaged by the different investors (lenders). BIO uses more and more their own engineers but they still tend to rely on external consultants. A team checks the environmental impact. They undertake an Environmental Impact Study (EIS). Identification and formulation go through various stages: **i)** Committee screening: Coherence with investment strategy, added value of BIO financing (they must always demonstrate that they are additional) is analysed. They check the countries energy mix. **ii)** Due diligence : technical consultant**,** environmental and social responsibility consultant **; includes** field visit**s** and meetings with local authorities. These stages result in investment notes. However, attention to climate change was only very general before; a specific focus on climate change in such notes is only very recent. It is the result of the new investment strategy. Klimos or related tools were not used. NB : Various elements of response provided concern environmental and social issues, not climate change.
Did the intervention have enough climate change expertise at its disposal to mainstream climate action adequately? Was this expertise internal or external?	The expertise provided concerning climate change was external. It appears sufficient. A local consultancy, OSIEC, specialised in environmental and social risk, particularly in relation to renewable energy, was contracted to support the project.
Has projects developed partnerships with other interventions or climate actors. Is it part of a wider action? Is it jointly implemented? Has it contributed to leverage any additional funding?	BIO partners with PROPARCO to finance the Ten Merina Ndakah project through a loan to « TEN MERINA Ndakhar SA » (owned 85% by Meridian, 15% by Eiffage and 10% by FONSIS). Ten Merina has led to other solar investments such as Senergy which has not yet reached financial completion. Senergy is a similar project also cofinanced with PROPARCO ; it has benefited from Ten Merina's experience. A further project, Senergy 2, has also been launched in the North East around Dagana. However, there are no real synergies with other Belgian interventions in Senegal.

	The project has developed a green certificate scheme through a UNDP programme which supports the sale of carbon credits through a German company that acts as a broker towards another company that buys the green certificates. The proceeds are invested in community projects. BIO functions through 4 main thematical teams based in Belgium (Financial institutions, SME, Infrastructure and Equity). Although some members of a Team may be more oriented towards a given continent, each thematical team covers all BIO partner countries. There are no country representatives, meaning that there is no programmatic approach. There may however be some transversal coordination between countries as well as exchanges. BIO should develop clearer strategies and contacts/partnerships at the level of each country.
Modalities of ICF channelling	Loan to « TEN MERINA Ndakhar SA » (a French consortium).
How far are climate mitigation and/or adaptation results obtained at a reasonable cost?	The more solar energy projects get financed, the more economies of scale will be made by the sector paving the way to more projects. The decrease in production costs should support Senelec's financial consolidation. Moreover, the IFC *Scaling Solar* programme which pits projects against each other for selection by making them compete over tariffs, could lead to a decrease in prices for consumers.
For projects funded by BIO, how is there grant equivalent ICF value calculated?	Not everyone knows: "Should be asked to the project company or E&S consultant. Internally, our Development Officer also has a formula." The OECD procedures are followed to calculate grant equivalents.
What climate related effects have been obtained or are likely to be obtained (quantity and quality)?	Climate effects are mostly measured by CO2 avoided and also by selling carbon credits. The project uses the funds generated by carbon credits to invest in community projects improving climate related issues (i.e. solar water pump for the local farmland given to the PAP). A 14ha irrigation perimeter has been set up with proceeds from the Ten Merina carbon credit scheme. The energy produced by the parc will lead to emission reductions of around 33 000 t of CO2/year. It also helps Senegal reduce its energy deficit and diversify its energy mix by producing energy locally, less expensively than with fossil fuels and in an environmentally friendly way. Co-benefits: The more projects there are in renewable energy, the more costs of it will decrease (and therefore be even more interesting compared to other non-renewable energies, also shortening the tenors of financing and therefore it could attract other types of investors), the more legislation will evolve to give more comfort to other investors, the more technologies improve… The people affected by the Project, have also been well managed through an extensive rehabilitation program consisting in:

	• A farming land in favour of the people affected by the project with an investment of around 250kEur providing water all the year round and allowing local communities to produce : tomatoes, cucumber… and consequently increase their livelihood means. • A women microcredit initiative dedicated to the financing of micro businesses, • A 12 months training and leadership program in favour the women living around the project site so as they could be empowered and increase their businesses, • A yearly distribution of school manuals, • The electrification of Mbouki village surrounding the site, • The construction of a maternity and distribution of medical equipment helping reduce the high infantility death rate in the area. Besides, the project has developed an incubator, through which it offers vocational training in solar energy to local populations (panel maintenance, solar field maintenance…). A certain % of income must be used to the benefit of local communities (Renewable energy training…). In the case of Ten Merina, there was a requirement for neighbouring villages to be connected.
Are obtained results in line with initial expectations?	Well in line, even above. The project is sometimes affected by climate change (earlier rainfalls and sand storms), but production is still above expected levels.
How effective at obtaining climate adaptation and/or mitigation results and impacts has the intervention been?	The intervention is providing significant climate mitigation effects through the reduction in CO2 emissions it allows. At a much more modest level, it also provides for adaptation effects through financing local community development projects (in the sector of agriculture for instance).
What is the intervention's contribution to national strategies and climate related objectives?	The project contributes to the PSE' objective of 30% renewable energy in Senegal's energy mix by 2025. This objective is already almost reached. Ten Merina produces 2-2,5% of Senegal's total electricity needs (1200 MW). Institutions supported: By respecting the IFC PS (PS4 specific on climate change), we give more power to it and act as an example to follow, it becomes industry practice. BIO supports the development of renewable energy accordance with national policy. It provides additional finance to this purpose because the investments undertaken have significant sizes and a long maturity which commercial banks are not currently willing to cover.
Does the project include indicators specific to climate action? If so which ones and how are they measured?	Once the construction process is over, another team follows the implementation as from the financial completion; generally, when the infrastructure starts to work. They receive regular reports drafted by the client. The main monitored indicator from a CC point of view is the decrease in CO2 emissions. It is monitored by project operators or through consultants. BIO does not visit the field to monitor that itself.

How sustainable are the climate related results obtained from an economic, environmental and institutional point of view?	Economically, Ten Merina is producing electricity at around 60-65 Fcfa/Kwh with Senelec customers paying it at 110 FCFA/Kwh. With new generation solar plants, the production price could go down to 25 Kw/h. Results are sustainable. The project will produce energy for a period of at least 20 years with little decrease in productivity of the panels over the years. Moreover, it is hoped to see technology improving to ensure a better recycling of the panels by the time they will have to be changed in 25-30 years. Maintenance of a solar park requires minimal effort, particularly when fixed modules are used. On average, the parc plans on a monthly inspection and an annual maintenance operation. Every 3 and 7 years a thorough maintenance is planned. The parc is fenced to protect the installations; and it is equipped with an automatic fire surveillance system. The site is also under video surveillance with an alarm system and permanent security officers. SENELEC is responsible for maintaining the power line connecting the park to the grid. The Modular silicium solar panels (main infrastructure) should last a minimum of 20 years and up to 25 or 30. Panels do loose efficiency with time though. Ten Merina is committed to recycle the panels according t best practice once they have reached their service time. Considering the strategic importance of the sector, particularly for the PSE, it is unlikely that the State will stop supporting the sector. The cost of the technology is decreasing: in 2017 Ten Merina cost 40 million euros for a 30 MW production whereas in 2019, a similar investment cost 22 million for 35 MW (a decrease of more than half the cost per MW). The plant has very god relations with the neighbouring populations thanks to their social engineering approach.
Has sustainability of climate action been addressed at project design stage? If so, how?	Yes, technical LT feasibility is always checked. The quality of the material used is also checked and materials come from reputed brands. Main factors affecting sustainability: Price of the technology, willingness of the local Government to increase its portion of renewable energies, E&S Standards (namely IFC PS) becoming industry practice, evolution in technology for recycling and storage (should improve stability of renewable energy which could become baseload and not complementary to other types of energies with a more stable production profile).

Title	Projet d'Amélioration des Services d'Eau Potable et d'Assainissement en milieu rural (PASEPAR)
Actor	Enabel
Implementing agency (and partners)	Enabel Direction de l'hydraulique (DH), Direction de l'Assainissement (DA), Direction de la Gestion et de la Planification des Ressources en Eau (DGPRE), Ministère de l'Hydraulique et de l'Assainissement (MHA)
Geographical coverage	Regions of Diourbel, Fatick, Kaolack and Kaffrine (the « bassin arachidier ») as well as Thiès and Louga regions.
Calendar	2015-2019
Beneficiaries	Rural populations of the Diourbel, Fatick, Kaolack, Kaffrine, Thiès and Louga regions
Global budget (and list of funding agencies)	Enabel : 6 500 000 euros (after budgetary reduction in 2016), initialy 9 million foreseen) LuxDev : 2 000 000 euros (delegated cooperation) Partner : 350 000 euros Belgian climate action budget as registered in MMR: 3 028 714 euros
Description of the intervention	The PASEPAR seeks to provide good quality drinking water and sanitation services to the rural populations of the project area, in a sustainable way and following an integrated water management approach. To do so it develops 3 main components: • Drinking water; • Water and sanitation • Integrated management of water resources which seeks to improve the knowledge of water resources as well as their rational management in the respect of the interests of water user groups.
Global objectives	Reach the sectorial objectives in 2020 (drinking water) and 2025 (sanitation): • Decrease the incidence of illnesses linked to deficient water and sanitation services • Reduce poverty and increase the economic and social well-being of populations • Reduce inequalities between men and women and increase access to water and sanitation for vulnerable groups
Specific objectives	To improve quantitatively and qualitatively the drinking water and sanitation services offered to the rural populations of the project area, in a sustainable way and following an integrated water management approach. Effects specific t climate change relate to sustainable water management
Comment on climate dimension of project	
How far is this project relevant to climate action?	Water is a key natural resource affected by climate change. Managing water resources in a sustainable way, be it for

	drinking and sanitation purposes, agricultural irrigation or the industry is a central part of climate action.
How far is the project coherent with climate action at the level of the country and more globally to its development objectives?	The National Adaptation Programme of Action (NAPA) identifies water resources (along with agriculture and coastal zones) as one of the country's most vulnerable sectors. Water management is a key element of Senegal's development objectives. The PASEPAR is set within the programmatic framework of the water and sanitation sector, the PEPAM.
How far is the project aligned to climate policies of the partner country?	The PASEPAR is well aligned to Senegal's policies and challenges in the water and sanitation sector and by building capacity in GIRE and supporting water management tools such as "water table contracts / contrats de nappe" contributes cross cuttingly to tackling them.
How was climate action (and county climate priorities) taken into account when identifying/formulating the action? Where any climate specific processes implemented (use of KLIMOS, Klimsec…)? Were any climate related criteria used?	The PASEPAR consolidates a previous intervention by the Belgium Government in the area of Water and Sanitation. There was no specific attention given to climate change but the Integrated Management of Water Resources (GIRE) approach was prominent and is relevant to climate change adaptation. Close attention was given to water management Water table monitoring is closely linked to climate change adaptation. KLIMOS or similar tools were not used. No specific climate related criteria were used.
Did the intervention have enough climate change expertise at its disposal to mainstream climate action adequately? Was this expertise internal or external?	The PASEPAR benefited from the support of an international expert in GIRE. A marocan expert also supported the establishment of a "Water table contract" / "Contrat de nappe" in the Niayes area. Expertise in CC can always be strengthened (in relation to water management). The Ministry of environment is more knowledgeable of these aspects. A relevant issue would be integrated modelisation of the evolution of water resources and climate as well as alert systems. This would feed into risk management as well as general technical management.
Has projects developed partnerships with other interventions or climate actors. Is it part of a wider action? Is it jointly implemented? Has it contributed to leverage any additional funding?	There is a link between PASEPAR and the EU's PEPAM support project; also based on the GIRE approach. Enabel is in charge of the GIRE donor working group. The main other donors active in Water & Sanitation in Senegal are the WB, EU, USAID, JICA and AFD. Their TA worked specifically on GIRE and was anchored within the DGPRE. The PASEPAR has worked on the establishment of a "Water table contract" / "Contrat de nappe" in the Niayes area. An

	exchange was developed with a citrus production area in Morocco (Souss mâssa-Drâa). The PASEPAR was key in the implementation of the GIRE (Integrated management of water resources) approach, particularly in its support to the PAGIRE. The GIRE action plan 2012-2017, updated and renewed for the period 2018-2030. The GRET worked in partnership with the PASEPAR on issues related to GIRE and water management tools.
Modalities of ICF channelling	The PASEPAR is financed through a 6,5 million euro grant by Belgium associated to a further 2 million euro grant by LuxDev.
How far are climate mitigation and/or adaptation results obtained at a reasonable cost?	The PASEPAR's final external evaluation considers that the projects efficiency has been very good in general. Moreover, the GIRE component, particularly relevant to climate change adaptation, is considered as having been implemented to a good quality standard, responding to needs of the DPRE and in the expected timeframe. As a result, it can be concluded that climate results were obtained at a reasonable cost, all the more so if one considers that the initial budget was reduced (due to Belgian budgetary restrictions). Belgium and Enabel are considered as a key partner by the DGPRE because they are very good at capacity building and technical assistance.
What climate related effects have been obtained or are likely to be obtained (quantity and quality)?	The DGPRE's capacity for sustainable water management has increased. Whereas beforehand they had a tendency to externalize everything, now with strengthened capacity they internalize more work; but a need for further capacity building subsists. Work on urban flooding is contemplated in this respect. In general, strengthening GIRE capacity and promoting "water table contracts / contrats de nappe" will contribute t a more sustainable use of water which is a key climate change adaptation result.
Are obtained results in line with initial expectations?	Globally the PASEPAR results have been reached and even over realised in terms of GIRE. The effectivity criteria is qualified as very good by the final external evaluation.
How effective at obtaining climate adaptation and/or mitigation results and impacts has the intervention been?	All water projects are linked to climate change because water is impacted so strongly by climate elements. In turn, water and climate change have an impact on migration. The effectivity criteria is qualified as very good by the final external evaluation. The intervention does not contribute to climate change mitigation results.
What is the intervention's contribution to national strategies and climate related objectives?	The intervention's contribution to national strategies and sustainable water management (a climate change adaptation related objective) is significant. Enabel contributed to the updating of the GIRE plan of action (PAGIRE) till 2030; as well as its implementation at a territorial level. The PASEPAR supported all this process with TA and experience capitalisation.

	The GIRE approach was implemented with territorial actors. Communal committees were set up and frameworks for dialogue as well as other management tools were set up at a territorial level. A further support concerned the hydrological monitoring of surface waters in the peanut basin (basin arachidier). This is very much linked to climate change. A lot of data was collected. Infrastructure was proposed and constructed to manage the basin with the support of another PASEPAR consultant. This experience may be extended to other regions. The PASEPAR was instrumental in collecting extensive data related to water management. A lot of capacity building was also offered by the PASEPAR. These have been key aspects of its work with long term capacity building effects for Senegal in terms of water management. A hydrogeological study of the potential of superficial and intermediary water tables was conducted in the "basin arachidier". A contrat de nappes (water table contract) was launched in the key area of Dakar – Thies – Mbour. This is a strategic area because the water resources are abundant but they are presently being exploited unsustainably by the very large population in that area. The process consisted in discussing with actors to raise awareness and establish water resource management rules that will become part of the water table contracts. A consultant supported this process and a road map was established. However, the consultant should have come back to continue the work but financial resources were lacking for him to do so. Nonetheless, it is clear that the "contrats de nappe" are the way forward for water management: establish water management rules to ensure water exploitation is sustainable, as well as investments in water consuming activities. Agreements may include the use of drip irrigation and the decrease in pumping intensity in exchange for government subsidies. The PASEPAR has set this process off although it is still incomplete. It could be applied to other areas such as the Niayes or as a "river contract / contrat de rivière" for the Lac de Guers". It is also applicable in the "Bassin arachidiers" between Kaolack and The Gambia where salt level management is a significant issue; it is an agricultural and touristic area where water exploitation is sensitive and influences land fertility. Finally, Cape Skirring with its Hotels and agricultural activity is a further area were "contrats de nappe" could be applied.
Does the project include indicators specific to climate action? If so which ones and how are they measured?	There are no climate change specific indicators. The main GIRE related indicators are related to piezometric measurements which measure the sustainability of water management.
How sustainable are the climate related results obtained from an economic, environmental and	Perspectives are good in terms of sustainability, in terms of the use of infrastructure. At a more global level, the "contrat de nappe" has analysed water table levels since the 1960s to see how it evolves and it

institutional point of view?	is almost not recharging at all. This implies serious water management problems for the future. A global approach to water table use is mentioned, involving water fees and the polluter-payer principle but it is unclear when and how it will materialize. The final external evaluation qualifies the sustainability criteria for the entire project as "good". The infrastructure is assessed as being of good quality and water management tools are considered as being interesting though long-term updating would need further attention.
Has sustainability of climate action been addressed at project design stage? If so, how?	In so far as climate action in the framework f the PASEPAR refers to promoting the GIRE and sustainable water management practices, the sustainability of climate action can be considered as having been addressed at design stage in a general way. It was addressed globally, as far as the project's sustainability was addressed in general but no specific attention was paid to climate action.

Title	**Projet de Bassin de Rétention et de Valorisation de Forages dans les Bassins de Diourbel, Fatick, Kaolack, Kaffrine et Thiès (BARVAFOR)**
Actor	Enabel
Implementing agency (and partners)	Enabel Ministère de l'Agriculture et de l'Equipement Rural, Direction des Bassins de rétention et des Lacs artificiels
Geographical coverage	Regions of Diourbel, Fatick, Kaolack, Kaffrine and Thiès
Calendar	June 2011 – November 2017
Beneficiaries	Rural populations, rural communes (CR) and Regional Development Agencies (ARD) of Diourbel, Fatick, Kaolack, Kaffrine and Thiès regions
Global budget (and list of funding agencies)	Belgian contribution : 11.906.418,15 EUR Partner contribution : 571.684,00 EUR Total budget: 12.478.102,15 EUR Climate action budget as registered in MMR database :652 329 euros
Description of the intervention	The project seeks to improve agro-silvo-pastoral production in the rural areas of the Diourbel, Fatick, Kaolack, Kaffrine and Thiès regions by improving access to productive water through i) the building and setting up of water management infrastructure and equipment, ii) the preparation of microprojects emanating from eligible beneficiaries in view of their implementation; and iii) the strengthening of the capacity of concerned actors. The project has built several different types of water management infrastructure: Anti salt dykes, retention basins at the level of lowlands, and boreholes in particular.
Global objectives	Ensure the well-being of rural populations through reaching Millennium Development Goals related to poverty and hunger reduction (MDG1) and sustainable environment (MDG7)
Specific objectives	Agro-silvo-pastoral production in the rural areas of the Diourbel, Fatick, Kaolack, Kaffrine and Thiès regions is

	strengthened through a sustainable access to productive water. The specific climate change related effects expected relate to sustainable water management and improved resilience of agricultural producers (resulting from improved access to water).
Comment on climate dimension of project	
How far is this project relevant to climate action?	Despite the project being mainly concerned with infrastructure building, its relevance to climate action relates to the sustainable management of water resources, the contribution to managing salinity in agricultural production areas (and therefore maintaining arable land surfaces) and the increase in resilience of agricultural production. No current Enabel project deals with climate change specifically but this should change with the upcoming regional programme. However, the Senegal portfolio approach is focused on sustainable development and job creation in the Siné Saloum.
How far is the project coherent with climate action at the level of the country and more globally to its development objectives?	Though the project is not guided in any way by climate action, it is coherent with climate adaptation efforts at the level of Senegal.
How far is the project aligned to climate policies of the partner country?	The project is not based on Senegal's climate policies. However, it is not in contradiction with them either. NDC plans were not taken into account. Since the last 2 years, Enabel is setting up a les hierarchical governance with sectorial circles and South-South exchangs; particularly concerning climate change issues. Following the PARERBA MTR, they revisited the logical framework with a CC specialist.
How was climate action (and county climate priorities) taken into account when identifying/formulating the action? Where any climate specific processes implemented (use of KLIMOS, Klimsec…)? Were any climate related criteria used?	Climate action and country climate priorities were not taken into account at the time of project formulation. Despite it appearing in the MMR database, the BARVAFOR was formulated in 2010 at a time when climate change was still little taken into account in project formulation. As a result, the word climate to climate change only appears twice in the project document, in reference to the agro-silvo-pastoral development policy and the use of water for irrigation. No climate specific processes were implemented. Klimos (or Klimsec) was not used. No climate related criteria were used. There is no evidence of climate change being taken into account beyond cross cutting factors. Presently, the Enabel Environment and climate change ToC is their strategic framework for such issues.
Did the intervention have enough climate change expertise at its disposal to mainstream climate action adequately?	No climate specific expertise was called upon during the BARVAFOR formulation process or during its implementation. Today it would probably be different.

Was this expertise internal or external?	PARERBA considers it possesses sufficient climate related expertise through the two engineers in its team. Moreover, in Senegal, Enabel has reinforced itself significantly in terms of CC expertise which is then pooled to benefit its projects cross cuttingly.
Has projects developed partnerships with other interventions or climate actors. Is it part of a wider action? Is it jointly implemented? Has it contributed to leverage any additional funding?	The BARVAFOR was implemented in quite an isolated way. An infrastructure project more in the style of the WB was quite a new experience for Enabel and it was not well equipped to monitor it. No partnerships were developed However, following the BARVAFOR, the EU launched the Enabel implemented PARERBA projects with an 18-million-euro budget and which has developed irrigation perimeters on the basis of the BARVAFOR infrastructure. The results of this programme are encouraging and a second phase is in preparation. It can therefore be considered that the BARVAFOR has leveraged considerable additional funds for climate action. The BARVAFOR and PARERBA have worked both with the DGPRE, which manages underground water resources, and the DBDLA, which manages surface waters. But these two institutions are not so well coordinated between themselves. The PASEPAR was closing when the PARERBA started but it benefited from all the work undertaken by the PASEPAR with the DGPRE because they had developed very good institutional relations. This supported PARERBA in terms of general water management issues but also in selecting intervention sites on the basis of land management plans. Moreover, Enabel through the PARERBA and the DGPRE will present their approach in the World Water Forum to be held in Dakar in 2022. This could induce significant multiplier effects linked to climate change adaptation. Nonetheless, PARERBA (and BARVAFOR) were not implicated in defining any "contrat de nappe". PARERBA partners with Institut Sénégalais de Recherche Agronomique (ISRA) in rehabilitation of saline soils. It has also been approached by the Centre de Suivi Ecologique (in relation to a database on productive water infrastructure). The Agropole Centre they are supporting may offer markets for the BARVAFOR/PARERBA supported irrigation perimeters It is part of their strategy. It involves the implementation of a green incubator which seeks to promote Senegalese start ups in the area of green economy. Moreover, Senegal will receive 10 million to work on climate change at a national level and an additional 10 million through the Regional Sahel programme. A team is in place to manage this.

	Moreover, two new EU actions concerning the promotion of sustainable food systems in the Siné Saloum are planned as well as an additional phase of the PARERBA.
Modalities of ICF channelling	The project was implemented through an Enabel grant.
How far are climate mitigation and/or adaptation results obtained at a reasonable cost?	The final evaluation of the project grades the intervention as unsatisfactory in terms of efficiency. In practice, the infrastructure was built too late to capitalise on it to implement agricultural activities so the BARVAFOR did not directly lead to any climate effects. However, the EU subsequently financed the PARERBA project which is generating the expected climate effects (improved water management, arable land recuperation, resilient agricultural practices) in what is considered by the external PARERBA MTR as a very efficient way. One can therefore consider that globally, though not exclusively by the BARVAFOR, climate adaptation effects have been obtained at a reasonable cost.
What climate related effects have been obtained or are likely to be obtained (quantity and quality)?	Anti-salt dykes aim at limiting saline intrusion and thus recuperate soils. Retention basins at the level of lowlands and boreholes help provide irrigation water to support agriculture, particularly off-season agriculture. Irrigation perimeters have been developed through the subsequent PAREBA project. The sustainable management of water resources, the contribution to managing salinity in agricultural production areas (and therefore maintaining arable land surfaces) and the increase in resilience of agricultural production are the climate related effects obtained by the project. Promoting agroforestry and fruit production also increases food security and resilience of farming systems (adaptation effect) as well as it contributes (in a limited way) to climate mitigation by stocking carbon dioxide. Similar effects can be attributed to reforestation around irrigation perimeters though such action's main objective is to delimit and protect the perimeters. On the other hand, the PARERBA promotes the production of frozen chips (ACASEN…) and vegetables for export. It is unclear how far the related agriculture is positive from a climate change point of view.
Are obtained results in line with initial expectations?	By the end of the BARVAFOR, they were not as the infrastructure had not led to the preparation of microprojects emanating from eligible beneficiaries in view of their implementation and therefore no concrete effects had yet reached the intended beneficiaries. However, with the PARERBA results are coming in line with initial expectations. Developing rice varieties and practices adapted to saline soils is proving a success, with yields reaching up to 4t/ha.
How effective at obtaining climate adaptation and/or mitigation results and impacts has the intervention been?	As previously explained, the intervention itself cannot be considered as having been effective at obtaining climate adaptation results but with the subsequent implementation of the PARERBA effectiveness looks much better. The PARERBA's mid-term evaluation qualifies it as satisfactory. Working with DGPRE on Integrated Water Resource Management (GIRE) as well as "Contrats de nappe" will have

	multiplier effects in terms of water management and Climate change adaptation well beyond the project.
What is the intervention's contribution to national strategies and climate related objectives?	The PARERBA has contributed indirectly to the surface water management strategy as well as to the agricultural development strategy There are no contradictions between its action and national strategies and climate related objectives though these are were not its initial focus of attention.
Does the project include indicators specific to climate action? If so which ones and how are they measured?	All BARVAFOR indicators were based on use of infrastructure by local producers. But in practice, the infrastructure was built but not used. The project included no indicators specific to climate action.
How sustainable are the climate related results obtained from an economic, environmental and institutional point of view?	The final BARVAFOR evaluation considers sustainability to be satisfactory though there are concerns with the financial capacity to maintain the infrastructure. However, a major concern is the environmental sustainability of the project in the sense that, in the face of climate change and rising sea levels, it is estimated that the capacity of the infrastructure built by the BARVAFOR will be exceeded in the next 20 to 30 years. The infrastructure (anti-salt dykes…) will then no longer be functional and significant proportions of the land recuperated may end up, at least partially, underwater. IPCC maps for 2040 indicate that large parts of southern Siné Saloum will be under water. AS a consequence, they will work more in the North. New livelihood systems must be developed for the south, ting into account the salt value chain and fish farming in particular. Working on GIRE and "contrats de nappe" will contribute to sustainable water management. With the additional funds foreseen over the coming years, the idea is to have an integrated approach at the level of the Siné Saloum in relation to sustainability.
Has sustainability of climate action been addressed at project design stage? If so, how?	Sustainability specific to climate action has not been addressed at project design stage.

Title	**Contributing to good local governance through strengthening administrative strength in the South and local policy coherence in Flanders**
Actor	VVSG
Implementing agency (and partners)	Sokone municipality in partnership with Zemst
Geographical coverage	Sokone Municipality
Calendar	2017-2021
Beneficiaries	Population of Sokone
Global budget (and list of funding agencies)	Total : 190 000 euros Corresponding climate action budget in MMR database: 18838,292 euros
Description of the intervention	The project is part of a twinning partnership centered on strengthening local governance. It develops 2 components: • Waste management

	• Natural resource management Activities undertaken include reforestation, setting up stone barriers, coastal management, environmental and hygiene awareness building… (a sister project is implemented in Tambacounda with St Niklaas Municipality but it is not the object of our analysis)
Global objectives	Strengthening local governance of Sokone Municipality
Specific objectives	The intervention's global objective will be attained through 3 results: R1 : Sokone Municipality's vision and strategy for gender and sustainable development are developed R2 : The organisational, technical and financial capacities of the municipal authorities council and services) are reinforced in terms of waste management and natural resource management R3 : The organisational, technical and financial capacities of the neighbourhood development councils / conseils de développement de quartier and of civil society organisations are reinforced in terms of waste management and natural resource management
Comment on climate dimension of project	
How far is this project relevant to climate action?	The natural resource management component as well as the management of organic waste and the production of compost for agriculture are relevant to climate change. But the action does not revolve around climate change. Within VVSG, the project is considered as an International Cooperation and Foreign Affairs project but not an environment and climate one.
How far is the project coherent with climate action at the level of the country and more globally to its development objectives?	Waste management, particularly, uncontrolled dumping is a major problem in the Siné Saloum and in Senegal in general; so is natural resource management.
How far is the project aligned to climate policies of the partner country?	The programme of Sokone's mayor and the Communal Development programme / plan de développement Communal (PDC) 2015-2021 revolves around transforming Sokone into a "Green City". Sokone wants to be a "green city". The new 5-year programme they are elaborating integrates a strong environmental dimension. Sokone seeks to be a forerunner in the area of green economics and circular economics which will be at the center of this new 5-year plan. The governments "Clean day" policy and the new 2020-04 law concerning the prevention and reduction of plastic's incidence on the environment have strengthened the programme's relevance
How was climate action (and county climate priorities) taken into account when identifying/formulating the action? Where any climate specific processes implemented (use of	The theme of the project is not perceived as being so important. The global objective is to strengthen local governance and promote citizen participation. This is achieved through working on waste management and natural resource management but had the intervention been centered on children rights it could have been just as interesting. Climate action was not intentionally integrated in the action. Zemst has a relationship with Sokone which dates to before the DGD financing. Before 2017, the partnership was funded

KLIMOS, Klimsec…)? Were any climate related criteria used?	by the Flemish Government. It found out about the extra funding that could be obtained by getting into the VVSG programme funded by DGD and decided to integrate it. They chose to work on waste management because both towns had teams working on the subject, meaning they could have peer exchanges between Belgium and Senegal. It is important to put themselves in a position where they can learn from each other. However, climate was not the reason for the intervention to go ahead. VVSG sees the intervention as a whole, greater than the DGD financing. Klimos was not used. Planning is undertaken by Sokone and Zemst (though it can be facilitated by VVSG: in terms of report drafting, indicator selection…). Environment and gender are crosscutting issues for all DGD financed interventions; but its almost by coincidence that they are undertaking climate action. They were not aware that they are working with climate funding.
Did the intervention have enough climate change expertise at its disposal to mainstream climate action adequately? Was this expertise internal or external?	VVSG has a team working on environment and climate but they are not systematically called upon to work on projects; moreover, the twinning partnership is implemented by the city of Zemst; VVSG's role is limited. The Municipalities provide the expertise; and it is not climate related. Climate action is however a preoccupation for the 300 Flemish Local Authorities which VVSG works with.
Has projects developed partnerships with other interventions or climate actors. Is it part of a wider action? Is it jointly implemented? Has it contributed to leverage any additional funding?	The government's "Clean day" policy is in total synergy with Sokone's "Green city" development orientation and greatly support the intervention's implementation. The Sokone Valorisation project (PRO.VAL.SOK) of the EU is also active in Sokone in the area of waste management. However, VVSG and Zemst have no interactions with other projects in Sokone. They only interact with other actors of the JSF; such as Echos communication, Eclosio (planned) and Brulocalis. They have had quite close partnerships with Brulocalis and Echos communication. They all come together once a year with all their partners to exchange and develop a common trajectory around territorial coaching and policy making (possibly related to climate through developing a vision around circular economy and mangrove management: role of the municipal council and local actors…). Outside this, synergies ae very limited. There is an exchange with a University (ULB) on mangrove management. COVID 9 has interfered with the development of a number of exchanges and partnerships initially planned with Belgian NGOs (Autre Terre, Solidagro).
Modalities of ICF channelling	The intervention was developed to make the most of possible funding through VVSG but not in relation to ICF. Moreover, what makes municipalities particular is that they give great importance to their autonomy. VVSG is an umbrella which can provide support but, although VVSG is the official partner, the interventions depend on orientations which are decided by their members in partnership with their southern partners.

How far are climate mitigation and/or adaptation results obtained at a reasonable cost?	The government's "clean day" policy has facilitated the mobilisation of the population for waste collection and management as well as for natural resource management activities which has maximised the intervention's cost. DGD calculates the climate budget included in the MMR database. It also decides on the relevant Rio marker.
What climate related effects have been obtained or are likely to be obtained (quantity and quality)?	It would be important for them and actors in general to have a better understanding of how their action is connected to climate action and how they can contribute to it. Presently, climate is not their major preoccupation. Nonetheless, a number of climate related effects can be identified. • By supporting composting (15 tons produced in 2020), the intervention promotes agroecological practices which limit carbon emissions, contribute to stocking carbon in the soil and increase producer resilience to climate change thus contributing to bth climate change adaptation and mitigation • The project has supported human resource management of personnel involved in coastal management (including management of mangroves) and in turning the communal domain into an ecotouristical site of environmental value. This contributes both to adaptation through limiting coastal erosion as well as to mitigation through stocking carbon. • To support the appropriation of mangrove maintenance by local populations the project also supports a fish transformation unit which local women may use to add value to the fish captured in the mangroves. • The project has supported reforestation (mangrove, coconut trees and fruit trees) thus contributing both to climate mitigation (through carbon fixation) and adaptation through soil management and coastal protection or adaptation through diversification of agricultural production and resulting increased resilience. • Soil management and preservation has been supported beyond reforestation through building stone barriers • By recycling plastic and paper waste as industrial fuel, recycling hard plastic to make chairs or basins, or recycling metal, the intervention limits carbon emissions. • The local women's federation was supported to promote improved stoves at the level of the municipality thus contributing to limiting the use of wood (or charcoal) for cooking purposes.
Are obtained results in line with initial expectations?	In practice the programme is moving slower than anticipated but results are globally in line with expectations.
How effective at obtaining climate adaptation and/or mitigation results and impacts has the intervention been?	The project support reforestation (and tree nurseries), basic water management techniques stone barriers), improved stoves, coastal management and composting.
What is the intervention's	The intervention is totally in harmony with the new "Zero waste" programme launched by the government in 2019 at a

contribution to national strategies and climate related objectives?	national level; and implemented by the municipalities. It has amongst others instituted a monthly day of cleanliness each first Saturday of the month. Producing and selling plastic bags has been banned but this policy is not respected. Municipalities are obliged to engage in a public cleanliness management programme covering all their territory. These measures correspond to the vision of Sokone as a "Clean city / Ville propre".
Does the project include indicators specific to climate action? If so which ones and how are they measured?	The programme includes indicators related to waste management and compost use, particularly in relation to the number of families involved with such activities. But there are no specific climate change indicators used.
How sustainable are the climate related results obtained from an economic, environmental and institutional point of view?	Sustainability is addressed mainly through participative planning at the level of the municipality and with civil society, as well as with small financial contributions of populations to certain activities (composting, dustbin distribution, improved stoves…) and capacity building. The implication of the Municipality of Sokone is a further guarantee of sustainability both from an institutional and economical point of view. The municipality bears a significant amount of the costs from the start and guarantees a budget for the services provided on the long run. In 2020, 10 tons of compost were sold for 450 000 FCFA (686 euros). As the project is centered on environmental issues, its environmental sustainability is good.
Has sustainability of climate action been addressed at project design stage? If so, how?	The project is not perceived as a climate action despite its effects on climate adaptation and mitigation so sustainability of climate action was not addressed at design stage.

Annex 7: Country Case Study – Tanzania

List of Photos

1. Introduction

This country case study report is part of the Evaluation of international climate finance by the Belgian federal government. This independent evaluation has two main objectives:

- Provide an independent assessment of the international climate finance by the Federal government's development cooperation policy.
- Provide specific actionable policy and operational recommendations for the various Belgian actors and policy makers involved in defining and implementing Belgium's commitment to international climate finance. Such recommendations will concern strategy, institutional framework, regulatory framework, instruments and channels.

Following general documentary review, a set of interviews with Belgian climate actors, and preliminary portfolio analysis, on which basis an Interim report has been produced and accepted, the evaluation team has launched a case study phase.

The objective of the case study phase is to obtain a more detailed and concrete view of how climate action is identified, formulated, implemented and monitored at project and country level and better understand the climate logic within the various types of interventions as well as characterise the exact nature of their climate effects.

In order to do this and obtain a systemic view of how climate change may be tackled at a country level, two countries have been selected as case studies: **Senegal**, in West Africa, and **Tanzania**, in the Great Lakes region. These geographical areas were considered representative of the two main areas of Belgian development cooperation focus. For each country, 5 projects were selected for more detailed analysis (i.e. 10 in total). Additionally, to better cover the diversity of Belgian climate action and interventions, both at a thematical and an institutional level, the two main criteria for project selection, 4 other interventions have been selected as well: National Determined Contributions (NDC) support by the Federal Public Service (FPS) environment in Burkina Faso and Niger, University cooperation in Vietnam and a methane gas capture project in Rwanda.

1.1. Case study evaluation approach

This country case study evaluation on Tanzania was conducted remotely between March and mid-April 2021. Tanzania was chosen as a showcase of Belgian development cooperation in the Great Lake region, and selected for offering a sufficient variety of projects, carried out by the Belgian actors Enabel, BIO and the NGA & IA's, which, along with the FPS Environment, are the actors being examined in detail in this evaluation.

Five projects were selected among this varied set, covering humanitarian action, agriculture, energy, and forestry. BIO's indirect investment in the Kikagati powerplant aside[1], they represent 22% of the total budget allocated to international climate finance within Belgian-Tanzanian cooperation during 2013-2019. The selection includes projects without a primary focus on climate change, allowing the assessment of the level of climate mainstreaming into development projects. In Tanzania, the case study analysis covered the 5 following interventions:

[1] This project was financed through BIO's investment into the AREF (Africa Renewable Energy Fund). BIO's participation in the Kikagati project is therefore indirect, and not registered as a project developed by BIO in Tanzania.

1. Enabel: Natural Resources Management for Local Economic Development, Kigoma region (NRM4LED)
2. Enabel: Sustainable Agriculture Kigoma Regional Project (SAKiRP)
3. BIO: Kikagati hydropower facility through an investment in the AREF
4. Oxfam Solidarité: Disaster Risk Reduction (DRR) in Tanzania
5. Bos+: Environmental management of strategic forest areas in a sustainable, inclusive and participatory way (EMSFA)

Further data on key evaluation points is available in Annex A, including a short narrative describing each project.

Due to the COVID-19 pandemic, the evaluation team could not implement the evaluation study in the field, and hence the majority of interviews were conducted online. This remote data collection was complemented with field visits and interviews by a national consultant, Kennedy Oulu, Director at In-Depth Consulting Tanzania, a Tanzania-based consultancy.

For each project, interviews were organised in two steps. Exploratory interviews were first held by the evaluation team with Belgian representatives to obtain general information, documentation (final evaluation reports, budgets, mid-term reviews), and additional local contacts. A second wave of interviews was then launched by the national expert and the evaluation team with these additional local contacts for additional evidence-finding.

1.2. Triangulation of results

Triangulation relied on the diversity of data types (internal documentation, evaluations, interviews, field visits) and of interviewees. Interviews were conducted with a variety of stakeholders (Belgian and Tanzanian; 9 with **Belgian key actors,** 3 with **local project developers** and 5 **beneficiaries' representatives**). Table 1 depicts this repartition. For a detailed overview of the interviews, please see Annex C.

Project	NRM4LED	SAKiRP	Kikagati hydropower facility	DRR in Tanzania	EMSFA	Other
Belgian stakeholders	1	1	1	3	1	2 (Belgian Embassy in Dar es Salaam Embassy)
Local stakeholders	None. The project phased out.	None. The access to local authorities could not be accessed.	2	4	2	1 (Representative Ministry of Blue Economy and Fisheries (former UNFCCC focal point)

Table 1 - Type of actors interviewed

Four factors complicated the conduction of interviews: the passing of the Tanzanian President and ensuing national funeral, the rain season which complicated the access to remote areas, COVID-19 which restricted in-country travelling of the local consultant and difficulties to access local authorities.

In the case of the SAKiRP and NRM4LED, triangulation was not considered jeopardised by the impossibility to reach local authorities, as the local authorities were only lightly involved in the projects and possess a limited awareness of climate action (confirmed during interviews with representatives of the SAKiRP and NRM4LED projects, as well with the Belgian

Embassy). Interviewees suggested that the input of local and regional governments would not be additional to existing documentation and conducted interviews. At the national level, the position of Tanzanian authorities was analyzed based on documentation provided by the Principal Secretary of the Ministry of Blue Economy and Fisheries, Zanzibar. This analysis confirmed the strong centralisation of climate action, and the relevance of our findings in absence of local interviews.

Moreover, for the DRR in Tanzania, interviews with beneficiaries' representatives conducted by the national consultant working in Tanzania happened through teleconferencing (i.e. Zoom facility). This option was preferred, due to COVID-19 related travel restrictions and to the rain season which complicated the access to remote areas. This is not believed to affect the robustness of the evaluation findings, as the beneficiaries were able to share additional project evidence, consisting of recent high-resolution photos and documentaries. For the Kikagati hydropower facility, it was not possible to speak to local beneficiaries, as the project is still under development and the main beneficiaries consist of people living in remote areas who should eventually benefit from the energy access in the region. To gain a better understanding of the on the ground perspective, the local project developers were interviewed.

1.3. Reading guide

This evaluation report contains the following chapters:

- Chapter 2 explores the country context, the Belgian interventions and climate finance landscape of Tanzania;
- Chapter 3 includes the key findings following the evaluation questions (EQ's);
- Annex A contains a summary of the assessment at project level;
- Annex B synthesizes the characteristics of each project;
- Annex C contains a list of interviewees;
- Annex D provides a list of bibliographical references.

2. Context

2.1. General context Analysis

2.1.1. Country context

Tanzania is a lower middle-income country since 2020. Economic development is driven by increased government spending, communications and construction, although agriculture remains the backbone of the Tanzanian economy. Despite its steady economic growth before the COVID-19 crisis, poverty and undernourishment remain key challenges. Among others, this situation can be linked to the neighbouring humanitarian crises and to the fact that economic growth does not cover the agricultural sector, which remains of a subsistence nature. Similarly, critical infrastructure is under development, notably in transport and energy, where natural gas and renewables deployment has been hampered by weak distribution systems.

Tanzania Development Vision[2] aims at shifting the country to a stable semi-industrialized economy by 2025. Technological progress, infrastructure development and productivity enhancement are expected to support the improvement of development indicators (notably food security and accessibility to health). The Five-Year Development Plan[3] (2016) further indicates that efforts towards strengthened technology, infrastructure and productivity are oriented towards global markets. Typically, the agricultural sector should be supported further than food security goals, for nurturing agro-processing industries that yield added-value on global markets. Similarly, the improved access to financial services is primarily aimed at attracting international investors, whereas locals are encouraged to develop 'a culture of saving' (Development Vision).

To this end, public sector authorities expect to improve accountability and efficiency of administrative systems, while resorting to subsidiarity. This latter method builds on a national culture of involving stakeholders for policy development and implementation that champions workshops, consultations, and consensus-building. Local governments and NGOs are historically involved in these processes, and recent strategies suggest to further include private actors and educational institutions.

In this context, environmental protection is perceived as a cross-cutting method for implementing the Vision. Environmental rehabilitation and water conservation are means to ensure that growth is sustained during the coming years, notably in agroforestry and fish industries, where climatic conditions have been jeopardizing economic development. In other words, environmental protection must be understood as a tool to reach the 8% economic growth target by 2025 and to sustain its results.

2.1.2. Main country climate challenges

Tanzania combines a multiplicity of natural ecosystems, including Zanzibar and inland Tanzanian shorelines, the Kilimanjaro and arid land. The country thus faces numerous climate-driven challenges. Cumulatively, the effects of flashfloods, droughts, irregular

[2] Tanzania Development Vision 2025, http://www.mof.go.tz/mofdocs/overarch/vision2025.htm
[3] Second Five Year Development Plan, 2016, http://extwprlegs1.fao.org/docs/pdf/tan166449.pdf

seasonal variations, salt-water intrusion and diseases amount to 1-2% GDP per year[4]. Tanzanian level of readiness to climate change is ranked 150th globally[5].

2.2. Belgian cooperation and climate finance in Tanzania

2.2.1. Belgian development action

A bilateral development partnership was initiated between Belgium and Tanzania in 1982. While other development partners of Tanzania tended to phase out cooperation from 2010 and returned for humanitarian purposes in 2017 (Burundi crisis), Belgium maintained middle-term cooperation contracts. However, the Belgian Development Cooperation Programme did not formulate any new interventions after 2018[6].

Overall, Belgium provided € 9.2 million of international climate finance to Tanzania partners in 2013-2019. Additionally, the Kikagati hydropower project amounted to € 1.7 million. Although registered as a Ugandan project for its cross-border location, it required the cooperation of Tanzania and provides it with tangible benefits.

Over the study period, Belgium-Tanzania cooperation represents a total of 29 projects predominantly oriented towards adaptation, with € 3.2 million flowing to adaptation projects and € 5.9 million towards cross-cutting activities. A majority of projects (17 projects representing € 5.7 million) relate to environment, forestry and agriculture. The two multisectoral projects (Water management in Lower Moshi and Simanjiro and Maisha Bora) stand out as substantial interventions, amounting to € 1.7 million. However, no new projects have been developed since 2018 due to concerns on the Tanzanian political climate in light of Belgian values, e.g., regarding human rights and gender (interview, a Belgian official in Dar es Salaam). Belgian-Tanzanian cooperation, including climate-related development action, thus amounts to projects initiated prior to 2018 and extensions of these projects.

The Development Cooperation Programme 2014-2015 between Belgium and Tanzania[7] prioritises the sectors 'basic infrastructure in water & sanitation' and 'sustainable agriculture and food security'. Transversal themes in these sectors consist of 'gender/women empowerment' and 'protection of the environment'.

2.2.2. Main actors

The main actors still active in Tanzania are Enabel and the NGOs (i.e., Oxfam Solidarité and Bos+). This remains consistent with trends observed in the past years. Between 2013-2019, civil society actors conducted 18 projects and Enabel 9, for respectively € 5 million and € 4.2 million.

Enabel has been mainly operating in the Kigoma region. This action builds on two pillars, poverty reduction and consolidation of democracy[8]. In practice, this reveals in projects supporting sustainable resources management through local empowerment[9], and it further deploys in two sectors -water, sanitation and sustainable agriculture- and is underpinned by a gender-sensitive approach.

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4 Tanzania Intended Nationally Determined Contributions

5 Climate Watch, https://www.climatewatchdata.org/countries/TZA?calculation=PER_CAPITA#climate-vulnerability

6 Communication with Belgian Embassy in Dar Es Salaam (April 2021).

7 Development Cooperation Programme (2014-2015) Between the Government of Tanzania and the Kingdom of Belgium. Retrieved from: https://tanzania.diplomatie.belgium.be/sites/default/files/content/140311_signed_idcp_2014-2015.pdf

8 Tanzania-Belgium Partnership, BTC, 2015, https://www.enabel.be/sites/default/files/broch_tanzania_dec_ed_3_web_latest_version.pdf

9 The Environment & Development, BTC, 2015, https://www.enabel.be/sites/default/files/the_environment_and_development_-_a_view_of_30_development_projects_0.pdf

NGA's action is led by a Joint Strategic Framework approved in 2015[10] and updated in 2017[11]. The Framework gathers 8 organisations and revolves around five strategic goals, namely agriculture, entrepreneurship, education, health, environment (which includes a climate mainstreaming approach) [12].

BIO is not directly active in Tanzania for climate action. The institution is involved in Tanzanian or East African projects through investments (equity and debt) in commercial banks (€ 26 million in 2018) and other financial institutions (€ 93 million in 2018[13]).

Key international climate funds for the multilateral Belgian finance complement the interventions of Belgian actors. The Green Climate Fund (GCF), Adaptation Fund (AF) and Least-Developed Countries Fund (LDCF) are all present in Tanzania, although the GCF is involved mainly through multi-country interventions, while the AF develops Tanzanian-specific projects with an intensified presence in 2020 (3 additional approved projects)[14]. Overall, these funds predominantly develop climate adaptation actions[15].

2.3. National climate action and climate related policies

2.3.1. Climate action in Tanzania

Tanzanian climate action is guided by their INDC (which became Tanzania's First NDC in 2018) and revolves around four key policy documents: a National Climate Change Strategy (2012), a National Framework for Climate Services (2018-2025), a Health National Adaptation Plan to Climate Change (2018-2023), and a National Climate Smart Agriculture Programme (2015-2025). Combined, they reflect the need for effective adaptation measures and a strong linkage between climate policies and development strategies. The flagship measures of the NDC include a 10-20% reduction in GHG emissions by 2030, and a series of adaptation targets, notably the reduction of climate related disasters by 50-70% and 75% coverage with reliable water systems.

These national frameworks however lack implementation, due to low levels of capacity, prioritisation and coordination between administrations[16,17]. In this regard, the National Framework for Climate Services is a first step to address these issues. By providing sectoral and regional climate change data to stakeholders, decision-making is expected to be rationalized and localized[18]. In line with these challenges, Tanzanian authorities lack the capacity to develop vulnerability assessments, and to further mainstream them into policies and plans[19].

2.3.2. Actors, tools and ICF channels at partner country level

Actors and institutions

The Vice President's Office is the central coordinating actor for climate-related policies and climate finance support. Its Division of Environment acts as the National Climate Change Focal Point. It is supported by Sector Environmental Sections nested in each Ministry,

[10] Joint Strategic Framework Tanzania, 2015
[11] Joint Strategic Framework Tanzania, updated version 27/10/2017
[12] Ibid
[13] Landenfiche Belgische Ontwikkelingssamenwerking Tanzania, 2019 (Shared by DGD)
[14] Adaptation Fund projects database, https://www.adaptation-fund.org/projects-programmes/
[15] UNFCCC Climate Finance database, https://unfccc.int/climatefinance?home
[16] Stocktaking Report for the Review of the National Climate Change Strategy (2012-2018), Vice President's Office, 2020 (Shared by the Ministry of Blue Economy and Fisheries, Zanzibar)
[17] State of the Environment Third Report, Tanzania Vice President's Office, 2019 (Shared by the Ministry of Blue Economy and Fisheries, Zanzibar)
[18] Capacity Building Knowledge to Action Day, Republic of Tanzania, 2019, https://unfccc.int/documents/204656
[19] East African NBF inception workshop, Republic of Tanzania, 2020, https://unfccc.int/documents/210142

which act as focal points and brokers between Ministries[20]. Despite its limited budget, it is in charge of the development of all climate-change related guidelines, including the National Adaptation Plan (NAP)[21]. As a result, the Division must rely on external support to conduct projects. For instance, Tanzania officially relies on NGOs for formulating applications to multilateral funds[22]. Faced with this dependence on NGOs and UN agencies to mediate access to funding, Tanzania aims at developing a cost-effective and systematic framework for all climate finance streams. The National Climate Change Finance Mechanism, housed by the Department of Environment, is central to this strategy[23]. Currently under discussion, the Mechanism is expected to be in charge of building capacity, standardizing monitoring of projects, and centralizing national, multilateral, bilateral and private climate finance sources[24]. An equivalent mechanism is under development on Zanzibar. In both cases, up-front financial and time investments, along with the need for stronger buy-in from development partners, have hindered the set-up of the mechanisms[25].

At a national scale, climate finance frameworks also benefit from international readiness support (e.g. GIZ, Overseas Development Institute), with the Centre for Climate Change Studies of the University of Dar es Salaam acting as a platform for exchange on climate finance readiness.

Climate action and access to finance has also been hindered by the ad-hoc character of monitoring mechanisms[26]. The effects of climate finance projects are not clearly evaluated, notably at the regional and local levels, thus limiting their impact and scale-up potential. The centralized approach of the Tanzanian government to climate-relevant investments, along with an unclear regulatory framework, have further been identified as important barriers by interviewees operating in the field (interviews with representatives of Enabel and Berkeley Energy). These shortcomings were described during the interviews as particularly problematic for energy and infrastructure investments and may thus be directly linked to the limited potential for mitigation activities in Tanzania.

Climate finance channels

Main multilateral sources of finance are channelled through the GEF and LDCF[27]. Involvement of the GCF in Tanzania remains limited due to administrative burdensome procedures[28]. A portion of multilateral support to adaptation is channelled to sub-national governments through a district-level (devolved) climate finance mechanism, a pilot funded by the IIED and the UN Capital Development Fund (UNCDF). Indeed, similar to Kenya, Mali and Senegal, Tanzania entrusted pilot district governments to channel climate finance. Pilot communities identify relevant projects, which are then presented by locally appointed individuals to district governments[29]. If projects are accepted, they directly obtain funds from a national Climate Adaptation Fund, itself funded by multilateral international climate

[20] State of the Environment Third Report, Tanzania Vice President's Office, 2019 (Shared by the Ministry of Blue Economy and Fisheries, Zanzibar)
[21] Understanding Climate Finance Readiness Needs In Tanzania, GIZ, 2013, http://africanclimatefinancehub.net/wp-content/uploads/2017/09/giz2013-0657en-climate-finance-tanzania.pdf
[22] East African NBF inception workshop, Republic of Tanzania, 2020, https://unfccc.int/documents/210142
[23] Draft Final Report: Options for a Climate Finance Mechanism/Climate Fund in Tanzania, Evidence on Demand, 2013 (Shared by the Ministry of Blue Economy and Fisheries, Zanzibar)
[24] Framework for a National Climate Change Financing Mechanism for Tanzania, NCFM Technical Team, 2014
[25] Zanzibar Climate Change Financing Mechanism and Resource Mobilisation Plan Final Report, 2016, https://info.undp.org/docs/pdc/Documents/TZA/ZCCFM_%20FINAL%20REPORT%20-20160511.pdf
[26] Understanding Climate Finance Readiness Needs In Tanzania, GIZ, 2013, http://africanclimatefinancehub.net/wp-content/uploads/2017/09/giz2013-0657en-climate-finance-tanzania.pdf
[27] Climate Finance Experience SADC NBF workshop, Republic of Tanzania, 2019, https://unfccc.int/documents/209322
[28] East African NBF inception workshop, Republic of Tanzania, 2020, https://unfccc.int/documents/210142
[29] https://www.iied.org/local-climate-finance-mechanism-helping-fund-community-prioritised-adaptation see also https://www.greenfinanceplatform.org/sites/default/files/downloads/resource/Devolved%20Climate%20FInance.pdf

finance (ICF). This mechanism has the advantage to reduce transaction costs when identifying adaption priorities, and to fulfil the multilateral funds' appraisal criteria on local participation and involvement of women. However, despite social benefits and strong returns on investment, national budgets remain quite rigid to avoid mismanagement and maladaptation, hampering the development of projects[30].

Key bilateral partners include Japan, Germany, Norway, the United States and the United Kingdom. These partners all established bilateral programs or funds for Tanzanian climate action[31], including programs for research development[32]. Similar to bilateral fast-start finance, most bilateral support covers mitigation activities and capacity building[33].

Dedicated funds complete these channels with a focus on resources management, such as through the Tanzania Forest Fund (2010), the Rural Energy Fund (2005) and the Eastern Arc Mountains Conservation Endowment Fund (2001).

Private sector engagement

Private sector engagement remains limited in climate finance and is not systematically tracked[34]. A first reason is the structural division between public policies and private actors: the absence of private parties in policy development derives in a lack of communication between public and private spheres at the planning and project development phases[35]. Furthermore, it can be suggested that the private sector participation could be sought more actively if projects were to develop in strategic sectors (valorization of waste to energy, alternative charcoal, hydropower)[36], building on the existing experience in PPPs[37].

[30] Resilience Building in Tanzania: Learning From Experiences of Institutional Strengthening, IIED, 2015, https://pubs.iied.org/sites/default/files/pdfs/migrate/10129IIED.pdf
[31] Framework for a National Climate Change Financing Mechanism for Tanzania, NCFM Technical Team, 2014
[32] Stocktaking Report for the Review of the National Climate Change Strategy (2012-2018), Vice President's Office, 2020 (Shared by the Ministry of Blue Economy and Fisheries, Zanzibar)
[33] Fast-start Finance, UNFCCC, https://unfccc.int/climatefinance/fsf/recipients
[34] Framework for a National Climate Change Financing Mechanism for Tanzania, NCFM Technical Team, 2014
[35] Stocktaking Report for the Review of the National Climate Change Strategy (2012-2018), Vice President's Office, 2020 (Shared by the Ministry of Blue Economy and Fisheries, Zanzibar)
[36] East African NBF inception workshop, Republic of Tanzania, 2020, https://unfccc.int/documents/210142
[37] Understanding Climate Finance Readiness Needs In Tanzania, GIZ, 2013, http://africanclimatefinancehub.net/wp-content/uploads/2017/09/giz2013-0657en-climate-finance-tanzania.pdf

3. Main Findings

This Chapter presents the main findings of the evaluation in the form of answers against the evaluation questions. It is structured around the six evaluation questions (EQs) which provided the general analytical framework for this evaluation.

3.1. Relevance - Alignment with global and national climate challenges - EQ1 and EQ2

3.1.1. EQ1: Belgian contribution to climate change adaptation and mitigation

Summary of findings:

- The focus on climate adaptation in Tanzania is in line with global priorities to increase adaptation finance for LDCs[38] (in Tanzania, there are no bilateral energy-related interventions by Belgium except for the indirect investment of BIO in AREF which takes place at the Tanzanian-Ugandan border).[39]
- There is evidence of alignment of the interventions with Belgium's focus on strengthened capacity in LDCs (strong capacity building component at the local level), SDG-13 (adaptation and mainstreaming with focus on agricultural resilience, food security, natural resources management) and to a lesser extent mitigation (renewables and carbon capture in forest). Moreover, synergies between climate action and humanitarian aid exist.
- Four out of the five selected Belgian interventions have a Rio Marker 1 (the BIO project has a Rio Marker 2), which means they have climate action as a sub-objective, but to what extent the interventions have been adapted over time to prioritise action on climate finance varies strongly per project.
- To date, there is no evidence of private sector co-financing for Belgian climate action in Tanzania.

For the Enabel-led projects in Kigoma (NRM4LED and SAKiRP), no specific climate focus existed at the project identification stage. This can be explained by the fact that the priorities of the Belgian Development Cooperation at the start of these projects were, amongst others, environmental resource management and local economic development.[40,41] The final evaluation of the NRM4LED project concludes that the project was highly relevant for these Belgian priorities, as it contributed to environmental protection with a bottom-up approach to provide local communities with ownership over the management of forests, lakes and ecosystem practices (e.g., bee keeping).[42] For the NRM4LED project, however, an increased climate focus has not been developed over the years.

[38] Green Climate Fund (2020). GCF in brief: Adaptation Planning. Retrieved from: https://www.greenclimate.fund/document/gcf-brief-adaptation-planning
[39] MMR Database (2013-2019).
[40] FPS Foreign Affairs (2017). Strategy note 'Agriculture and food security'. Retrieved from: https://diplomatie.belgium.be/sites/default/files/downloads/strategic_policy_note_agriculture_and_food_security_2017.pdf
[41] FPS Foreign Affairs (2014). Strategy note 'Environment in the Belgian Development Cooperation'. Retrieved from: https://diplomatie.belgium.be/sites/default/files/downloads/Strategy_note_Environment.pdf
[42] End-Term Review NRM-LED (Shared by Enabel).

In the SAKiRP project, the need for climate action has adjusted the project's strategic orientation since 2017 from a climate resilience point of view. Considering the vulnerability of beans production to climate variability, sunflower was adopted as a third value chain to increase farmers' chances of getting a successful crop during the second and short farming season.[43] Moreover, Climate Smart Agriculture (CSA) practices have been introduced in all three value chains through capacity building trainings. Finally, the annual results report (2020) points out to a mitigation-measure of promoting stone arch bridges as a low carbon alternative to conventional reinforced concrete bridges. Although the main objective of developing the stone arch bridges came from a need to open up certain production areas on a cost-effective way, the carbon footprint of stone arch bridges is 80% less than conventional reinforced concrete bridges.[44]

Source: ADE

Photo 1 - SAKiRP, stone arch bridge

As mentioned in an interview with a representative of Enabel, a stronger climate focus has been developed over the last 1.5 years within Enabel's interventions, which is partly due to the accreditation of Enabel to the Green Climate Fund (GCF). Tanzania is, however, not included in the GCF-Enabel work programme ("entity work programme"). This is because selection and prioritisation were needed. Enabel did not consider Tanzania as a country holding most potential for climate action, notably because the government has not set a strong direction for climate and partners' action during the past years, and as a consequence of the Belgian decision to put a hold on any new development cooperation activities in Tanzania.

The Bos+ project has a similar focus to the NRM4LED project in the sense that it focuses on community-led environmental protection but has a clearer focus on climate adaptation (combatting forest degradation and deforestation) and to some extent mitigation through carbon capture of trees in tree planting programmes. The project reflects the environmental-related objective of the Geographical Joint Strategic Framework of Belgian Development Cooperation of Tanzania, which focuses on, amongst others, participatory approaches to mainstream climate change, the sustainable use of natural resources and protection of ecosystems into capacity building-activities.[45]

BIO's indirect investment in the Kikagati Hydropower project through the African Renewable Energy Fund (AREF) also matches the Belgian priorities of local economic development. Compared to the other selected interventions, the **climate relevance is high** as the fight against climate change and preservation of natural resources is one of the four development impacts of the project. As explained in an

[43] SAKiRP Annual Results report 2020 (Shared by Enabel).
[44] Ibid
[45] Joint Strategic Framework of Belgian NGA's active Tanzania (n.d.). Retrieved from: https://cdn.vliruos.be/vliruos/3656f9624be718020e542fb284e20f55.pdf

interview with a representative of BIO, a balanced amount of BIO's equity portfolio is spent on renewable energy next to other strategic priorities of financial inclusion, agriculture value chains, health and education). The rationale for the investment in the AREF is based on this strategic priority. Moreover, it matches the strategic priority expressed in the policy note of the current Minister of Development Cooperation, in which, in addition to the priority of adaptation finance in LDCs, the role of the private sector for investments in access to clean energy is emphasised. Overall, Tanzania benefits from two multilateral energy projects (the AREF and the Beyond The Grid Solar Fund) though no Belgian bilateral energy-related investments have taken place in Tanzania in the period 2013-2019.

The Oxfam Solidarité DRR programme matches the strategic priority of Belgian Development Cooperation to focus on synergies between climate action and humanitarian aid.[46] The programme was due to end in November 2017. The request for a no-cost extension until May 2020 was granted by DGD[47], and remains relevant for the priorities of the cabinet of the current Minister of Development Cooperation.[48]

Based on the analysed projects, private sector investments in climate action remains a strategic gap for the Federal Belgian government. Although several projects focus on the local private sector as beneficiary, such as SAKiRP and the BIO investment in the hydropower plant on the Tanzanian-Ugandan border, there has been no/low evidence of private sector co-financing in climate action.

3.1.2. EQ2: Alignment with national and local objectives (local context, expected impact, etc.)

Summary of findings:

- Belgian interventions in Tanzania are aligned with the climate mitigation and climate adaptation objectives as identified in Tanzania's First NDC, with a larger focus on adaptation compared to mitigation.
- Belgian interventions in the context of DRR are particularly relevant for national and local climate risks and consequences of refugee influx.
- The agricultural focus of Belgian interventions matches the national policies, although agricultural objectives are not necessarily aligned with climate objectives.
- Generally, high evidence exists of bottom-up community-based and participatory approaches of Belgian interventions for the selected projects, which add to the alignment with local objectives.
- The added value of Belgian interventions for climate action is strongly visible in the agricultural sector and is characterised by the strong presence of Enabel and NGOs in the field. This is the case for the adaptation projects rather than for mitigation projects.

BIO's indirect investment in the hydropower plant on the Tanzanian-Ugandan border matches the climate mitigation objectives of Tanzania as expressed in its First NDC for the Energy sector: (1) Exploring and investing in the **energy diversification** system to ensure overall energy security for economic development through enhanced **availability, affordability and reliability** while contributing towards energy **emissions intensity reduction** over time; and (2) Promotion of **clean technologies** for power generation; and diverse renewable sources such as geothermal, wind, solar and renewable biomass.

[46] FPS Foreign Affairs (2018). Climate Vision.
[47] Oxfam Solidarité (2020). Final narrative report DRR in the Great Lakes Region: towards a leading role of local actors. Shared by Oxfam Solidarité.
[48] Minister for Development Cooperation Kitir (5 November 2020). Beleidsverklaring. Ontwikkelingssamenwerking en Grote Steden. Retrieved from: https://www.dekamer.be/FLWB/PDF/55/1610/55K1610018.pdf

The focus of Belgian interventions on climate adaptation compared to climate mitigation aligns with Tanzania's NDC. Overall, Tanzania's First NDC has a large focus on adaptation compared to mitigation, with adaptation covering 37 actions in 9 sectors (agriculture, livestock, forestry, energy, coastal/marine/environment & fisheries, water resources, human settlements, health, tourism), and mitigation covering 14 actions in 4 sectors (energy, transport, forestry and waste).[49]

Particularly for Disaster Risk Reduction**, the Oxfam Solidarité DRR programme in Tanzania shows great alignment with the national DRR priorities**, as it took the Tanzania Disaster Management Act (2015) as a baseline.[50] As explained in interviews with the programme managers at Oxfam Solidarité, the national DRR strategy was "dormant" at the time of project identification. Oxfam Solidarité initiated, together with local NGO's REDESO and CABUIPA, a range of local vulnerability assessments to identify the local climate risks in Tanzania and in the other countries of the programme (Burundi and DRC). Project activities were determined based on these assessments. The outcome for Tanzania was that the Kishapu and Kahama districts in Shinyanga region were targeted, because they are prone to drought and floods. Kibondo was also targeted, because of refugees' influx and associated environmental destruction of forests of farmlands caused by the clearance of these areas to get firewood and other resources.

The large agricultural focus of Belgian interventions matches the national policies, although agricultural objectives are not always aligned with climate objectives. SAKiRP supports the Agricultural Sector Development Strategy and Programme[51], to the extent that it feeds in efforts for heightened productivity, profitability, diversification, and empowerment of local communities. Moreover, a National Climate Smart Agriculture Programme (2015-2025) is present in Tanzania and CSA is also prioritised in its NDC, which mentions the agricultural sector as the backbone of the Tanzanian economy and most vulnerable to the impacts of climate change. Although the focus of Belgian interventions in the agricultural sector are relevant, it was mentioned in an interview with a representative of Enabel as well as with the Embassy that climate change is not seen as a primary topic by the national government of Tanzania. They confirmed that conventional agriculture is still the most supported form of production in Tanzania.

Generally, the Belgian interventions show evidence of bottom-up community-based and participatory approaches, which lead to alignment with local objectives. For the Bos+ and Oxfam Solidarité projects, the alignment with local objectives benefits climate action. For the Oxfam Solidarité DRR project, locally led vulnerability assessments took place to identify climate risks. The project of Bos+ EMSFA has community-based forest management and sustainable and climate-smart land use practices at the core of its scope. For the Enabel-led projects, the alignment with local objectives is not necessarily linked to climate action. The NRM4LED project was based on the national strategy for decentralised NRM. Moreover, the SAKiRP project enhances alignment with local objectives through the focus on local alignment with market dynamics and focus on local economic contributions.

[49] Tanzania Intended Nationally Determined Contributions
[50] Disaster Management Act, Government of Tanzania, 2015. Retrieved from: https://www.preventionweb.net/english/policies/v.php?id=48822&cid=184
[51] Agricultural Sector Development Strategy and Programme, Tanzanian Ministry of Agriculture, 2006

3.2. Coherence of Belgian climate action - EQ3

Summary of findings:

- NGAs show efforts of coordinated action for environmental and climate objectives as specified in their Joint Strategic Framework (JSF).
- Besides the NGAs' JSF, there is no evidence of synergies between federal climate finance operations and Belgian development activities in Tanzania.
- The case studies show no evidence for synergies between interventions of BIO and Enabel. This is partly due to the fact that BIO has no direct operations in Tanzania.
- Belgian actors have created strong partnerships with local implementing organisations and local authorities, as well as with international organisations, but not specifically for climate action in Tanzania.
- Up till this date, there are no NDC Partnership (NDCP) supported interventions of Belgium in Tanzania. Generally, NDCP interventions are believed to enhance synergies and complementarities between different donor interventions in one country.

3.2.1. Synergies

For NGOs, the Joint Strategic Framework (JSF) for development cooperation in Tanzania has an explicit focus on the synergies on environmental- and climate action. Bos+, together with other Belgian NGOs Iles de Paix , Rikolto and Trias, reported on several activities that were aimed at enhancing synergies between the interventions of different NGOs, such as exchange visits, intelligence sharing on the topics of land use planning, soil- and water management and irrigation, and the organisation and the organisation of pilots by the universities aimed at practices to improve climate smart agriculture.[52] Parallel to this, the NGOs have the "right of initiative"[53], which limits the role of the DGD in steering on the content of the JSF, the coordination between the NGOs and their actions.

Besides the NGOs' JSF, there is no evidence of synergies between federal climate finance operations and Belgian development activities in Tanzania. One explanation for this is that the Belgian development cooperation has been focused on Natural Resource Management since the Indicative Cooperation Programme of 2010-2013 rather than on climate finance objectives. The NRM4LED project illustrates that very few Belgian NGOs were active in the Kigoma Region, and none of them in natural resource management. According to the final evaluation report, it would have been interesting to find synergies with the Jane Goodall Institute, an institute focused on protection and conservation, which was complementary to the work of Enabel.[54]

3.2.2. Partnerships

Belgian actors have created strong partnerships with local implementing organisations and local authorities, as well as with international organisations, but not specifically for climate action in Tanzania. In the Oxfam Solidarité DRR Tanzania Project as well as in the Bos+ EMSFA project, Belgian NGAs collaborate with established local NGOs in the regions that have strong links with local authorities (see 3.5. Sustainability). Moreover, Oxfam Solidarité collaborated with the UNHCR and International Red Cross (IRC) for intelligence sharing. SAKiRP collaborated with the World Food Programme, which purchased the production of SAKiRP's beneficiaries for a nearby refugee camps.

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[52] Trias (November 2020). Summary of strategic goals and synergies from the strategic dialogue Tanzania. Shared by BOS+.

[53] Law on Belgian International Cooperation (18 March 2013).Chapter 6 Art. 26 "Non-Governmental Cooperation". Retrieved from: https://www.ejustice.just.fgov.be/mopdf/2013/04/12_1.pdf#Page7

[54] End-Term Review NRM4LED (Shared by Enabel).

BIO's investments through the AREF ensures coordination with climate action of other DFI's. Moreover, as two representatives of BIO explained in the interviews, coordination and intelligence sharing between BIO and other DFI's happens through EDFI: a platform consisting of European DFIs, of which BIO's CEO is a Board member. No concrete examples have been found for Tanzania.

Up till date there are no NDCP-supported interventions of Belgium in Tanzania. Generally, NDCP interventions are believed to enhance synergies and complementarities between different donor interventions in one country. Belgium plays an active role in the NDC Partnership (NDCP), and the programmatic approach of the NDCP is promising for synergies between Belgian actors and donor countries' contributions. In an interview with NDCP representatives it was explained that development actors have a project-based approach, which, in some cases, lacks synergies and complementarities with other climate interventions in the country. The NDCP is seeking synergies and complementarities through a programmatic approach. In an interview the representatives they gave the fictive example that Belgium will provide technical assistance to developing a transport policy in a certain country, and Germany will provide support to building the finance strategy corresponding to it.

3.2.3. Coordination of Belgian climate action

Ensured by the Cooperation department of the Embassy, coordination efforts scarcely address climate activities, notably due to a limited capacity and lower prioritisation of climate change within the FPS Foreign Affairs compared to other themes, such as women empowerment & gender (interview, representative of the Embassy). The organisation of events gathering Belgian actors (e.g. yearly Strategic Dialogue with the members of the JSF) and the diplomatic advice to the DGD (e.g. on climate-related calls for proposals, such as for the agroecology projects developed by We Hub It[55]) constitute the two main dimensions of the Embassy's steering role. The Embassy's coordination role does not apply equally to all Belgian actors. Typically, as the implementing institution for governmental cooperation, Enabel is organically close to the Belgian Embassy, resulting in regular contacts between the two organisations (interview, representative of the Embassy). By contrast, the NGOs' right of initiative and the distance with BIO's Nairobi offices constrain the steering and coordination potential of the Embassy.

3.3. Efficiency of Belgian climate action -EQ4

Summary of findings:

- None of the Belgian actors declared possessing in-house experts on climate change.
- Identification of climate change related risks was conducted in partnership with local NGOs, governments and communities.
- Despite difficulties in measurements, evidence suggests that Belgian climate action is cost-effective, notably due to a strong flexibility, efficient partnerships and the use of market-based approaches.
- Difficulties with local public actors, broad regions for interventions and COVID-19 measures are the main sources of delays during implementation.

[55] We Hub It is a platform launched by Enabel to support digital technologies-based projects in partner countries. In Tanzania, two climate-related projects were supported by We Hub It, the Afriscout (https://www.wehubit.be/en/node/44) and IMAP4CSA (https://www.wehubit.be/en/node/46).

3.3.1. Capacity to address climate change issues

None of the Belgian actors declared possessing in-house experts on climate change. Belgian actors are prone to enshrine climate change into resilience and development projects, rather than to develop specific climate measures. Typically, climate change would be addressed as a hindering factor to development and to economic independence of locals (SAKiRP, DRR Tanzania, EMSFA). In this context, the needs for climate change expertise mainly amounted to knowledge of climate-resilient crops (SAKiRP, DRR Tanzania), to local-level adaptation measures to natural disasters (DRR Tanzania), and to nature-based solutions to mitigate droughts' or floods' effects (e.g. trees planting for EMSFA). However, as flagged by the representative of Bos+, climate action is most efficient when it is generally mainstreamed into projects; for this reason, expertise is more impactful when it is held by the project staff, rather than by devoted climate experts at the organization-level.

At the project development phase, **identification of climate change related risks was also conducted in partnership with local NGOs, governments and communities**. This local knowledge, along with existing plans which identify key climate change related risks, complemented inhouse Belgian expertise. More specifically, they actualise the experience of Belgian development experts, who derive experience on climate change risks from completed projects in equivalent contexts or from platforms for experience-sharing[56]. This is particularly true of NGOs, which develop programs and project approaches in several countries. Projects are then amended and applied in Tanzania, based on risk assessments designed by locals (DRR Tanzania) or on the expertise of local organisations (EMSFA). This type of external expertise does not point to a lack of inhouse capacity, but rather appears as a means to actualize and tailor locally existing Belgian expertise, and to frame climate change as a relevant topic for locals rather than as a donor's concern. For instance, Bos+ complemented its global experience on forestry with the local expertise of the Mpingo Conservation and Development Initiative, a forestry-focused NGO based in Tanzania and Mozambique. Similarly, BIO selects fund managers that have prior on-hand experience with renewable energy projects and in similar projects: in this regard, the regional climatic expertise of the institution appears to be sufficient for assessing applications.

Mainstreaming of climate change activities further depends on the structuring and prioritisation of Belgian actions. For instance, BIO's investment strategy builds on four strategic priorities, and each investment must pertain to one of these four categories. Only 'Energy with a focus on renewable energy and energy efficiency' clearly provides room for BIO's climate mitigative action. In this context, it is difficult to assess whether the lack of climate mainstreaming in all activities is a consequence of a lack of internal climate-related expertise or the strategic direction of BIO.

Interviewees representing Oxfam Solidarité and Enabel highlight that **expertise is under constant development and has consistently expanded during the period under study**. For instance, Enabel's growing climate change expertise benefitted from the institution's application to the GCF to become an accredited entity. The growing prominence of climate change in NGOs' networks also guided Oxfam Solidarité to develop general expertise to abide by certifications schemes and humanitarian principles. In this regard, the improved capacity of Belgian actors to address climate change issues is not only due to strengthened expertise, but also to a broader awareness related to climatic matters. For instance, although NRM4LED had a direct link to climate change mitigation, the project was developed through a resource management perspective, consistently with the Indicative Development Cooperation Programme for 2010-2013[57]. By contrast, the SAKiRP was initiated in late 2015, and mainstreamed climate concerns, despite its agricultural focus.

[56] For instance, the representative of Bos+ mentions the Draw Down initiative, which repertories concrete solutions for climate measures in a number of sectors, and accessible on https://drawdown.org/solutions/table-of-solutions

[57] Indicative Development Cooperation Programme 2010-2013 Between the Government Tanzania and the Kingdom of Belgium, 2009 (Shared by Enabel)

Although no specific expertise gaps were identified, all Belgian actors interviewed acknowledged that an experience-sharing system or climate change related capacity building would be valuable. In line with this, the representative of the Belgian Embassy indicates that stronger prioritisation of climate change in the Embassy's diplomatic activities would require specific skilling related to climate diplomacy. The representative highlighted that tools providing climate-related content already exist (e.g. the EU Toolbox for Addressing Climate-Fragility[58]), but that their practical use requires training on high-level diplomacy and values advancement.

3.3.2. Cost effectiveness of climate change effects

Cost effectiveness of Belgian action remains difficult to establish. Although all projects under review appear to have yielded climatic benefits, whether through avoided emissions or strengthened resilience, they were sub-objectives to the main results of the projects. For this reason, they were not directly measured. Precise assessments of climate change related results are also hindered by the recency of the projects[59]. Typically, impacts of interventions related to forest restoration (NRM4LED, EMSF) reveal several years after the end of the projects.

However, **evaluations and interviews with Enabel, Bos+ and Oxfam Solidarité suggest that the five Belgian interventions were cost-effective.** Three main explanatory factors were found consistently across the projects:

1. SAKiRP, NRM4LED, DRR Tanzania and EMSF used **partnerships** as a means to develop synergies, which indirectly reduced costs. The use of existing institutional and social structures (e.g. lead farmers, farmers organisations, local radios, etc) avoided duplications and additional investments. For instance, SAKiRP resorted to local lead farmers to spread awareness and skills among the most marginalized. Partnerships with parallel projects also allowed the maximization of available resources. For example, Bos+ partnered with the Mpingo Conservation and Development Initiative to decrease mortality rates of planted trees.

2. **Flexibility** was also identified as a strength to ensure cost-effectiveness. When faced with issues, Belgian actors have the possibility to amend projects at a large scale to reach initial objectives. For instance, Bos+ withdrew from a village that did not take-up the project's measures to shift towards another community, and Enabel enlarged its support to the sunflower value chain. Initial results from interviews at the NDC Partnership level also suggest that flexibility is identified as an asset of Belgium in international climate finance, with funds following the needs identified by beneficiary countries.

3. In the case of projects conducted by BIO and Enabel, **market-based approaches** (investment and co-guarantee fund mechanism) further enhance cost-efficiency, by ensuring that financial resources yield additional climate-related benefits. Indeed, they mainstream and quantify environmental and climate matters in projects, both for the mitigation of adverse impacts and the delivery of GHG emissions avoidance.

On the other side, **the breadth of regions supported and the delays in partnerships with public institutions were pinpointed as recurrent limits to cost-effectiveness**. In the case of NRM4LED, villages supported by the project were not adjacent, leading to thinly spread resources to a large region, and local conflicts limited the impact of Enabel's action[60].

[58] The toolbox provides content for strengthening resilience and inclusive governance specifically in contexts where climate change effects threaten stability and peace-building. The toolbox may be retrieved from: https://climate-diplomacy.org/sites/default/files/2020-10/Toolkit_Addressing%20climate-fragility%20risks_Toolbox%20%283%20of%203%29.pdf

[59] Report of the End-term Review, NRM-LED, 2020 (Shared by Enabel)

[60] Report of the End-term Review, NRM-LED, 2020 (Shared by Enabel)

Another limit to cost-effectiveness was the lack of a clear mandate for Enabel to provide micro finance to enhance local private sector development. For SAKiRP, Micro-finance was identified as a relevant final instrument to enhance private sector development, but DGD considered micro-finance not to be part of Enabel's modalities and considered a risk of overlap with BIO's mandate. DGD vetoed the Vision Fund grant mechanism to increase farmers' credit access, as Vision Fund was already supported by BIO's loan in Southern America, thus removing the possibility to support Vision Fund with a grant. Although an alternative financial mechanism was found in 2019 by introducing an in-kind revolving loan mechanism to provide farmers with access to credits, the turn down of the micro finance instrument caused severe delay in the project.[61] A concrete solution for the limits of Enabel's mandate to support the private sector was the co-guarantee fund (see box 1). Although it currently holds no explicit link to climate action, it could potentially be used to prioritise funding for CSA practices.

Box 1: The co-guarantee fund, a potential tool for supporting private finance for CSA practices

The co-guarantee fund was established under the SAKiRP project to enhance financing of private investment into smallholders. Although it has no direct link to CSA practices up till date, it holds potential to efficiently finance CSA-related investments.

The fund is an answer to the limits of Enabel's mandate to support the private sector. Acknowledging the need to reduce risks for private investment into smallholders, and the specificity of Enabel's mandate (Enabel cannot provide microfinance and grants to one beneficiary[62]), a 300.000€ fund was established in 2020.

- **Functioning.** Enabel attributed a grant to Trust PASS, a private agricultural support trust. A grant agreement clarified the criteria for the attribution of co-guarantees to smallholders, such that Trust PASS supports smallholders access to financial services, while focusing on Enabel's supported value chains (cassava, sunflower, bean) and priorities (e.g. environmental concerns).
- **Assets.** This system combines the developmental added-value of Enabel's action with the benefits of tools for private sector development. Additionally, the strengthening of agricultural investment may hold potential for climate action. Indeed, initial experience in agriculture suggests that the co-guarantee fund is efficient at prioritising locals' needs. This prioritisation is likely to verify for adaptation measures, and could provide an efficient manner to identify and finance climate actions. Further experimentation and research efforts should focus on testing this hypothesis.

Cost-effectiveness and overall efficiency of projects have also been affected by the COVID-19 crisis. Interviews with representatives of Bos+ and Enabel reveal that the limited opportunities to gather communities, especially when those are particularly threatened by the virus, and the delays incurred by sanitary measures in the construction sector (interview, representative of BIO) cause delays in Belgian action. In the case of DRR Tanzania, activities were partly reoriented towards medical action and support to sanitary resilience[63], illustrating the flexibility of Belgian action. More generally, projects integrated in broad networks, such as the SAKiRP that links up with foreign agricultural markets, are hindered by a weakened economic outlook[64].

[61] SAKiRP Annual Results report 2019 (Shared by Enabel).
[62] Interview, representative of Enabel. See also SAKiRP Annual Results report 2019 (Shared by Enabel).
[63] Final Narrative Report DRR Tanzania, 2020 (Shared by Oxfam Solidarité).
[64] SAKIRP Annual Results Report, 2020 (Shared by Enabel).

3.4. Effectiveness and Impact of Belgian climate action - EQ5

Summary of findings:

- Belgian climate action mainly addresses climate adaptation needs, except for BIO's investment through the AREF. Climate mitigation results are therefore mainly co-benefits of climate adaptation-focused projects.
- The diversity of instruments used by Belgian actors enables them to tackle diverse climate-related risks and to broadly mainstream climate change, even if results are not flagged as climate relevant.
- Monitoring systems are project-specific, and it depends per project whether monitoring systems target climate-related results. Moreover, a general monitoring and evaluation framework is not shared among or within institutions.

3.4.1. Climate adaptation and climate mitigation results (obtained through Belgian climate finance)

Among the five projects reviewed, evaluation documents show that **Belgian actors mainly delivered climate adaptation results.** Actions conducted by Oxfam Solidarité, Bos+ and Enabel (SAKiRP) primarily strengthened the resilience of communities. **Resilience was enhanced broadly**: communities were equipped to diversify their sources of revenues despite changing climatic conditions (notably with climate-resilient crops), and systems were developed to manage climate-related disasters. Oxfam Solidarité built on existing Tanzanian preparedness programs to ensure proper implementation through early warning systems and emergency infrastructure (data centres, food shelters)[65]. Similar to Bos+, Oxfam Solidarité also developed natural buffers to mitigate the impacts of droughts and floods. In EMSFA and DRR Tanzania, following trees planting efforts, positive impacts were observed by the local NGOs representatives interviewed, including the increase of available water volumes (evolution depicted on Photo 2) and the renewed practicability of streets during the wet season.

Source: MVIWATA Arusha & MCDI

Photos 2, 3 and 4 - EMSFA, springs rejuvenation

Adaptation results were also indirectly reached through the positive effects of capacity building and training programmes on resources protection. Evaluation reports for the NRM4LED, EMSFA and DRR Tanzania show that the projects infused sustainable management practices in local communities (including through the creation of environmental management groups and education in schools) and local authorities. Reduced logging was observed in the three projects, but progress is hindered by economic needs (especially following the COVID-19 crisis) and by encroachment. Similar to SAKiRP, the impacts of new cooking methods and improved agricultural productivity are also likely to have deterred logging, yet are difficult to confirm.

[65] Mid-term Review DRR Tanzania, 2019 (Shared by Oxfam Solidarité).

Although BIO's financed project was the only one with an initial rationale on avoided CO_2 emissions, EMSF, DRR Tanzania, NRM4LED and SAKiRP all yielded climate mitigation co-benefits. The use of saving cooking stoves (DRR Tanzania), the building of stone arch bridges (SAKiRP), the protection of forests (NRM4LED), the replacement of firewood by biogas and the planting of 50.000 trees per year (EMSFA) suggest that all Belgian interventions studied participated to Tanzanian mitigation efforts.

Co-benefits associated with Belgian development cooperation priorities, such as gender equality (Box 2) and private sector development, were identified. Both directly relate to the objectives of SAKiRP and the Kikagati hydropower facility, whereas DRR Tanzania, EMSF and NRM4LED rather focused on gender equality. **BIO's investment targets the socio-economic impact of additional energy capacity that benefits the local population** (though the indicator 'equivalent of people provided with energy'). Since the project will only be completed in 2021, it is too early to assess this achievement.

Box 2: Co benefits of climate action for women and vulnerable groups[66]

The evaluation finds several examples of mainstreaming of gender equality issues in climate relevant projects.

Mainstreaming was observed in the documentation of all interventions at the levels of project design (e.g. number of jobs created for women in the Kikagati project, 65% target of women beneficiaries in the SAKiRP) and during implementation, with actions directly targeting women (e.g. entrepreneurial skilling in the DRR Tanzania, support to value chains involving women and accommodating timeslots of activities in the SAKiRP).

Although positive and differentiated impacts for women were observed across projects, their exclusion from decision-making processes remained difficult to tackle. Tangible benefits encompassed the access to financial services and increased revenues (DRR Tanzania, SAKiRP[67]), an improved knowledge of resources management (NRM4LED[68], EMSFA[69]), and higher security (DRR Tanzania[70]). However, women's position in economic[71] and community networks remained negatively affected by deeper cultural trends[72]. Typically, the NRM4LED proved that a strong involvement of women in projects' activities does not systematically translate into a stronger involvement in decision-making processes[73].

Apart from the EMSFA, which explicitly targeted the youth as a key beneficiary population (e.g. specific indicators for youth entrepreneurship, awareness-raising in schools)[74,] interventions did not target other *specific* vulnerable groups than women aside of the main beneficiaries (e.g., smallholder farmers in the SAKiRP, people without access to affordable and reliable energy in the Kikagati, villagers surrounded by degraded land in the EMSFA and NRM4LED, and communities affected by natural and human-led catastrophes).

All examined projects support economic activity (see 4.5.). Nonetheless, the engagement of the Tanzanian private sector requires active efforts of networking, feasibilities studies, added-value creation and financial services mainstreaming, such that **only the SAKiRP fully delivered private sector co-benefits**. However, from a development perspective, other projects participated to build an enabling environment for further private sector growth. BIO's indirect investment supports Tanzanian goals for

66 As defined Revised Evaluation Criteria Definitions and Principles for Use, OECD-DAC, 2019, Retrieved from https://www.oecd.org/dac/evaluation/revised-evaluation-criteria-dec-2019.pdf
67 SAKiRP Annual Results report 2019 (Shared by Enabel).
68 Report of the End-term Review, NRM-LED, 2020 (Shared by Enabel).
69 Tanzania Programme, 2018 (Shared by Bos+).
70 Disaster Risk Reduction Phase I Project (DRR-1) in the Lake Region Final Evaluation, 2020 (Shared by Oxfam Solidarité).
71 SAKIRP Annual Results Report, 2020 (Shared by Enabel).
72 SAKiRP Annual Results report 2019 (Shared by Enabel).
73 Report of the End-term Review, NRM-LED, 2020 (Shared by Enabel).
74 Tanzania Programme, 2018 (Shared by Bos+), Mid-term evaluation Tanzania Programme, 2019 (Shared by Bos+).

electrification, which were clearly identified as a means to support businesses (Five-Year Development Plan[75]). DRR Tanzania equipped women with business skills, resulting in tangible improvements in loans accessibility.

More broadly, the effectiveness of private sector building must be understood in the context of the deteriorated Tanzanian business environment, which hinders the investment climate (interviews, representatives of Berkeley Energy, of Enabel, and of the Embassy).

Climate action was progressively mainstreamed throughout the studied period, although not flagged as such. Projects developed after 2017 mainstreamed climate concerns from the development phase (DRR Tanzania, EMSFA, Kikagati) or after amendments (SAKiRP, with the inclusion of the sunflower value chain in 2019[76]). Interviewees all showed a strong awareness of climate-related risks and mitigation needs. In practice, only the Kikagati hydropower facility and the EMSFA directly targeted climate-related results, whereas climate matters were tackled as contextual factors in DRR Tanzania and SAKiRP. Furthermore, **mainstreaming efforts appear sufficiently supported by the variety and flexibility of financial resources offered by Belgian actors**. The five projects under review present a series of instruments -technical assistance, capacity building, loans, guarantees, grants- which, combined, cover all the types of needs identified in evaluations and interviews. In this regard, the extension of Enabel's mandate through the establishment of the co-guarantee fund mechanism is a critical evolution. Although it does not directly address climate matters, it opens room for a strengthened adaptation impact. This evolution answers directly to development and climate-related needs for investment in the private sector. The variety of tools and instruments has proven necessary to deliver the diverse adaptation results identified in this section. and must therefore be deemed as an asset for Belgian cooperation. Despite this combination, **institutions do not appear to actively develop a portfolio approach**. For instance, Enabel and BIO experts acknowledge the complementarity of the two institutions, with the former creating enabling environments which are in principle conducive for the latter's investments, but no interviewee pinpoints clear areas or sectors for collaboration. On the NGO side, Bos+ and Oxfam Solidarité develop projects at a sub-national scale and based on local needs, hindering the construction of a high-level portfolio approach.

In terms of implementation, clear targets and local sourcing appear as the most effective instruments to deliver tangible adaptation and mitigation results. All projects score well or reasonably well on their core objectives, with high levels of expected sustainability. Setting clear goals or climate related key objectives from the inception phase of projects may thus be considered as the most effective manner to obtain results. Local sourcing was also pinpointed by CRR Tanzania, EMSFA and SAKiRP developers as an efficient method to mitigate emissions, although no measure of additional mitigation benefits was conducted.

3.4.2. Monitoring and evaluation of climate action

Tools for monitoring revolve around theories of change (ToC), quantitative and qualitative targets, and associated indicators, which differ per project.

Unless projects directly aim at mitigating climate change (Kikagati facility, EMSFA), **monitoring systems do not include specific indicators to measure the impact of climate action.** Where projects supported by BIO and Bos+ entail indicators for stored and avoided CO_2 emissions, other projects include indicators to measure increased resilience, which may be used indirectly to evaluate climate action. They cover governance and sustainable practices (NRM4LED, EMSFA), sustainable agricultural practices (SAKiRP), environmental impacts of locals' investments (co-guarantee fund under the SAKiRP), disaster preparedness (DRR Tanzania). The DRR provides an example of best-practice in the determination of quantitative targets for adaptation (e.g. '*9 participative mitigation plans are established taking into account differences in vulnerability*', '*at least 3 local Early Warning Systems are (re)activated and a protocol is agreed between the stakeholders*'[77]).

[75] Second Five-Year Development Plan, 2016, http://extwprlegs1.fao.org/docs/pdf/tan166449.pdf
[76] SAKIRP Annual Results Report, 2020 (Shared by Enabel).
[77] Disaster Risk Reduction Phase I Project (DRR-1) in the Lake Region Final Evaluation, 2020 (Shared by Oxfam Solidarité).

Projects developed within programmes, or parallel to similar undertakings (Kikagati facility, DRR Tanzania, EMSFA, SAKiRP), are partly monitored with generic indicators (e.g. avoided CO_2 emissions, number of recipients, number of local plans drafted, agricultural yields). However, each project is followed-up with a unique set of indicators, reflecting both its contextual specificities and the absence of unified monitoring systems among - and within- Belgian institutions. Only Bos+ declared being interested and developing such an internal system.

3.5. Sustainability of Belgian climate action - EQ6

Summary of findings:

- Generally, the examined projects are likely to deliver sustainable institutional, economic and climate results.
- The strong links between projects and local needs, revealing in tight partnerships with local organisations, practical co-benefits and economic development, are key sources of sustainability. By contrast, the Tanzanian political context is the major limitation to the sustainability of Belgian interventions.

Climate change was not the primary reason to undertake the examined projects except for the BIO project. In these cases, sustainability of climate actions was therefore not assessed per se, although climate-related results were observed. For instance, the DRR Tanzania project is likely to have had a sustainable impact on local resilience: take-up of measures was high, institutional structures were built for preparedness, saving cooking stoves were set and agricultural revenues increased[78]. **Adaptation benefits are thus likely to be sustainable, although flagged as social resilience results.**

Overall, Belgian actions appear sustainable, for climate change matters and beyond, in line with the 'leave no-one behind' principle[79]. More specifically, three key drivers of sustainability can be identified in the interviews and project documentation:

Local partnerships are a first key explanatory factor. The engagement of Tanzanian authorities (national, regional and district governments) and inclusion of national plans (Preparedness national plans for DRR Tanzania, national energy production goals for SAKiRP and the AREF, forestry policies for NRM4LED) strengthened the take-up of Belgian actions and ensured the enforcement of projects' measures (interviews, representatives of Oxfam Solidarité, Bos+ and Enabel). In addition, DRR Tanzania, SAKiRP and EMSFA actively provided business- and climate-related skills to local governments and NGOs, contributing to enhance their adaptability to new contexts, and indirectly to the sustainability of the projects. This local ownership approach was clearly identified as a source of institutional, social and political sustainability in reports and interviews related to NRM4LED, DRR Tanzania and SAKiRP. Evaluation reports and respondents in the interviews underlined that these results required active human resources management. Based on the set of studied projects, it may also be concluded that Belgian actors have progressed during the implementation phase in their ability to make a full use of local authorities to sustain their impacts. Indeed, the main factors hindering sustainability identified in NRM4LED were not mentioned in projects that took place in later years. Issues of translation from English to Swahili or of important costs associated with the enforcement of resources protection appear to have been considered in later projects.

Secondly, more specifically to climate change impacts, the existence of co-benefits is another major source of sustainability. In the DRR Tanzania project, the set-up of efficient cooking stoves benefited the security of women and girls, who can avoid multiple walks to fetch firewood[80]. Similarly, interviews with EMSFA local representatives

[78] Interviews, representatives of Oxfam Solidarité. See also Disaster Risk Reduction Phase I Project (DRR-1) in the Lake Region Final Evaluation, 2020 (Shared by Oxfam Solidarité)

[79] Revised Evaluation Criteria Definitions and Principles for Use, OECD-DAC, 2019, Retrieved from https://www.oecd.org/dac/evaluation/revised-evaluation-criteria-dec-2019.pdf

[80] Disaster Risk Reduction Phase I Project (DRR-1) in the Lake Region Final Evaluation, 2020 (Shared by Oxfam Solidarité)

revealed that the trees planting yielded practical co-benefits of soil stabilisation. As a consequence, markets places and major streets became accessible during raining seasons. This immediate and tangible benefits are likely to sustain changes in communities. By contrast, practical issues related to land encroachment (vested interests, conflicts, limited linkages between the project and national policies) limited the NRM4LED impact and overall sustainability.

Thirdly, the diversification of revenues supported economic sustainability in NRM4LED, EMSFA, SAKiRP, and DRR Tanzania. In four cases, diversification occurred through new primary products drawn from beekeeping, agriculture (cassava, sunflower), and sylviculture. Evaluation reports specify that the sustainability of these additional revenues still depends on future climate change impacts, foreign prices, and the legal status of smallholders, whose ability to contract loans is limited in the informal sector[81].

The sustainability of BIO's indirect investment in the Kikagati hydropower facility follows different patterns. There, mid-term sustainability does not rely on complex socio-institutional factors found in SAKiRP, NRM4LED and DRR Tanzania. Once the Kigagati project is completed and commercial operations have started, the plant will sell the electricity to the national utilities of Uganda and Tanzania for further distribution to end clients. Based on the expected electricity generation and sales, and utility on time payments, the sustainability of the project is evidenced. However, after 20 years of commissioning, the plant will be owned by the Ugandan government (interview, representative of Berkeley energy). The agreement of a 50/50 share of the energy produced by the plant between Tanzania and Uganda will then go beyond Berkeley Energy's mandate. In this regard, it is difficult to assess the longer-term sustainability of the project for Tanzania specifically.

Except for NRM4LED, all projects addressed sustainability from the design phase. The chosen sustainability proxies for measurement covered employment (BIO), local empowerment (SAKiRP), and trees species (EMSFA). Sustainability appears to be of growing interest for Belgian actors, with SAKiRP and DRR Tanzania developing second phases specifically for enhancing the sustainability of the first phases' impacts (interviews, representatives of Oxfam Solidarité and Enabel).

Nonetheless, the regulatory and political Tanzanian context were identified as a major barrier to the sustainability of cooperation action (interviews, representatives of Berkley Energy, Enabel and of the Belgian Embassy). The declining business environment and the non-prioritisation of climate change were flagged by interviewees as direct threats to environmental protection and development support to climate and development interventions. The recent example of the construction of a hydropower plant in the Selous Game reserve, a world heritage site[82], suggests that the Tanzanian national policies hinder the sustainability of donor interventions. Enabel provided support for environmental management in the same area[83], of which the sustainability is now not ensured.

[81] SAKiRP Annual Results Report, 2019 (Shared by Enabel)

[82] The true cost of power, the facts and risks of building Stiegler's Gorge Hydropower Dam in Selous Game Reserve, Tanzania, 2017, Retrieved from https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/WWF-Report-Selous-True-Cost-Of-Power.pdf

[83] Kilombero and Lower Rufiji Wetlands Ecosystem Management Project, KILORWEMP, Retrieved from https://openaid.be/en/project/xm-dac-2-10-3011296

4. List of annexes

Annex A Projects overview

Annex B Detailed project sheets

Annex A Projects overview

	Sustainable Agriculture Kigoma Regional Project (SAKiRP)	Natural Resources Management for Local Economic Development	African Renewable Energy Fund - Kikagati Power	Disaster Risk Reduction in the Great Lakes Region	Environmental management of strategic forest areas on a sustainable, inclusive and participatory way
Actor	Enabel	Enabel	BIO	Oxfam Solidarité	Bos+
Code	TAN1403111	TAN1302911	Africa Renewable Energy Fund	XM-DAC-2-10-1274	XM-DAC-2-10-2472
Calendar	25/11/2015-21/11/2021	11/03/2014-10/03/2021	10/2014	01/12/2017-01/12/2019	01/01/2017-31/12/2021
Belgian contribution	8.000.000€	5.000.000€	1.700.000€	1.309.704€	1557.604€
Objective	To contribute towards increased local economic development and wellbeing of smallholders in Kigoma region through sustainable agriculture development	To ensure that ecosystem resilience is maintained to sustainably provide socio-economic and environmental benefits to local communities in Kigoma Region	To invest in renewables in Africa through equity. For the Kikagati project, build a 16MW hydropower facility	To support communities to develop their preparedness when facing recurring shocks (protect their lives and means of earning an income), and mitigate risks impacts	To improve the livelihoods of rural communities in Northern Tanzania, by promoting and facilitating community-based forest management and sustainable and climate-smart land use practices (agro-forestry)
Climate relevance	Medium. Climate variability taken as a contextual condition for selecting locations and supported crops, and potential climate-related side benefits,	Medium. Climate taken as a factor influencing the project implementation, but the forest management basis of the project supports	High. Climate change mitigation identified among the 4 key impacts	High. Climate change impacts (mainly droughts and floods) taken as a contextual condition to establish preparedness plans. Builds resilience to	High. Forest conservation and agricultural practices support climate change mitigation

	construction of bridges with a limited carbon footprint, inclusion of environmental assessments when providing guarantees	climate change mitigation.		climate change. Implementation of the 'no-harm principle' (sound management of local resources, use of hybrid motors in wells, etc)	
Alignment with local objectives	High. Supports the goals of the national Agricultural Sector Development Strategy and Programme, and supports the national shift to oil substitutes	High. Supports and replaces elements of the national programme for Decentralized Nature Resources Management	High. Supports electrification	High. Builds on and completes Tanzanian responsiveness plans	High. Forests are the main carbon sink identified in Tanzania NDC. Project's relevance built on the National Forest Policy and the National Forest Programme
Partnerships	Yes. Collaboration mechanisms with new projects in SAKiRP regional stakeholder meetings, shared use of agricultural equipment, joint funding of agricultural manuals, purchase of SAKiRP production by the World Food Programme, sale agreements with a company for the sunflower production, implementation of the guarantee mechanism by PASS Trust	No. Limited potential due to the low number of projects and their humanitarian focus. Unfulfilled potential with the Jane Goodall Institute and fisheries-related projects	Yes. Managed by Berkeley Energy, itself supported by BIO's counterparts (FMO). Support from the KfW-led GETFiT programme	Yes. Collaboration with the government, NGOs, local radios and meteorological institutes for local implementation, coordination with the DGD at a Tanzanian scale	Yes. Experience of the NGOS Trias and Vredeseilanden used to develop the project Implementation and monitoring ensured by partner NGOs and farmers associations. Emphasis on the synergy potential in the JSF context from the inception phase

Efficiency	High. Efficiency in adapting to local conditions and budget	Low. Budget thinly spread across a broad region, limited use of Internet based tools to secure tenures, administrative delays, conflicts, restricted budget	Difficult to estimate for implementation phase, as project is still under construction. For the developing phase, the fund manger described it as long and costly. The initial contractor was not suitable and another one selected. Considerably more expenses than planned.	High. Low costs and avoided the creation of dependency on donors (e.g. locals conducted risk assessments).	Average. Costs within normal range for equivalent projects.
Effectiveness & Impact	Medium to high. Positive results in the uptake of sustainable farming techniques and in local government strengthening. Impacts limited by the project reorientation (change in value chains supported) and issues with Enabel's mandate (overcome with the co-guarantee fund), difficulties in structuring the private sector.	Medium. Observed level of conflicts decreasing, satisfactory rate of acceptance of the Land Use Plans and land titles developed, high awareness related to sustainable management. No prioritisation of the most degraded land, sustainable management hindered. by low financial resources.	Not relevant. Project under construction	High. Strong uptake of preparedness measures and tangible results in institutional capacity building. Positive results observed in economic development, particularly among women and in the agricultural sector.	High. Project was partly relocated, following issues of implementation in one of the beneficiary villages Project on track to meet its objectives. Reduced local conflicts, increased agricultural production, 50.000 trees planted.
Climate-related monitoring	Inexistent.	Complex indicators with unclear list of	GHG emissions avoidance, KPIs for	Take-up of risk-mitigation measures,	Proportion of forest sustainably managed,

		targets. Too early to assess impacts on environmental degradation.	the Annual Monitoring and Reporting on Environmental and Social Action Plan.	existence of early warning systems, number of households benefitting from risk-mitigation measures.	proportion of agricultural area managed with agroforestry practices, GHG emissions avoidance, increase in government projects around climate smart land use.
Expected sustainability	High. Involvement of local governments, strengthened private sector, limited economic impacts associate with sunflower production losses, high leverage on the private market from guarantees.	Low. Institutional changes are likely to be maintained, notably due to vested interests, financial limitations.	High. Monitoring of proxies of sustainability (total employment for men and women, equivalent number of people provided with energy), implementation of community development initiatives.	Medium institutionally, with limited coordination between strengthened institutions and decreasing local motivation and means after the end of the project. High economically, with strong take up of measures and business training A second phase has been validated to specifically build sustainability.	High. Agroforestry is introduced to locals as a means to provide additional revenues, and as a practice that builds on indigenous knowledge. Institutions (authorities, farmers associations) built capacity in planning and networking Local partners ensure a strong follow-up.

Box A – Short narratives describing projects

Enabel: Natural Resources Management for Local Economic Development, Kigoma region (NRM4LED)

This project was undertaken in the context of the 2010-2013 Indicative Development Cooperation Programme between Tanzania and Belgium. As such, it did not address climate concerns from its inception, but focused on decentralization and sustainable resources management. It consisted of three main pillars: land use planning (establishment of Village Land Use Plans and Forest Reserves and supporting bylaws), socio-economic development (trainings and identification of income generating activities), and management practices (set-up of management teams and conflict management trainings).

The project was slowed down by a weak efficiency and reduced budget (from 6.000.000€ to 5.000.000€). High awareness of sustainable management and decreasing levels conflicts have been reached. For the most part, Management Plans and Land Use Plans were validated by regional authorities.

Enabel: Sustainable Agriculture Kigoma Regional Project (SAKiRP)

This agricultural project aims at structuring the cassava, beans and sunflower value chains in the Kigoma region, with a special emphasis on women's position. 20.000 producers are targeted with productivity-enhancing measures (improved access to agricultural services and inputs). Traders and processors groups are structured, following the Ministry of Agriculture, Food Security and Cooperatives priorities.

The project showed a strong flexibility when faced with difficulties. The sunflower value chain was added to the SAKiRP in 2019 following prices declines and pests invasions. Similarly, it developed a co-guarantee mechanism innovative tool to align its ambitions for the private sector with its development mandate.

Source: ADE

Photo 5 - Bean market

Source: ADE

Photo 6 - Resilient farming systems - Bean stalks as fodder

BIO: Kikagati hydropower facility through an investment in the AREF

The Africa Renewable Energy Fund (AREF) is managed by Berkeley Energy. BIO's investment was launched in 2014, based on the strategy of the AREF, its abidance by international socio-economic standards, and on prior positive experience with BIO in renewable energy projects. Through the fund, BIO indirectly ensures its presence in Tanzania with the Kikagati hydropower facility project. The facility is a joint project between Uganda and Tanzania, expected to be launched in 2021. 113 GWh will be generated each year, corresponding to 48.506 tCO2e avoided annually.


Source: Berkeley Energy

Photos 7 and 8 - Kikagati, construction of the facility

Oxfam Solidarité: Disaster Risk Reduction in Tanzania

The project is part of a program conducted in Burundi, the Democratic Republic of Congo and Tanzania. It strengthened on the preparedness to risk of local institutions and communities, and mitigated the impacts of these risks. Local populations were trained for increasing their revenues (e.g. spread of drought-resistant crops), while communities were provided with emergency systems (e.g. construction of warehouses for food stocks, development of early warning systems). Local leadership underscored the DRR project, as shown by the local grant facility feature whereby locals could prioritise investments, suggesting high levels of sustainability.

Source: REDESO Kibondo

Photos 9 and 10 - DRR Tanzania, trees planting

Bos+: Environmental management of strategic forest areas on a sustainable, inclusive and participatory way (EMSFA)

Implemented in close collaboration with farmers associations, the EMSFA is underpinned by a poverty-biodiversity nexus approach. The project accompanies Northern rural communities in forest management through community activities (capacity building in forestry and agroforestry, with an emphasis on women and youth) and authorities support (promotion of good practices through partnerships with local governments).

The project reached a limited take-up and implementation levels in one of the beneficiary villages, leading to a relocation. Beyond this initial issue, the project has been implementing a number of measures, benefitting the locals' revenues (diversification and higher production), adaptation (soil restoration) and biodiversity, such that it has been identified as a best-practice by Tanzanian government agencies (Mid-term evaluation, 2019).

Source: MVIWATA Arusha & MCDI

Photos 11 and 12 - EMSFA, Selela village in 2018 and 2019

Annex B Project Sheets

Title	Sustainable Agriculture Kigoma Regional Project (SAKiRP)
Ref	TAN1403111
Actor	Enabel, Ministry of Agriculture, Food Security and Cooperatives
Implementing agency (and co implementers)	MAFC, Kigoma Regional Secretariat, District Business Councils, Farmers organisations, Lead Farmers, Ward Agricultural Extension Officers and Ward Executive Officers, PASS Trust (co-guarantee fund).
Calendar	25/11/2015 – 24/11/2021 (+ extension: 30/06/2023)
Beneficiaries	• Rural population of the Kigoma region (focus on women) • Traders and processors, service providers • 20 000 producers
Global budget (and list of funding agencies)	8.000.000€ (Enabel) 800.000€ (Tanzanian Government and beneficiaries, in cash and kind)
Description of the intervention	• Builds bridges between actors and strengthens stakeholders of the cassava and beans markets. These activities were extended to sunflower production in 2019 • Structures the cassava and beans markets • Improves the access to agricultural inputs and services • Improves agricultural productivity • Empowers 'lead farmers' to reach out to the more marginalized
Global objectives	To contribute towards increased local economic development and wellbeing of smallholders in Kigoma region through sustainable agriculture development.
Specific objectives	Phase 1: To increase and diversify income of smallholders with cassava and beans increased production. Phase 2: 1. Establish and operationalise a credit co-guarantee fund (CGF). 2. Improve financial products and services to meet the specific needs and requirements of smallholder farmer groups, traders and processors. 3. Strengthen technical and managerial capacities of VICOBAs and AMCOS. 4. Provide integrated and flexible value chain financing products and services to farmers and small and medium enterprises in cassava, sunflower and bean value chains.
Relevant stakeholders	*Partner institutions:* District Business Councils, Farmers organisations, AGRA TIJA Project, World Food Programme. *Local authorities:* Kigoma Regional Secretariat, Ministry of Agriculture, Food Security and Cooperatives, President's Office – Regional Administration and Local Government, Livestock Development

	Officers, Tanzania Rural and Urban Roads Agency, Ward Agricultural Extension Officers and Ward Executive Officers. *Beneficiaries:* 650 locals' groups, women (65% of beneficiaries), traders, processors, agricultural services providers in beans/cassava value chains.
Comment on climate dimension of project	
How far is this project relevant to climate action?	Medium. Climate is a transversal theme, a contextual condition taken into account to identify agricultural risks and relevant crops. Adverse climate variability informed the implementation of additional sustainability activities (training in conservation agriculture and in sustainable use of resources, awareness-raising on pests risks). However, although this is by nature an agricultural project, the interviewee notes that agricultural projects open the possibility to mainstream good practices into the Tanzanian society (by contrast, NRM tends to focus on natural reserves).
How far is the project coherent with climate action at the level of the country and more globally to its development objectives?	High. SAKiRP supports the Agricultural Sector Development Strategy and Programme, to the extent that it feeds into efforts for heightened productivity, profitability, diversification, and empowerment of local communities. Also led to building a number of stone arch bridges with local and climate-sound materials.
How far is the project aligned to climate policies of the partner country?	Aligned to specific policies, but no mention of general plans. Example: sunflower was selected partly because the government is looking for alternatives to oil. The interviewee highlights that, for the locals, climate change is an additional European concern rather than a primary topic. Moreover, Tanzania is not a priority for Belgium when it comes to climate change action.
How was climate action (and country climate priorities) taken into account when identifying/formulating the action? Were any climate specific processes implemented (use of KLIMOS, Klimsec…)? Were any climate related criteria used?	Climate-related potential benefits were identified during the project development phase, as side benefits rather than as primary objectives. Soil and water quality are expected to be sustained through the promotion of sound agricultural practices. Productivity increases are expected to disincentivize deforestation. Climate was a key element to choose which value chains would be supported (and to extend the project to sunflower). No Tanzanian-specific nor Belgian tools as KLIMOS used (thus limited implementation of climate change concerns). Use of other general data/documentation.
Did the intervention have enough climate change expertise at its disposal to mainstream climate action adequately? Was this expertise internal or external?	Pre-existing local expertise was extremely limited, especially regarding land management practices. The intervention provided expertise to local groups and to the Livestock Development Officers.
Has the project developed partnerships with	*Implementation*

other interventions or climate actors? Is it part of a wider action? Is it jointly implemented? Has it contributed to leverage any additional funding?	'SAKIRP has systematically reached out to new projects to agree collaboration mechanisms. All these projects participate in the SAKIRP regional stakeholders' meetings and the sponsored district agricultural sector meetings. A challenge encountered in this process is that implementation is often outsourced to different local partners who do not have sufficient appreciation of the modalities for collaborating in a complimentary way. There is an overlap in the value chains (beans & cassava) and in some districts the targeting of smallholder farmer groups.' (Annual Report, p.53) An ex-tobacco company pledged to purchase all sunflower production coming from the SAKiRP. *Funding* Synergy: SAKiRP used the equipment purchased by AGRA TIJA Project, the World Food Programme purchased the production of SAKiRP's beneficiaries for a nearby refugees camp. Additional: AGRA and Enabel jointly funded the Manual 'Farming as a Business'. *Other interventions in the region* SAGCOT initiative (WB, ADB, USAID, DFID), Sustainable Agriculture Initiative (EU, from 2016), Nutritional programs of the World Food Programme, Local Investment Climate, AGRA TIJA Project, UN Kigoma Joint Programme. NGOs active in the region: Kasulu Consortium and Development Trust, World Vision International, Concern Tanzania, TCRS. They provide agricultural services (e.g. conservatory/agroforestry/environmental management, support to cassava disease resistant varieties).
How far are climate mitigation and/or adaptation results obtained at a reasonable cost?	The project covers a broad area (6 districts and Kigoma-Ujiji Municipal Council) and has been efficient at adapting to local conditions given its budget. However, high transaction costs as the sectors are fragmented among numerous actors.
What climate related effects have been obtained (quantity and quality)?	• Mitigation of supporting activities' impacts, e.g. purchase of efficient vehicles, online meetings instead of local meetings, fans instead of AC. • Higher use of fertilizers, but in line with environmentally sound practices. • Climate-smart agricultural practices are consistently mainstreamed in farming practices for all the three value chains; capacity building training is conducted at the level of extension workers who cascade the training to their smallholder farmer constituencies.
How effective at obtaining climate adaptation and/or mitigation results and impacts has the intervention been?	Impacts were delayed and limited by the change of value chains supported, and by the unsuitable mandate of Enabel's (problem now overcome with the co-guarantee fund)
Does the project include indicators specific to climate	Generally speaking, No. Proxies were found:

action? If so which ones and how are they measured?	• 'On farm demos: good agronomic practices & integrated pest/ disease management' (rated B, Sakirp TAN Annual Report 2020, p.38) • The guarantee mechanism includes however criteria for supporting projects (environmental assessments should be conducted, mitigation measures should be conducted in case of negative externalities)
How sustainable are the climate adaptation and mitigation results obtained from an economic, environmental and institutional point of view?	In 2020, overall sustainability potential rated B (A-D). • Enabel worked with local governments • The sunflower production should ensure that potential economic losses are limited (indebting and losses are comparatively lower with this crop) • Similar likelihood of sustainability with the guarantee system, which will contribute sustainably to PS development • ' Limited access to capital and growing challenge of climate variability will most likely hamper the realization of such change. (in agricultural practices) ' (SAKIRP-TAN Annual results 2020, p.12) • 'SAKIRP has been a key player in improving the performance of local government extension services. The experience shows that capacity improvement of extension workers is possible if a dedicated human resource management system is put in place' (SAKIRP-TAN Annual results 2020, p.12) • Access to credit services, especially for smallholders, largely depends on their legal recognition. Systems such as cooperatives enable them to apply for loans • Note that measures for sustainability and local empowerment were considered from the design phase
Has sustainability of climate action been addressed at project design stage? If so, how?	Sustainability was the major concern for the second phase (the extension to 2023)
Covid-19	The covid-19 pandemic had limited impact on the execution of the project. After a partial lockdown of 2 months, the government removed barriers and activities continued by and large (SAKIRP TAN Annual Results report 2020 p.16), but 'The covid pandemic affected cross-border trade in cassava and dampened the overall economic outlook.' (p.9)
Other conclusions from interviews and documents	• Climate change and environmental degradation should be systematically taken into account as factors that affect agriculture results. Climate assessments should be a practical tool for implementation and development. • The co-guarantee fund is a good tool. Before, the exclusion equity/grants was not relevant, as it applied to all regions of the world, whereas two projects conducted by 1 institution in 2 areas can have different needs.

	• Certification schemes support are a good opportunity for ensuring economic development and environmental protection. • SAKIRP TAN Annual Results 2020, p.22: 'Leveraging community-based savings and lending activities to mainstream value chain financing sources to create a blended financing landscape that is both adaptive, affordable and responsive to the needs of resource-constrained farmers.' • SAKIRP TAN Annual Results 2020, p.25: 'The MTR commended the SAKIRP mobile M&E system which is seen as an example Kigoma region'.

Title	**Natural Resources Management for Local Economic Development in Kigoma Region**
Ref	TAN1302911
Actor	Enabel
Implementing agency (and co implementers)	Enabel, Ministry of Natural Resource and Tourism, Kigoma Regional Administrative Secretary, Local Government Ministry (PORALG), Ministry of Finance, District officers
Calendar	11/03/2014 – 10/03/2021
Beneficiaries	36 villages whose communities are involved in NRM and Local Government Authorities in 6 districts in Kigoma
Global budget (and list of funding agencies)	Belgian contribution: 5.000.000€ (6.000.000€ initially planned) Tanzanian contribution: 453.500€
Description of the intervention	• Improved planning and local organisation, following the principles of Community Based Natural Resources Management (CBNRM) • Local management teams were set (e.g. for fisheries, forests) and trained • 25 Village Land Use Plans (VLUP) and 34 VLFR were elaborated, reviewed and established with corresponding bylaws. Land titles were issued • Business development trainings and identification of income generating activities • Conflict management trainings • Strengthened women's position and knowledge
Global objectives	• To ensure that ecosystem resilience is maintained to sustainably provide socio-economic and environmental benefits to local communities in Kigoma Region.
Specific objectives	An improved enabling environment and strengthened capacities for sustainable management of Natural Resources (NR) linked to an equitable Local Economic Development (LED) result in increased benefits for the communities of selected landscapes in Kigoma Region
Relevant stakeholders	*Local institutions*:

	Ministry of Natural Resources and Tourism, Kigoma Regional Administrative Secretary, Local Government Ministry (PORALG), Ministry of Finance, National Land Use Planning Commission, District officers *Beneficiaries:* Local resources management teams, individuals skilled for conflict management
Comment on climate dimension of project	
How far is this project relevant to climate action?	Medium relevant. Environment and water related impacts, and most of all improved forest management.
How far is the project coherent with climate action at the level of the country and more globally to its development objectives?	Completely aligned with local policies on forestry, fisheries, wildlife, environmental management, land tenure and land use, and decentralization. Strong enthusiasm from locals regarding forest management. Takes into account the natural environment and resources in Kigoma Region as well as opportunities to develop income generating activities. National Frameworks regarding decentralization (community management) and environmental protection (forest, water) were taken into account. However in practice, External evaluators found that the NRM4LED was not well linked with policies at national level, especially around encroachment, streamlining and simplifying bureaucracies, as well as improving law enforcement (PPT final, p.36).
How far is the project aligned to climate policies of the partner country?	Fully relevant in terms of Tanzanian policies on forestry, fisheries, wildlife, environmental management, land tenure and land use, as well as with decentralisation policy. Builds on the National Strategy of Growth and Reduction of Poverty and rural development strategy for choosing decentralized and community-based management.
How was climate action (and country climate priorities) taken into account when identifying/formulating the action? Were any climate specific processes implemented (use of KLIMOS, Klimsec…)? Were any climate related criteria used?	Project built on the Development Cooperation Programme in 2010-2013 -hence a focus on resources management, and no account for climate change. The absence of climate indicators or concerns has not changed during the implementation.
Did the intervention have enough climate change expertise at its disposal to mainstream climate action adequately? Was this expertise internal or external?	Yes, especially during the last years of implementation, when the preparation and application to the GCF as accredited entity strengthened Enabel on climate change.
Has the project developed partnerships with other interventions or	*Other interventions in the region* SAGCOT initiative (WB, ADB, USAID, DFID), Sustainable Agriculture Initiative (EU, from 2016), Nutritional programs of

climate actors? Is it part of a wider action? Is it jointly implemented? Has it contributed to leverage any additional funding?	the World Food Programme, Local Investment Climate, AGRA TIJA Project, UN Kigoma Joint Programme. Tanzania garnered interest after 2017 as Burundese communities fled. Then, NGOs and multilateral programmes entered the region (with a different focus than Enabel). *Opportunities* Very few Belgian NGOs operate in Kigoma Region and none of them in NRM or LED. Jane Goodall Institute and TUUNGANE have similar and complementary expertise and it would have been interesting to develop common CEPA materials, identify common issues and problems with regards to VLUP, CCRO, VLFR and BMU, thereafter organizing common lobbying activities. The Institute however focuses more on conservation than the NRM4LED. A NGO coordination effort for fisheries activities in Kigoma Region brought together the NGO actors. It would have been valuable for NRM4LED to participate in such coordination meetings.
How far are climate mitigation and/or adaptation results obtained at a reasonable cost?	Weak efficiency (delays, conflicts, bureaucracy, weak training, restricted budget, budget thinly spread over broad region with non-adjacent villages), not full use of Internet Mobile App for Secure Tenure.
What climate related effects have been obtained (quantity and quality)?	• 'Awareness has been strengthened at all levels on the importance of natural resources, both from the conservancy point of view and the importance of natural resources for economic activities.' (ETR, p.5) • Village Land Use Plans and land titles did not primarily target the most vulnerable/deteriorated lands • No innovations in timber harvesting/processing, charcoal production or efficient use of fuelwood • Forest management planning is however on of the two 'most notable accomplishments of the project' (MTR, p.4)
How effective at obtaining climate adaptation and/or mitigation results and impacts has the intervention been?	Proxy used: result area (2), 'Improved governance and sustainable management of NR by local institutions and key resource users.' • It is too early to say if CBNRM implementation leads to the restauration of ecosystems. • By October 2019, 34 out of 39 planned VLFR had received district council approval of their Forest Management Plans and associated bylaws. This is equivalent to an 87% achievement rate, which implies a high level of effectiveness. However, all efforts to advance Joint Forest Management (JFM) in the Makere South Landscape was abandoned as a result of the encroachment. • Management particularly problematic still for charcoal. • There is only anecdotal evidence that, in some instances, villages have been able to enforce their land use plans, by preventing unplanned activities from taking place in forest areas. Overall effectiveness is good but unfortunately it is not possible to compare actual outputs and outcomes with

	expected outputs and outcomes, due to the weak monitoring system. Generally, the initial M&E system involved the use of complex tools and progress indicators (% increase) for the different outputs but without a clear list of targets for achievements. District and Regional Facilitation teams organised monitoring visits, but there was no systematic data collection on outputs and outcomes, apart from a mini-survey that was carried out in mid-2019 and for which data analysis was never implemented.
Does the project include indicators specific to climate action? If so which ones and how are they measured?	No. The ToC included climate relevant elements. Beyond the ToC, environmental proxies can be found. However, 'Environmental degradation indicators were not sufficiently monitored and the ETR team was not in a position to assess village forests and fish breeding sites for environmental damage' (ETR, p.7).
How sustainable are the climate adaptation and mitigation results obtained from an economic, environmental and institutional point of view?	Low. • 'Financial sustainability is not guaranteed at district and village level. Covering the costs associated with CBNRM, such as patrolling, supervised utilization and fire management, cannot yet be fully guaranteed by the limited revenues being generated from the current level of sustainable exploitation of natural resources' (ETR, p.6). • Limited transparency, strong vested interests, thus weak governance. Conflicts still exist (eg. With pastorialists) but are identified earlier on. Meetings of stakeholders are too costly to be likely to be sustainable. • Skilling to improve production and marketing (in honey and fisheries) answered to a real will of locals but its effects could not be determined when evaluated. As a proxy, the access to financial service were still limited, but basic management/technical capacities/working conditions/access to equipment improved. • Women were more involved in participation stages than in decision-making. • Skilling (resp. sustainability) on NRM-LED is limited as was provided in English, not in Swahili (which is needed at the village level). • Community investment should have a strong economic sustainability. • Skilling of local district officers on land use planning offers good bases for upscaling. • 'experiences from other sites in Tanzania have shown village governance structures to be remarkably durable and effective, even in the absence of significant economic benefits' (PPT final, p.34). • Limited impact and mainstreaming of the guide for decision makers and decision support systems on NRM issues into RAS staff. • Much will depend on the mainstreaming of NRM into local and regional governments' budgets (projects will need consolidation from local budgets).

	• Much will depend on the impact of new practices (the link measures-restauration of ecosystems is not fully certain). • Business cases for resources valorization are very positive, but certain reserves might be transformed into protected areas.
Has sustainability of climate action been addressed at project design stage? If so, how?	Not based on findings
Other conclusions from interviews and documents	The ToC was not adapted to guide planning. Results-oriented planning and monitoring should be preferred. For instance, the yearly audits externally conducted (PWC, Deloitte) provided practically useful advice to improve accounting.

Title	**Environmental management of strategic forest areas on a sustainable, inclusive and participatory way**
Ref	XM-DAC-2-10-2472
Actor	Bos+
Implementing agency (and co implementers)	Bos+, MVIWATA (farmer's groups network in Arusha Region, providing agroforestry expertise), MCDI (Mpingo Conservation & Development Initiative, providing Participatory Forest Management expertise), UCRT (Ujamaa Community Resource Team, providing the land use planning expertise)
Calendar	01/01/2017 – 31/12/2021
Beneficiaries	Villages of Selela and Mungere (then replaced by Karatu after issues[84]) in Monduli district-Arusha region
Global budget (and list of funding agencies)	107.635€ (lower than planned in 2016, whereas DGD had planned to provide 80%)
Description of the intervention	• capacity building courses of community promotors and staff of farmers associations in community forestry and sustainable agriculture (focus on women and youth) • field actions for participatory forest management and agroforestry (focus on water and soil conservation) • promotion of good practices by authorities and institutions
Global objectives	• Improve the livelihoods of rural communities in Northern Tanzania, by promoting and facilitating community-based forest management and sustainable and climate-smart land use practices (agro-forestry)
Specific objectives	• Organisational strengthening (MVIWATA Arusha and networks) on sustainable climate-smart issues. • Strengthening community climate mitigation mechanisms.

[84] Difficulties there revealed in a very high mortality rate of trees, 49%

Relevant stakeholders	*Partners institutions* MVIWATA (farmer's groups network in Arusha Region), MCDI (Mpingo Conservation & Development Initiative), Trias and Vredeseilanden/IDP (NGOs) *Beneficiaries* Arusha communities who were skilled for forest management and climate-smart land use practices
Comment on climate dimension of project	
How far is this project relevant to climate action?	Fully. Goes further than the 'do no harm' principle, with active mitigation and adaptation efforts. Protection of forests (education to agroforestry) and trees planting
How far is the project coherent with climate action at the level of the country and more globally to its development objectives?	Fully. • Aligned with the NDC that emphasized the role of forests as carbon sinks • Aligned locally, as villages were selected partly based on their adherence to land use plans. Locals participated in the project development, and villagers' priorities (dust tornados, mud) were taken into account
How far is the project aligned to climate policies of the partner country?	Yes, as climate action in relation to sustainable forest management is part of the National Environmental Policy (NEP) and of MUKUKUTA II, the five-year development plan of Tanzania.
How was climate action (and country climate priorities) taken into account when identifying/formulating the action? Were any climate specific processes implemented (use of KLIMOS, Klimsec…)? Were any climate related criteria used?	The MSFA was modelled after similar projects, and based on local expertise of farmers groups and conservation NGOs. Example: local knowledge on indigenous trees species Belgian-specific tools were not used
Did the intervention have enough climate change expertise at its disposal to mainstream climate action adequately? Was this expertise internal or external?	• From Bos+: Yes. Additional experience sharing could however be valuable for monitoring climate and environmental impacts • From implementing partners: There were only two staff members who had climate change expertise relevant to the project in MVIWATA Arusha, however, so far, a total of 7 staff members have gained these skills. MCDI also had skilled staff on forest conservation. More generally, the systematic approach of the implementing partners provided experience related to climate action (e.g. agroforestry, participatory forest management)
Has the project developed partnerships with other interventions or climate actors? Is it part of a wider action? Is it jointly	*Development* • Used the experience of 2 NGOs (Trias, also for bio-fuel, and Vredeseilanden) to start the project *Implementation*

implemented? Has it contributed to leverage any additional funding?	• Implementation by forest planning organisation (MCDI) and farmers association (MVIWATA). MVIWATA Arusha's roles included (i) building capacity on climate smart land use practices, (ii) implement climate smart practices in the villages, through training of villages and members, (iii) promote these climate smart practices through community sensitization campaigns on tree planting and demonstration plots on tree nurseries. MCDI's role was strengthening of (i) participatory forest management capacities of village committees, Natural resources committees, and sustainable use of forest products. (ii) supporting demonstration plots for afforestation of the community forests and around water sources, (iii) and to come up with bylaws for sustainable forest management • Ngorongoro Conservation Authority (NCA) to work together in expanding their nurseries • Schools • Tanzania forest service was a partner in seedlings nursery establishment and transport to communities • Illes de Pais and WE Effect contributed to tree planting campaigns • National tree planting campaign
How far are climate mitigation and/or adaptation results obtained at a reasonable cost?	Initially, a higher budget was planned. Expectations and ambitions were based on this budget; when it was cut, much efforts were put to still implement the initial ambitions. Partnerships were the preferred solution.
What climate related effects have been obtained (quantity and quality)?	• Implementation of participatory forest management methods • 40.000-50.000 trees planted per year, with low mortality rates, planting of fodder trees for livestock • Hectares of protected forests • Avoided emissions by enabling biogas (renewable energy) technologies to reduce cutting down of trees for firewood • Reduced logging, increased retained water, soil degradation prevented
How effective at obtaining climate adaptation and/or mitigation results and impacts has the intervention been?	• high effectiveness (except in one village) for agroforestry techniques take up, and for forest protection • effectiveness limited by political/social local contexts
Does the project include indicators specific to climate action? If so which ones and how are they measured?	Key indicators: • Ha of forest effectively restored. • Increase of area with agroforestry practices. • t carbon stored. • # of groups made aware and equipped with skills about climate smart land use and agroforestry. • Increase (%) in yearly turnover of government projects about climate smart land use in northern Tanzania.

	Monitoring occurs at a project and at an organisation scale. It relies on field visits and partners' measures.
How sustainable are the climate adaptation and mitigation results obtained from an economic, environmental and institutional point of view?	Likely to be high. • The Bos+ approach relies on a strong take up of agroforestry by locals, technical expertise to choose trees species for trees planting, and adaptation to local needs. Children and teens were also educated about climate change. • Institutionally, results are likely to be high, although the measure of collaboration with local governments remains difficult to develop. Involving local administrations is a key aspect of Bos+ approach. Similarly, MVIWATA members were skilled (7 experts now, 2 when beginning the project). Establishment of by-laws for ensuring proper land-use. The Natural resources committees have been strengthened. Overall, the strong follow-up by local representatives and by partner organisations is likely to sustain results. • Economically, irrigated crops, individual tree nurseries and beekeeping generate revenues.
Has sustainability of climate action been addressed at project design stage? If so, how?	Indirectly yes. Trees species are chosen in function of local contexts, specifically to ensure a low mortality rate and sustainable results.
Covid-19	Slowing down of certain activities due to sanitary measures. Moreover, without a permanent country representation, Bos+ must rely on implementing partners to follow-up the project.
Other conclusions from interviews and documents	• Bos+ is open to collaboration with Belgian partners, especially with actors focusing on agriculture (good synergy potential). The goal for Bos+ is to use partners to 'mainstream' forestry into other projects, whatever their sector. • For monitoring, Bos+ is open to opportunities for sharing expertise and experience with the DGD or Enabel. • Difficulties to 1) sometimes interact with local authorities 2) measure the success of collaboration with local authorities (or at least to follow the evolution of this success). • Keep in mind the adverse effects of forest protection (e.g. come back of elephants, which are a threat to farmers). • Difficulty to coordinate partnerships with government especially paying them per-diems, while the climate action was meant to complement their efforts.

Title	**Africa Renewable Energy Fund in Tanzania**
Actor	BIO
Implementing agency (and co implementers)	Africa Renewable Energy Fund (AREF), managed by Berkeley Energy For the Tanzanian project more specifically, FMO is the lead arranger of the project financing Tanzanian and Ugandan governments

Calendar	-/10/2014 (equity provided to AREF by BIO) 14/02/2019 (signing date by FMO)
Beneficiaries	233.490 beneficiaries (in Uganda and Tanzania)
Global budget (and list of funding agencies)	8.896.000€ (for the total investment in the AREF) 24.000.000$ (total from the AREF)
Description of the intervention	Building of an 16MW hydro-power facility on the Uganda-Tanzania borde along the Kagera River.
Global objectives	Support (equity) to the AREF for championing renewables
Specific objectives	Producing a baseload of renewable electricity (113 GWh/year, ie. 48.506 tCO2e avoided/year)
Relevant stakeholders	*Partner institutions* • Berkeley Energy Fund's portfolio manager, Emerging Africa Infrastructure Fund, GETFiT programme officers *Local authorities* • National government *Beneficiaries* • Locals hired for the facility construction, locals and businesses benefitting from new access to reliable electricity
Comment on climate dimension of project	
How far is this project relevant to climate action?	Fully. 'fight against climate change' as one of the 4 key development impacts, direct hydropower production
How far is the project coherent with climate action at the level of the country and more globally to its development objectives?	Fully. Fits into mitigation goals set by the NDC and feeds in efforts for electrification quoted in the Five Years Development Plan.
How far is the project aligned to climate policies of the partner country?	Fully. Fits into mitigation goals set by the NDC
How was climate action (and country climate priorities) taken into account when identifying/formulating the action? Were any climate specific processes implemented (use of KLIMOS, Klimsec…)? Were any climate related criteria used?	Environmental concerns in the criteria for selecting the AREF: Proven experience in on-hand renewable energy project development, and Environmental and Social Management System in place. BIO supported the strategy of the Fund, not the Kikagati directly
Did the intervention have enough climate change expertise at its disposal to	Among the investors, Emerging Africa Infrastructure Fund has experience in renewables in the region

mainstream climate action adequately? Was this expertise internal or external?	
Has the project developed partnerships with other interventions or climate actors? Is it part of a wider action? Is it jointly implemented? Has it contributed to leverage any additional funding?	Electricity produced will benefit from the GETFiT (KfW-led European programme offering subsidies and decreasing energy costs for consumers)
How far are climate mitigation and/or adaptation results obtained at a reasonable cost?	Costs were significantly higher than planned, following delays in construction. Example: the initial contractor selected revealed not to be fit, another one had to be chosen
What climate related effects have been obtained (quantity and quality)?	Expected (production site will be completed in Q1): • Decreased reliance of locals on fuel generators • Skilling of locals for sound management of resources
How effective at obtaining climate adaptation and/or mitigation results and impacts has the intervention been?	Not relevant (The production site will be completed in Q1 2021)
Does the project include indicators specific to climate action? If so which ones and how are they measured?	• GHG emissions avoidance (in CO2 tons equivalent) • ESG: Annual Monitoring and reporting on Environmental and Social Action Plan (ESAP) progress
How sustainable are the climate adaptation and mitigation results obtained from an economic, environmental and institutional point of view?	Likely: • 'implementation of a number of community development initiatives' • number of locals provided with energy • number of locals provided with new sources of revenues (trees nurseries) • strong uptake and acceptance of the locals with the project • project will be taken up by the Ugandan government after 20 years, suggesting a view for locals' interests
Has sustainability of climate action been addressed at project design stage? If so, how?	Yes, through the development of activities for local economic and social development

Title	Oxfam Disaster Risk Reduction in the Great Lakes Region
Ref	XM-DAC-2-10-1274
Actor	Oxfam Solidarite
Implementing agency (and co implementers)	Oxfam Solidarite, REDESO (in Kibondo and Kishapu) for the rice and sisal value chain development, itself working with TCRS, AICT, CARITAS, KIEMA KIVULINI and Baba Watoto, local radios, CABUIPA (in Kahama), itself working with LSRS, FARIPE, TACOA, TADEPA, Local District Disaster Management Committees
Calendar	01/12/2017 – 01/12/2019 for DRR1
Beneficiaries	Planned: 28.489 *direct* beneficiaries from the districts of Kibondo (Kigoma, where many communities are Burundian refugees), Kahama & Kishapu (Shinyanga) Effective: 29,309 beneficiaries
Global budget (and list of funding agencies)	1.309.704 €
Description of the intervention	• Local Grants Facility: locals will access directly humanitarian funding so that they may independently design their response to crises • Transmission of skillsets and knowledge to beneficiaries • Adaptation measures specific to droughts (support for drought resistant cassava and sisal use)
Global objectives	Support communities to develop their preparedness when facing recurring shocks (protect their lives and means of earning an income)
Specific objectives	• To improve the understanding of disasters and conflict-related risks of local organisations, authorities and communities and strengthen coordination and information sharing mechanisms at local level • To ensure these actors are better prepared to respond and take a leading role in humanitarian responses • To mitigate the impact of these disasters on vulnerable populations by improving the capacity of local communities to absorb and adapt to shocks, through promoting resilient livelihood practices and local-level mitigation measures
Relevant stakeholders	*Partner institutions* • In Kibondo and Kishapu: REDESO, TCRS, AICT, CARITAS, KIEMA KIVULINI and Baba Watoto, local radios • In Kahama: CABUIPA, LSRS, FARIPE, TACOA, TADEPA *Local authorities* • Local District Disaster Management Committees, meteorological agency *Beneficiaries* • Locals benefitting from the local grant facility, locals skilled and prepared in Kibondo, Kahama & Kishapu, participants to the protocol for Early Warning Systems

Comment on climate dimension of project	
How far is this project relevant to climate action?	Fully. • Has an adaptation (to droughts, floods, pests, and marginally landslides and deforestation, takes into account the lack of weather forecasting information) component as part of the preparedness • Mainstreaming of environmental considerations: effective management of natural resources, involvement of hist communities in mana/extraction of resources, hybrids motors, local sourcing and procurement • Climate as a contextual factors affecting the needs-based analysis • Note however that 'Mitigation' refers to the mitigation of risks led by climate change • Oxfam's Humanitarian Response Strategy Template also includes a standard reference to the environmental impact as cross cutting issue to consider. As do the Minimum Requirements for Program Management
How far is the project coherent with climate action at the level of the country and more globally to its development objectives?	Fully. Built on development district plans, and on responsiveness plans in Tanzania. The plan identified weaknesses in the local implementation and thus pointed to Oxfam's room for action
How far is the project aligned to climate policies of the partner country?	High. Builds on and completes Tanzanian responsiveness plans
How was climate action (and country climate priorities) taken into account when identifying/formulating the action? Were any climate specific processes implemented (use of KLIMOS, Klimsec…)? Were any climate related criteria used?	• KLIMOS/Klimsec: interviewees are not aware of it • Oxfam has its own tools to assess local situations, and known by the DGD. The DGD does not take a steering role in project formulation nor provides tools for the operational side of cooperation. • Taken systematically on all Oxfam projects, following the 'do no harm' principle. Principles under review and internal streamlining this year • Risk matrices used for initial project identification
Did the intervention have enough climate change expertise at its disposal to mainstream climate action adequately? Was this expertise internal or external?	• Yes, since measures are quite straightforward. However, recognition that more systematic training would be useful (no SD background among workers, and expertise builds on contextual aspects of climate only), even if no specific element pointed to • Drew additional expertise from the LGA departments we worked with, the CSO partners and local CSO actors, as well as through partnership with the private sector and consultants. Climate wise, local Oxfam teams were the providers of expertise. • The climate expertise present at Oxfam is specifically related to DRR

Has the project developed partnerships with other interventions or climate actors? Is it part of a wider action? Is it jointly implemented? Has it contributed to leverage any additional funding?	*Development* • Partnerships for project design: interviews were conducted with local authorities and international organisations *Implementation* • REDESO (in Kibondo and Kishapu) and TCRS, AICT, CARITAS, KIEMA KIVULINI and Baba Watoto, local radios • CABUIPA (in Kahama) and LSRS, FARIPE, TACOA, TADEPA • Further coordination with REDESO actions so that activities do not overlap or duplicate • Representatives from Williason Mining Limited/Mwadui Mines, RedCross, TCRS (Tanganyika Christian Refugee Council, Caritas, media and journalists. Ex: Mining and TCRS used for seeds transportation The amount and intensity of partnerships can be explained by the local ownership approach of the project. In this context, Oxfam builds capacity (proposal writing, monitoring, evaluating) and coordinates (report streamlining) the partners. Partnerships appear to have strengthened local groups/structures, although not specific to climate action (MTR, pp.2-3) *Future potential* • Oxfam advocates for institutionalized cluster coordination between authorities and international organisations. Check whether this attempt has been successful • Partnership with the government. DRR should be a regular public policy according to Patrick, hence the attempt to streamline the project pillars into policy. Furthermore, the policy equivalent of the project was 'dormant' before Oxfam arrival. Part of the project thus consists in implementing/strengthening the public actors
How far are climate mitigation and/or adaptation results obtained at a reasonable cost?	'Remarkable effectiveness and efficiency' (Final Evaluation, p.5): risk assessments were conducted by locals 'Interventions of the programme were low-cost and not creating dependency on Oxfam or other donors.' (Final Evaluation, p.31)
What climate related effects have been obtained (quantity and quality)?	• Adaptation: drought-resistant agriculture in all districts which participated to the mitigation measures implementation, through modern farming techniques and spreading of drought-resistant crops • Adaptation: food storage constructions for protection against pests • Adaptation: environmental protection committees in Kibondo, which directly work with district environmental and forest management departments. The members of the committees are public servants, who derive strength and legitimacy from their position. The influence of the committees was therefore strong. • Adaptation: tree planting around water sources, discouraged settlements near waters sources, rainwater

	collection systems. Volumes of available water increased and bush fires are limited. • Adaptation: data centers with early warning systems, so that any weather information is collected and disseminated through the District Data Centers to every village, through the early warning focal persons and disaster management committees • Mitigation: fabrication of saving cooking stoves • Mitigation: trees planting (Final narrative, p.86, possibly marginal)
How effective at obtaining climate adaptation and/or mitigation results and impacts has the intervention been?	Likely to have been effective, although the evaluation was conducted too shortly after the implementation
Does the project include indicators specific to climate action? If so which ones and how are they measured?	Indirect climate action: • 'At the end of the program, at least 60% of beneficiary households declare that the specific mitigation measures have increased their livelihood's resilience to shocks' • '6 Small scale mitigation measures are selected and supported' • '80% of participants agree with the mitigation measures' • '4000 Households have benefited from mitigation measures that reduce the impact of disasters/conflicts' • 'At least 3 local Early Warning Systems are (re)activated and a protocol is agreed between the stakeholders'
How sustainable are the climate adaptation and mitigation results obtained from an economic, environmental and institutional point of view?	'Growing potential for sustainability' (Final Evaluation, p.5): • Institutionally, although structures are strengthened, they did not form a network, limiting coordination levels. See also interim narrative p.58. However, bylaws were established and sensitization efforts will be sustained. • Climate-related improvements (new technologies for cooking, no need to reach far firewood) also support the fight against gender based violence, thus making it likely that they are actively sustained • Economically, likely to be high, given the capacity building and the strong take up of mitigation measures (e.g. growing proportion of women accessed loans after receiving targeted support in entrepreneurial skills). Agricultural practices are the most likely to remain (MTR, p.8). The production increase were so high that additional revenues were drawn by farmers, although the initial goal of the project was 'merely ' to grow food crops. Strengthened financial bases and linkages established with local banks and local government loan systems. • The only risks are lowered local motivation and means after Oxfam withdrawing. Sustainability is the goal of the second phase of the project, with a stronger emphasis on advocacy in local groups and technology spreading.

Has sustainability of climate action been addressed at project design stage? If so, how?	Yes, in the sense that sustainability and self-sufficiency were the ultimate goals of the intervention.
Other conclusions from interviews and documents	• Key enabling factors for resilience are local humanitarian leadership (grants facility mechanisms, use of district structures) • Additional specific climate indicators could include forecasting take up

Annex 8: Country Case Studies – Complementary project reviews

This annex includes the complementary projects reviewed in addition to the Senegal and Tanzania case studies:

- FPS Environment support to NDC Partnership in Burkina Faso
- FPS Environment support to NDC Partnership in Niger
- KivuWatt Rwanda
- WAter MAnagement and urban DEvelopment in Ha Tinh in relation to climate change (WAMADE) in Vietnam

1. Introduction

1.1. Subject

This annex presents the reviews of four projects as part of the set of 14 projects reviewed for this evaluation. They cover projects in Burkina Faso, Niger, Rwanda, and Vietnam. They aim at complementing the 10 projects reviewed in the two country case studies on Senegal and Tanzania. They enable to better cover the diversity of Belgian climate action at a geographic but also thematical and institutional level.

The four additional projects are the following:

- National Determined Contributions (NDC) support by the Federal Public Service (FPS) Environment in Burkina Faso
- NDC support by the Federal Public Service (FPS) Environment in Niger
- The KivuWatt project, a methane gas capture project funded by BIO, in Rwanda
- A University cooperation project in Vietnam: WAter MAnagement and urban Development (WAMADE) in Ha Tinh in relation to climate change.

The NDC support interventions by the Federal Public Service (FPS) Environment in Burkina Faso and Niger were selected as representative of the diversity of FPS Environment's international climate action, as the FPS Environment is not active in Senegal and Tanzania where the two country studies were undertaken but it is necessary for the evaluation to have an insight into the FPS Environment's international climate action.

The KivuWatt project was selected to expand the analysis conducted on BIO's activities during the country case studies. It was further identified as a showcase for investments in innovative technologies within BIO's thematic portfolio. Lastly, representatives from Non-Governmental Organisations (NGO) interviewed during the study phase challenged the climate relevance of this project and could therefore benefit from an in-depth analysis during the case study phase.

The WAMADE project was selected as an example of University cooperation and urban climate action. Initially, there was also the perception that it was an example of a collaboration between two Belgian climate action operators (VLIR UOS and Enabel) but this dimension unfortunately proved to be limited.

1.2. Methodological approach

The complementary project reviews were conducted from March until May 2021. A desk-based research was undertaken based on general documentation and evaluation reports provided by the various operators (BIO, FPS Environment, VLIR UOS) and their partners. Additionally, interviews were conducted with key informants (representative of operators, partner institutions and country governmental authorities).

A complete list of interviewees and documents used may be found in Annex B and C.

As the complementary case studies were not undertaken as part of a country case study, as was the case in Senegal and Tanzania, triangulation of results concerning the 4 complementary projects relied mainly on documents and interviews with the Belgian operators (BIO, FPS Environment, VLIR UOS, KU Leuven) and the main local or international partners (government institutions : Centre National de Développement

Durable (CNDD), Permanent Secretariat of the National Council for Sustainable Development; or other implementation partners : NDC facilitator, Contour Global, CITEPA, NDC Partnership Support Unit). It was not desirable to obtain access to the final beneficiaries. Indeed, the latter are quite removed from the 4 interventions in question and largely unaware of their existence whether it be NDC implementation support, research on water management and urban development or energy production from methane gas harvested from the bottom of Lake Kivu. In the case of the KivuWatt project, it was not possible for BIO to grant the evaluation team access to the government of Rwanda; and in the case of the WAMABE project, need for translation was a further constraint to discussions with local partners. In the case of KivuWatt, as far as possible, constraints in terms of variety of interviews and perspectives were compensated by the use of external documents, on the topic of methane extraction from Lake Kivu. Such sources were provided by Belgian NGOs and provided a more critical view of the intervention, recognising potential benefits but also pointing out the risks involved.

2. Project reviews

This section presents the main findings of the project review for each complementary project. After a rapid presentation of the intervention, it is structured around the eight items for project analysis presented in Annex A of the Country Case Studies for Senegal and Tanzania: climate relevance (EQ1), alignment with local objectives (EQ2), partnerships (EQ3), efficiency (EQ4), effectiveness and impact (EQ5), climate-related monitoring (EQ5) and expected sustainability (EQ6).

2.1. Support to NDC partnership in Burkina Faso

2.1.1. Presentation of the project

The project is undertaken by the FPS Environment in support of the implementation of the NDC of Burkina Faso through the NDC Partnership. In practice, it covers the wage of an NDC in country facilitator, an independent consultant, based within the Permanent Secretariat of the National Council for Sustainable Development / Conseil National du Développement Durable (CNDD) at the Ministry of Environment. The CNDD has authority to oversee NDC engagements in the country.

Since the beginning of 2020, and for 2 years, the facilitator has assisted the Burkina Faso climate change focal point within the CNDD in the implementation of the Partnership plan for NDC implementation and the mobilisation of resources in support of its implementation. He also acts as an intermediary between Burkinan authorities and development partners active in support of the NDC partnership.

2.1.2. Key findings

Climate relevance

Parties to the Paris Agreement signal their commitments through Nationally Determined Contributions (or NDCs) - each country's strategy to cut its own greenhouse gas emissions and build resiliency against the negative effects of a changing climate. The NDC partnership leverages resources and expertise to provide countries with the tools they need to implement their NDCs and combat climate change.

The NDC partnerships support to Burkina is provided by 17 donors, amongst them the Belgian FPS Environment[1], who covers the wage of the facilitator embedded in the CNDD at the Ministry of Environment. Belgium is therefore one of the important NDC partnership support providers at the level of the country.

Moreover, the facilitator's work corresponds to the priorities suggested by the NDC partnership at the level of the Sahel region:

- Facilitation of support to countries.
- Taking the lead on NDC implementation plan development.
- Support to the identification of areas of support at respective country level.

[1] https://ndcpartnership.org/countries-map/country?iso=BFA

In addition, Burkina still lacks capacity in terms of climate change. They are presently elaborating a strategy in terms of climate action capacity building needs with ICRAF and the National authority for the GCF. The facilitator provides knowledge and skills related to climate change which burkinan climate actors only partly master and for which they need capacity building.

Internationally, there is a bigger focus on mitigation and more interest from donors but the NDC partnership builds plans with governments in the countries they work with, as is the case in Burkina Faso, an equal share of attention and support is provided to mitigation and adaptation projects. In Burkina Faso, as in many other LDCs, adaptation is a major issue, with resilient livelihoods, food safety and desertification being major climate change related challenges. Beyond the facilitator's direct support to the NDC partnership, the focus Belgium's portfolio puts on Agriculture and livelihoods, in Burkina Faso and beyond, reflects these preoccupations.

Alignment with local objectives

Burkina Faso produced an NDC in 2015. In February 2018, they joined the NDC partnership. An NDC partnership team visited Burkina Faso and identified a certain number of needs, particularly the need to revise the NDC. Burkina Faso, through its CNDD, then submitted a project for the revision of its NDC. Belgium's FPS environment was quick to respond to this request and recruited a facilitator to support the revision process for 24 months from the beginning of 2020 to the end of 2021.

As is the case with all cooperation in the context of the NDC Partnership, the request emanated from the government. On the basis of this request, the NDC Partnership Support Unit coordinated with development partners to respond to it. The support is therefore totally aligned to local objectives. More generally, the NDC Partnership shares governmental requests with all member development partners (Embassies and development institutions) in a transparent way. They discuss with the NDC Partnership stakeholders how best to respond to the request and identify who is capable of providing support. The national focal point then coordinates with willing members the support offered. But demands always emanate from local authorities and correspond to local objectives.

In Burkina Faso, the NDC focal point is the CNDD which encompasses Burkinan authorities beyond the Ministry of Environment as it has entries in a set of other ministries (Agriculture, Animal resources, Energy, Environment, Habitat, Health, Infrastructure). All such authorities are therefore implicated in identifying priorities of NDC support. Indeed, the NDC revision process implicates a wide set of Ministries: Agriculture, Animal resources, Energy, Environment, Habitat, Health, Infrastructure. They also consult with civil society, the private sector and local authorities.

Alignment is further ensured by the fact that the NDC Partnership undertakes an exercise of on-going project mapping to see how far the various interventions undertaken by its members are aligned. In the case of Belgium, the NDC partnership has a clear vision of work undertaken by the FPS Environment and Enabel but a limited one on BIO or Non-Governmental Actors (NGA); it would be good if they could integrate all Belgian activity.

Partnerships

The facilitator is based at the Permanent secretariat of the National Council for Sustainable Development / Secretariat Permanent du Conseil National pour le Développement Durable in the Ministry of Environment. This is the organ which coordinates the action of all actors in their support to NDC. The facilitator oversees the revision and implementation of the Partnership plan and climate related objectives. He also plays a role of interface between the government and other climate actors and takes part in all dialogue concerning climate change at a national level. This also involves finding resources for NDC plan implementation. A large part of his role consists in building further partnerships between

local authorities and the 40 development partners members of the NDC partnership in Burkina Faso.

In particular, there are clear synergies between the NDC plan and activities of other partners in the country such as the United Nations Development Programme (UNDP) or the United Nations Food and Agriculture Organisation (FAO), or Development partners involved in the Great Green Wall. Further major actors active in Climate action are the World Bank (WB), the West African Development Bank (BDAO), the African Development Bank (AfDB), and the Swedish, Japanese, Danish, German and French development cooperation.

In addition, the facilitator provides regular reports on NDC plan progress to all development partners and climate actors. This supports further coordination and partnership building.

In terms of partnerships specific to Belgian cooperation, the facilitator's Belgian counterpart is the chargé d'affaire at the Embassy. In Belgium, he is in contact with FPS Environment which manages his contract. At times, the NDC facilitator may therefore be called upon for support. Demands have emanated from the Embassy itself as well as from Enabel to support the formulation of its Joint Strategic Framework and the formulation of the regional programme for Sahel (in terms of fixing the main priorities). Though it is not one of his official responsibilities, the NDC Partnership appreciates such demands for support.

In practice, the NDC facilitator has also been in contact with Belgian NGOs to mainstream climate change within their action. Broederlijk Delen (BD) was responsible for mobilising all the Belgian NGO. Various meetings led to a capacity building session at the Belgian Embassy. The session revolved around a state of play of the implementation of climate commitments at the level of Burkina Faso. A consortium of national NGO's was also present.

Efficiency

The NDC Partnership Support Unit and Burkinan authorities consider the facilitator provides the required climate expertise. He is considered as very well qualified as well as efficient in proactively reaching out, coordinating and distributing the NDC plan components between partners and Ministries through regular meetings. His role in supporting the NDC revision process through monthly meetings with representatives of all partners is also valued.

However, there is also the feeling that Belgium is not necessarily getting the visibility they deserve through this work. Though it is not a lead donor in terms of financial engagement, Belgium has led the process for other partners and significantly contributed to NDC support.

One should also note that there is no duplication of efforts with other climate actors.

Partners met consider that Belgian added value beyond the fact that the burden of climate action needs to be shared by all is that Belgian climate actors are easy going, and develop an open minded, flexible and accommodating approach. They are pro-active and pick up on unsupported requests which is very helpful. Moreover, they understand needs of their various partners, the countries as well as the NDC Support Unit, very well. As a result, Belgian cooperation actors cooperate well with other stakeholders. Belgian cooperation provides a lot of embedded advisory services; others do also but it is a Belgian characteristic and Belgium does it very well. The NDC partnership support unit also appreciates that Belgium operates in some of the most difficult countries.

However, in addition to the current supporting facilitator role for NDC implementation plans, active involvement in climate action within the donor community by Belgium authorities (as is the case in Mali), associated to improved coordination of Belgian operators with the NDC partnership in terms of programmatic planning would be particularly appreciated. Furthermore, although the FPS Environment and Enabel are

already working together on climate action in the context of the formulation of the regional thematic portfolio in the Sahel region, stronger coordination of the FPS Environment and Enabel's action respectively for their thematical expertise and their field connections would be interesting. More globally, the NDC partnership would like development partners to work programmatically with them on the basis of a common climate related plan of action based on the NDC and concerted with local authorities.

Finally, it should be noted that FPS Environment monitored and took part in the management of the study but did not provide technical support itself.

Effectiveness & Impact

Both Burkinan authorities and the facilitator consider that objectives of the intervention should be reached. However, they admit that the support being geared at a process, objectives are not clearly set. Moreover, everything is interrelated and objectives also depend on the action of other partners. Indeed, the facilitator catalyses dialogue and action by climate actors, provides monthly reports and prepares monthly programs, but he doesn't implement himself.

None the less, beyond the revision of the NDC, the facilitator is also in charge of mobilising climate finance. He advocates for resources and project implementation through conceptual notes. This latter work is considered as one of his main contributions. He is recognised as possessing a good network.

The facilitator also builds capacity and has put in place a number of specific tools for climate action (elaborated by the Intergovernmental Panel on Climate Change (IPCC) or FAO).

More generally, an SNV report (to be validated) considers that, NDC commitments have been fulfilled. However, interestingly, the report considers that these commitments have not been fulfilled thanks to the activities of the NDC plan but thanks to projects distinct from NDC plan activities.

Finally, one should note that to improve this type of cooperation, Burkinan authorities consider that such technical assistance should be associated to an engagement to implement the NDC plan.

Climate-related monitoring

The facilitator has an "objective contract" (contrat d'objectif) with quite specific tasks. Any evaluation of his work would be undertaken in relation to these tasks rather than climate mitigation and adaptation results themselves which only indirectly depend on him. He provides monthly reports and programs which enable such a monitoring. The Burkinan government and the NDC Partnership approve the report before it is sent to the Belgian authorities (FPS Environment). However, the level of monitoring of the intervention remains very general.

Globally, not enough is done in terms of Monitoring and Evaluation (M&E) climate change linked results, particularly in LDCs where a sectorial approach is still followed. In fact, the NDC Partnership is still unclear about what action contributes to what effect. This was recently discussed during the NDC Partnership annual retreat. They don't have adequate Key Performance Indicators (KPI) and they are not in a position to assess impact well enough, particularly in terms of adaptation.

Indeed, it's harder to demonstrate adaptation results and obtain a return on adaptation investments. Moreover, objectives are not set in stone for adaptation as they are for mitigation. Countries find it harder to elaborate, detailed and concrete adaptation plans. This explains why donors and the private sector tend to prefer financing mitigation which is more straight forward, and provides clearer returns and communication opportunities.

None the less, one should note that an evaluation framework is planned for the revised NDC plan (whereas the first one did not have any indicators associated to it) and, with FAO support, a consultant has been hired to support the identification of indicators for the revised NDC in the course of the month of April 2021. In addition, the facilitator has provided (or organised?) training of climate stakeholders in evaluation tools. However, this does not constitute an evaluation system. For this Burkina Faso intends to call on another institution.

Expected sustainability

Initially, the NDC Partnership Support Unit thought 2 years would be enough to institutionalise results/support but in practice, just to ensure the appropriation of climate challenges by local actors takes years. 2 years support is not sustainable. In their new working programme, they have extended the support from 2 to 5 years.

In general, it is recognized by the NDC Support Unit and the CNDD that more technical assistance is required, particularly for the implementation of NDC actions. In addition, it is considered that no one in Burkina could take the relay of the current Belgium supported facilitator once his contract ends at the end of the year. This raises some doubts concerning the action's sustainability, although there might be a possibility to extend the contract as part of the Sahel climate portfolio.

Furthermore, one should note that it will still be necessary to find resources to implement the NDC plan after the current facilitator's contract comes to an end. The NDC plan only has an indicative budget associated to the investment plan and this is in no way guaranteed. In practice, the budget will be shared with all donors to see who can contribute to what. Burkina Faso is also thinking about the possible mobilisation of a National Fund.

2.2. Support to NDC partnership in Niger

2.2.1. Presentation of the project

From the end of 2018, the FPS Environment has provided technical assistance to the government of Niger and its National Center for Sustainable Development (CNDD) through the CITEPA in order to set up a national system of Green House Gas (GHG) inventory. This was undertaken through three distinct components:

- Setting up a Monitoring, Reporting and Verification (MRV) system to Support data collection mostly on energy, centralised electricity or self-produced by industrial actors.
- Write up Memorandums of Understanding (MoU) to establish sustainable agreements between stakeholders, particularly with data providers, and clarify the rights and obligations in terms of data transmission and data confidentiality.
- Support data collection on fluoride gases to integrate Hydrofluorocarbon (HFC) gases in the NDC.

In addition to the CITEPA (a non-profit private association and State operator for the French Environment Ministry which contributes to the fight against atmospheric pollution and climate change by calculating, interpreting and disseminating information on reliable emission data for decision-makers and specialists in France and abroad), 3 national consultants were contracted to support each of these 3 components.

2.2.2. Key findings

NB: A certain number of more general findings valid for both Niger and Burkina Faso have been left out in this section to avoid undue repetition.

Climate relevance

The work is particularly relevant to climate action as a good quality inventory significantly facilitates the work on NDC implementation. The inventory system is an essential piece of NDC implementation. It enables to see which sectors consume most energy and produced most emissions. This in turn helps calculate the impact of mitigation measures in terms of emission reductions and provides a good idea of where impact can be obtained and which sectors are most likely to yield it. The inventory methods in Niger give particular attention to energy consumption and industrial processes.

Hydrofluorocarbons (HFCs) are important GHGs. HFCs were adopted to replace the more potent chlorofluorocarbons (CFCs) in industry. They do not harm the ozone layer as much as the compounds they replace, but they do contribute to global warming, with trifluoro methane having 11,700 times the warming potential of carbon dioxide for instance. Their atmospheric concentrations and contribution to anthropogenic greenhouse gas emissions are rapidly increasing, causing international concern.

Alignment with local objectives

As is the case with all actions in the context of the NDC Partnership, the request emanated from the government and the NDC Support Unit coordinated with development partners to respond to it. The support is therefore totally aligned to local objectives. Almost 20 ministries were involved and agreed on the needs.

As a result, following a request by the Niger NDC focal point, the FPS Environment contacted CITEPA with 3 objectives in mind corresponding to 3 local demands. The 3 components were selected on the basis of an initial support also provided by CITEPA.

Beyond the inventory, the CNDD is particularly interested in building capacity with respect to mitigation as well as to cost benefit analysis linked to adaptation action. All actors need capacity building: Ministries of Energy, Agriculture, Animal husbandry, Industry, Petrol and Environment, as well as the United Nations Framework Convention on Climate Change (UNFCCC) focal point which is attached to the Prime Ministers cabinet. The Belgium supported technical assistance has contributed to satisfying this wide-ranging need.

Partnerships

The support took place in the framework of the NDC Partnership and was undertaken by CITEPA and the National coordinator. The Memorandum of Understanding was proposed by CITEPA.

The UNDP also supported the data collection financially. However, apart from the collaboration with UNDP, it is a standalone project. Moreover, the COVID 19 crisis prevented the CITEPA team from travelling to Niger so they undertook the assignment at a distance (although they hope to be able to take part in a closing mission). Their main interlocutor has been the Ministry of Environment but there are also contacts with the Ministries of Agriculture, Energy, Industry, Forests and the Waste Management agency. Such exchanges depend a lot on the way the effect monitoring system is structured.

Aside from FPS Environment, the UNFCCC focal point (and CNDD) consider they don't have much contact with other Belgian cooperation actors at a national level. Enabel develops varied actions related to adaptation and resilience but they have no MoU. The UNFCCC focal point would wish to be more implicated in the identification of Enabel's actions, possibly through an MoU.

At the level of the Belgian technical assistance, contacts with the main development partners active in climate action in Niger (UNDP, UNEP, FAO, Oxfam and IFAD) have not been developed. Also, despite the CILSS's presence in Niger, the intervention has not interacted with Agrhymet in any way.

None the less, Belgium has financed a dialogue workshop with all climate change actors whether they manage data or are implicated in the NDC revision process. Besides, there have been interactions with the so called "francophone cluster" of the Partnership for Transparency in the Paris Agreement, which is supported by Belgium. The cluster works as a network of African francophone countries which organises a workshop (sometimes 2) every year.

More generally, the UNFCCC focal point coordinates dialogue at the level of at least two climate related exchange platforms.

Efficiency

The work has involved establishing a method for data collection (particularly for HFC as they had never been the object of data collection in the past), touring energy sites in the country and setting up a system for archiving GHG data over the period 1997 to 2017. According to actors met, the inventory system is not a big investment but it is essential and represents money well spent.

Niger has a good system to select sites and businesses for inquests. Supporting data collection on fluoride gases was the most complicated component because the national consultant was less implicated.

More globally, Belgian work on the data inventory and data archiving system is particularly appreciated as it is considered a delicate question in the subregion, and Belgium appears to be the only development partner providing such support.

As in Burkina Faso, FPS Environment monitored and took part in the management of the study but did not provide technical support itself.

Effectiveness & Impact

CITEPA support is technical support aimed at building capacity. It has set up the data archiving system and contributed to training 20 experts in the 2006 IPCC guidelines with the support of Belgium.

More concretely, the following results can be underlined:

- Data on Niger's GHG emissions from 1997 to 2017 have now been archived.
- HFC can now be taken into account by Niger which was not the case in its first NDC.
- The Memorandums of understanding enable data on GHG emissions to be collected annually, not only when an inventory is undertaken (generally every 4 years).
- Local experts now master IPCC 2006 guidelines.

Results have been obtained for all three components. Only the work on fluoride gases may need additional capacity building. Niger authorities are satisfied by the results.

In Niger, the inventory system has helped understand how far agriculture, deforestation and energy are key sectors in terms of climate change mitigation (and to a lesser extent, climate change adaptation). Water management is key to adaptation. Deforestation is very much linked to energy and agriculture. Examples of findings indicated by national authorities are the fact that the Agriculture, Forestry, Animal husbandry and other land uses sector represents over 88% of Niger's emissions. In this sector, it is possible for Niger to reduce its emissions by 30% as it has committed to. In terms of hydrocarbon use, they also indicated that data points to the fact that subsidising gas to limit deforestation can in some instances be a relevant transition measure because it will not be possible to replace wood at very short term in some areas. Moreover, gas can provide co benefits because it lessens the need for women to collect wood and reduces emissions as gas stoves are more efficient than wooden ones.

Future impact may be further foreseen as setting up an MRV system is an essential condition to access international climate finance, particularly that aimed at GHG mitigation projects.

Climate-related monitoring

A GHG inventory is a basic requirement at the heart of monitoring climate mitigation. The support provided by the FPS Environment is not however directly aimed at reducing GHG emissions themselves but at supporting the monitoring of such emissions which constitute clear climate related indicators. In order to monitor the work of the technical assistance it provides, the FPS Environment is in contact with the coordinator at a national level. The setting up of the inventory system (including that specific to HFC) and the existence of MoU with data providers are thus the object of review and evaluation. Beyond this work, , however, no system for monitoring the quality of the GHG inventory and its effectiveness in evaluating climate mitigation efforts is yet established.

More widely, climate impact and NDC implementation indicators are still waiting to be set up. It is necessary to build a system to collect information on NDC progress and centralise it, focalising on NDC plan activities. This responds to the guidelines established in the COP 24 in Katowice, to be implemented by 2024.

With the initial NDC, no effort was made to establish indicators of progress because these NDC were established at the last moment by international experts, and too focused on urgently setting up NDC plans and implementing them. After 5 years they are incapable of properly measuring effects obtained by the initial NDC plan although they do follow emissions.

Presently, there is a big demand from countries concerning NDC tracking in relation to adaptation and mitigation. To follow emissions, it is possible to follow the LEAP model which modelises future increases in emissions with respect to various sectors: transport, deforestation. One looks at where emissions will increase most and tries to act. Training on the LEAP model is provided in the context of the French cluster of the Partnership for Transparency in the Paris Agreement.

Expected sustainability

It is considered that the inventory system has enabled to set up a sustainable tool appropriated by Niger. However, Niger has already launched a call for offer to continue in the line of what Belgium has done. They wish to strengthen the institutionalisation of a database for an information system. They hope to continue working with Belgium and the CITEPA. After 2024, they will have an Enhanced Transparency Framework / cadre de transparence renforcé (CTR) and wish for Belgium to continue to support within this framework.

Authorities also consider that after the inventory, there is a need to strengthen capacity in terms of mitigation and intensify actions which will have an impact.

More generally, concerning sustainability of the intervention, it is pointed out that, future data collection could be jeopardised by a lack of resources to collect data. The MRV mission has already been confronted to such problems; indeed, it is expensive to travel the country, inspect sites and collect data: Niger's petrol production site, for instance, is 1300km away.

In addition, as in other countries, Niger suffers from a brain drain problem due to the fact that trained personnel tend to abandon local service to be employed by international organisations This however has not (yet?) been the case of personnel trained by CITEPA.

2.3. KivuWatt Rwanda

2.3.1. Presentation of the project

The KivuWatt project was initiated in 2011 and resulted in the commissioning of a power plant in 2015, straddling the city of Kibuye and the Kivu lake. The power plant is an innovative solution to the threatening reserve of methane and carbon dioxide (CO_2) dissolved in the Kivu lake[2]. **The main objectives for BIO to invest in KivuWatt were to provide broad access to affordable energy to Rwandans, to support private sector development, and to avoid new gas eruptions in the region** (interviews, representatives from BIO and Contour Global). The project is formally classified by BIO as an 'Energy efficiency electricity generation' undertaking, 'alternative to other form of thermal generation emissive source of CO_2 and contribution to diminution of methane emanation from the lake'[3]. During the project development stage, the 'fight against climate change' was not yet part of BIO's development assessment, which was only formalised in 2015[4]. In 2017, a back tracking exercise was conducted by BIO, whereby the 2015 assessment system was applied to older investments. Then, the KivuWatt project was identified as a climate-relevant investment qualifying for a Rio Marker 2 (primary objective).[5]

Acknowledging that methane is released regularly and may erupt when waters are saturated or when earthquakes occur[6], threatening the health of the two million inhabitants living nearby[7] and jeopardizing Rwandan mitigation efforts, the project extracts the gas to produce electricity[8] (interview, representative from Contour Global). The KivuWatt project represents the first instance of gas extraction from water in the world[9], which makes it a complex engineering operation and requires constant and costly monitoring (interview, representatives from Contour Global).

The facility offers a 26.2 MegaWatt (MW) generation capacity[10], and delivers a third of Rwandan energy production[11]. The plant will be transferred to the government property at the end of the 25 years concession period. Added to the low costs of the electricity produced, the project thus offers a strong social impact and has been generally welcomed by the local community[12]. The plant commissioner, ContourGlobal, conducted additional trainings for local fishers and farmers along with school refurbishments as corporate social responsibility projects[13].

From a geopoliticalal perspective, the project further represents an opportunity for cooperation between Rwanda and the DRC [14]. As the Kivu lake and its methane are a shared resource between the two neighbouring countries, the project had to garner DRC support prior to its development. A permanent Bilateral Regulatory Authority is now under consideration[15]. Congolese authorities also indicated their willingness to share knowledge and experience for developing equivalent methane extraction facilities.

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2 Lake Kivu's Great Gas Gamble, MIT Technology Review, 2015, Retrieved from: https://www.technologyreview.com/2015/04/16/248915/lake-kivus-great-gas-gamble/
3 Energy-Climate finance investments table (Shared by BIO)
4 BIO (2015). Annual report. Impact Investing From Belgium for Africa, Asia and Latin America. Retrieved from: http://docplayer.net/48460382-Impact-investing-from-belgium-for-africa-asia-and-latin-america.html
5 Based on e-mail correspondence with representative BIO, 6 May 2021.
6 Lake Kivu Gas Extraction, Report on Lake Stability, Kling et al., 2006, Retrieved from: https://www.wits.ac.za/media/wits-university/conferences/misgsa/documents/2019/Lake%20Kivu%20Gas%20Extraction%20Report.pdf
7 MIT Technology Review, Ibid
8 KivuWatt Investment Analysis, 2011 (Shared by BIO)
9 https://www.contourglobal.com/asset/kivuwatt
10 KivuWatt Annual ESMR, 2020 (Shared by BIO)
11 Project Review Report, 2019 (Shared by BIO)
12 KivuWatt Investment Analysis, 2011 (Shared by BIO)
13 Project Review Report, 2019 (Shared by BIO); KivuWatt Annual ESMR, 2020 (Shared by BIO)
14 MIT Technology Review, Ibid
15 KivuWatt Annual ESMR 2019 (Shared by BIO)

The intervention was approved under the BIO-FMO Risk Sharing Agreement and represents a 10€ million investment for Belgian cooperation[16]. BIO will not finance the next investment round of the KivuWatt project (interview, representative from BIO). A reason for this, amongst others, is that the project will be financed as part of a larger country portfolio, including projects that do not meet the International Finance Corporation's (IFC) environmental and social performance standards to which BIO is compliant.

2.3.2. Key findings

Climate relevance

As explained in the introduction, the initial purpose of the project was *not* to mitigate climate change, but to reduce the risk of a natural disaster in Lake Kivu in combination with the increased access to affordable energy for Rwanda (Interviews, representatives BIO and Contour Global). Due to the unique[17] chemical characteristics of the lake, the project climate relevance is not clear-cut.

Methane radiative forcing is estimated to be 20-25 times stronger than carbon emissions. For this reason, the CO_2 emissions associated with electricity generation are less detrimental to the environment comparatively to the natural release of methane. This rationale is central within the intervention logic of the KivuWatt project[18] (interview, representatives from Contour Global), which de facto does not rely on traditional criteria for establishing climate relevance. In this regard, the KivuWatt must be considered in the broader debate surrounding methane extraction: climate relevance must be questioned in terms of avoided emissions, other available technologies[19] and monitoring (see section 3.6.).

Due to this complexity, the climate relevance of the project highly depends on the baseline used for assessment. BIO's investment strategy relied on a broad baseline, which included the inevitable methane leaks from the lake and the use of expensive and polluting diesel generators by locals (interviews, representatives from BIO). From this perspective, the KivuWatt project's GHG emissions associated with methane burning were deemed acceptable by BIO at the time of project appraisal. Interviewees also flag that the project was selected prior to the development of BIO's sustainability strategy. For this reason, the climate relevance of the KivuWatt project was examined specifically from the perspective of the Rwandan context, rather than against systematic climate criteria. In 2017, a back tracking exercise was conducted by BIO, whereby the 2015 assessment system was applied to older investments. Then, the KivuWatt project was identified as a climate-relevant investment qualifying for a Rio Marker 2, due to the efficiency of its technology and the avoided emissions associated with local diesel generators and methane leaks (communication with a representative from BIO). The recent pledges by European development banks related to climate-neutrality[20] are likely to act as push for reviewing methodologies, which might affect the conclusions from this backtracking exercise (communication with a representative from BIO).

Following European guidelines to measure the impact of gas projects[21], three additional considerations may complement the rationale for qualifying the KivuWatt project as the best available technology available in the region. Added to the avoided use of diesel generators, and impossibility to use turbines on the instable surface of the lake (interview,

[16] KivuWatt Investment Analysis, 2011 (Shared by BIO)
[17] MIT Technology Review, Ibid
[18] Lake Kivu Gas Extraction, Report on Lake Stability, Kling et al., 2006, Retrieved from: https://www.wits.ac.za/media/wits-university/conferences/misgsa/documents/2019/Lake%20Kivu%20Gas%20Extraction%20Report.pdf
[19] Measuring the contribution of gas infrastructure projects to sustainability as defined in the TEN-E regulation, European Commission, 2020, retrieved from https://op.europa.eu/en/publication-detail/-/publication/364d69a4-1744-11eb-b57e-01aa75ed71a1/language-en
[20] EDFI Statement on Climate and Energy Finance, EDFI, 2020, Retrieved from: https://www.edfi.eu/wp/wp-content/uploads/2020/11/1.-EDFI-Statement-on-Climate-and-Energy-Finance-Final.pdf
[21] European Commission, Ibid

representatives from Contour Global), local environmentalists mention that the electricity production leads to a decrease of illicit charcoal use and associated deforestation[22]. Furthermore, it is important to measure actual rather than potential emissions. The fact that the KivuWatt project approaches but does not reach its full capacity (interview, representative of BIO) implies that emissions are lower than initial estimations. Finally, the impossibility to retrofit the powerplant for switching towards less radiative fuels may not be analysed as a detrimental lock-in, since methane is constantly produced and emitted by the lake.

Alignment with local objectives

The project is fully in line with Rwandan objectives for electrification and private sector development.

Rwanda's energy generation capacity remains one of the lowest of the continent, such that the project provides direct benefits to locals and national objectives. The KivuWatt project increased the national electrification rate from 6% to 10%[23]. Similarly, the project backs the national diversification of the energy mix and the focus on renewables.

The private sector is also indirectly supported by the project. The government-owned Rwanda Energy Group faces inefficiencies and elevated costs. The cost-effectiveness and management of the KivuWatt project directly led to decreased operational generation costs in the country[24]. This decreased yielded benefits for the government, with important savings in subsidies for electricity purchase. BIO also identifies this gain as a major advantage for businesses, offering opportunities for strengthened competitiveness[25].

Partnerships

Due to the high complexity and up-front costs (141.66USD million initially estimated[26]), BIO partnered with FMO, the Emerging Africa Infrastructure Fund (EAIF) and the AfDB. As mentioned above, BIO's participation took place under the BIO-FMO Risk Sharing Agreement, which suggests a coherent approach between Belgian action and international climate action of other donor countries. FMO initiated due-diligence and introduced the project to BIO[27]. The intervention is now identified as a global technological showcase and as a highly relevant investment for Rwandan communities, suggesting the efficiency of the partnership between BIO and its Dutch counterpart.

The Government of Rwanda has been a key partner since the inception of the project, as indirect buyer of the produced electricity and future owner of the facility. Nonetheless, tensions emerged in 2017 between national authorities and developers surrounding a tariff increase and monitoring. Lenders intensified visits to authorities and attempted to pacify relations, including through their embassies (interview, representative from BIO), yet relations have not sufficiently improved to consider the expansion of the project[28]. An arbitration is currently under way between the state-owned energy company and KivuWatt Ltd for damages associated with the delayed operation of the KivuWatt project[29].

Efficiency

The start of the implementation phase was delayed by 4 years, following difficulties with the initial contractor Civicon. Based on the interview with BIO's representative, as well as evaluation reports and further desk-review, the project appears to score well on efficiency during the implementation phase. This may be linked to regular compliance visits and monitoring activities. Due to the highly complex nature of the project, monitoring programs are in place for the physical state of the lake, additional quality and

[22] MIT Technology Review, Ibid
[23] Project Review Report, 2019 (Shared by BIO)
[24] BIO, Ibid
[25] BIO, Ibid
[26] BIO, Ibid
[27] KivuWatt Investment Analysis, 2011 (Shared by BIO)
[28] Project Review Report, 2019 (Shared by BIO)
[29] Operating Report to Lenders, 2020 (Shared by BIO)

environmental impacts (air quality, noise emissions, waste management) and social aspects (health and safety, social actions)[30]. As compliance is regularly and systematically ensured, and assessed against international standards, opportunities and challenges are identified early on. This generally supports the efficient conduction of the project.

Box 1. COVID-19 management

The management of the sanitary crisis supports the positive assessment of KivuWatt's efficiency. BIO's representative indicated that the COVID-19 risk was satisfactorily mitigated by pre-existing plans: the project adapted swiftly to the situation and only 2 cases of contamination were detected on-site.
The plan prevented major impacts on the facility, such that the operations were maintained. Likewise, the measurement of the environmental performance was conducted internally in March-July 2020 due to travel restrictions[31].
Despite this internal management, COVID-19 affected Contour Global. Administrative difficulties related to the crisis complicated the obtention of the subsidies owed by the Rwandan authorities. A decrease in electricity demand in 2020 due to the lockdown was also noted by the interviewee. Although caught-up since, this transitional change is not excluded in the future.

Effectiveness & Impact

The project can be considered as effective with regards to its key objective of electricity generation. Although the construction of the facility was delayed due to engineering challenges and a defaulting contractor[32], the operation is now running without major problems[33]. The extraction efficiency for methane revolves around 83%, which corresponds to minimized losses[34]. The overall operation approaches full plant capacity[35] and the grid availability[36] is increasing (currently reaching 93%; interview, representatives of Contour Global).

The project has an overall positive impact on local communities. BIO representatives' flag that certain families were re-located. They estimate that the extent of re-locations was acceptable compared to other infrastructure projects and to the social positive impacts of the KivuWatt project (e.g., creation of jobs, productivity of local companies). All actions planned under ContourGlobal corporate social responsibility have been launched, and a series of trainings have been conducted to build a pool of local staff members (interview, representative from Contour Global). The COVID-19 crisis reoriented a portion of the activities towards health objectives and the support to vulnerable families. The involvement of the commissioner in a Joint Action Development Forum, whereby 125 institutions coordinate social actions in the Kibuye district[37], suggests that the actions conducted are subject to synergies and maximized. Substantial projects such as the construction of water storage tanks are still under development and may therefore not be evaluated.

The effect of the KivuWatt project on the lake stability and biodiversity are the two major environmental risks[38,39], leading Contour Global to appoint a dedicated expert for environmental monitoring (interview, representatives from Contour Global; see 3.6.).

[30] KivuWatt Annual ESMR, 2019 (Shared by BIO); KivuWatt Annual ESMR, 2020 (Shared by BIO)
[31] KivuWatt Annual ESMR, 2020 (Shared by BIO)
[32] Project Review Report, 2019 (Shared by BIO)
[33] BIO, Ibid; KivuWatt Annual ESMR, 2019 (Shared by BIO)
[34] KivuWatt Annual ESMR, 2019 (Shared by BIO)
[35] Project Review Report, 2019 (Shared by BIO)
[36] The grid availability indicates the percentage of the total electricity produced by the KivuWatt which feeds-in the electric grid, thus accounting for inevitable losses of energy.
[37] KivuWatt Annual ESMR, 2019 (Shared by BIO)
[38] Management prescriptions for the development of Lake Kivu gas resources, Eawag, 2009, Retrieved from: https://www.dora.lib4ri.ch/eawag/islandora/object/eawag%3A19124
[39] MIT Technology Review, ibid

Concerns have been raised that the reinjection of water in the Lake after the methane extraction might affect the balance between the density layers of the lake[40]. Evaluations and BIO representatives indicate that the regular assessments of the lake stability have not revealed issues[41]. By contrast, a representative from BIO indicates that the removal of methane would have the potential to stabilize the lake if the plant was used at full capacity.

Impacts on the lake biodiversity remain difficult to assess. Initial feasibility studies had suggested that the project would affect the repartition of nutrients in the lake in such a manner that it would balance adverse impacts from climate change, and increase fish yields[42]. However, during the pilot stage of the project, fishermen noticed that their catches decreased. The cause of this trend may be attributable to the introduction of predator species in the lake, to the unregulated circulation of boats, or to the KivuWatt project[43]. BIO representatives do not signal impacts on fish yields.

From the perspective of BIO's mandate of private sector development, the KivuWatt project has an overall positive impact. BIO representatives attribute this success to the reliability of the electricity produced and to the lowered power prices. Local companies are not constrained by intermittent access to electricity, and Rwandan authorities realize important savings of subsidies due to the electricity costs decrease from 50 $ cents to 12 $ cents[44] (interviews, representatives from BIO and Contour Global). Nonetheless, a portion of the lake is not accessible anymore to fishers[45], which may have caused a decrease in their revenues. At the investment level, the KivuWatt project may be re-financed if sufficient interest from investors emerges. A teaser for the next investment round was issued in winter 2021 (interview, representative from BIO). Moreover, the experience of the KivuWatt led the company Symbion Power to undertake a similar project 50 kilometers further on the Kivu lake[46], suggesting that BIO has fulfilled its general objective of catalyzing private finance.

Climate-related monitoring

Amongst all projects under review, the KivuWatt project provides the strongest example of monitoring, although the monitoring is not motivated by climate mitigation objectives. Monitoring is characterized by regular visits, quarterly environmental and social monitoring reports[47]. It combines standard on-shore and tailor-made off-shore monitoring procedures.

On-shore monitoring ensures that the KivuWatt project complies with the World Bank standards on gas emissions (interview, representatives from Contour Global). Monitoring indicators include air concentration in nitrogen dioxide, sulphur dioxide, carbon monoxide and particulate matter. Measurements of air concentrations are assessed against WHO guidelines[48], such that fully climate-relevant measures (e.g. CO2e emitted for methane-based electricity production) are not available[49].

Off-shore, monitoring is tailored to the particular Kivu lake instability. The geological and environmental characteristics of the lake are constantly monitored to ensure that the project does not affect its surroundings (interview, representatives from Contour Global).

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[40] The repartition of gases and nutrients in the water leads to the stratification of the lake in several water layers, each bearing its specific density level. The layering esnrues the stability of the lake. See MIT Technollogy Review, ibid.
[41] KivuWatt Annual ESMR, 2019 (Shared by BIO)
[42] Lake Kivu Gas Extraction, Report on Lake Stability, Kling et al., 2006, Retrieved from: https://www.wits.ac.za/media/wits-university/conferences/misgsa/documents/2019/Lake%20Kivu%20Gas%20Extraction%20Report.pdf
[43] MIT Technology Review, ibid
[44] Comparatively with the costs of power from a diesel generator.
[45] MIT Technology Review, ibid; interview, representatives of BIO
[46] MIT Technology Review, ibid; interview, representatives of BIO
[47] KivuWatt Annual ESMR, 2019 (Shared by BIO)
[48] KivuWatt Annual ESMR, 2019 (Shared by BIO)
[49] BIO, Ibid; Ambient Air Quality Assessment Report, 2019 (Shared by BIO)

Along with the senior environmental lake expert mentioned above, an independent Lake Monitoring Unit is in charge of these assessments. The Unit is a Rwandan institution, fully integrated in the public Rwanda Energy Group, and is perceived as a strong safety guarantee by investors (interview, representative from BIO).

Expected sustainability

The KivuWatt project appears to deliver sustainable social, economic and climatic results. Corporate social responsibility activities are diverse and actively combined to existing local efforts[50], which paves the way to a strong buy-in and take-up of communities. Nonetheless, the communities' access to energy remains dependent on the investment strategy of the Rwanda Energy Group in electricity distribution, especially for communities located far from the powerplant (interview, BIO representative).

From an economic perspective, the project initiates efficiency gains and price decreases in the electric grid, which are solidly enshrined in national systems and thus likely to remain[51]. At a local level, the economy also benefits from the creation of around 45 jobs[52].

The developer's corporate strategy also serves BIO's sustainability goals. Indeed, representatives from Contour Global indicate that the company aims at a 'best in class' position in methane extraction, and considers implementing carbon capture & storage solutions on the KivuWatt plant.

These results must be linked to BIO's investment approach. As explained in interviews by BIO representatives, the institution ultimately aims at local self-sufficiency. For this reason, sustainability is addressed from the selection and inception phases (with BIO's representative mentioning criteria as permanent employment and equivalent number of people provided with energy), thus making it a core concern during operation.

2.4. WAter MAnagement and urban DEvelopment in Ha Tinh in relation to climate change (WAMADE), Vietnam

2.4.1. Presentation of the project

TheWAter MAnagement and urban DEvelopment in Ha Tinh in relation to climate change - WAMADE project is a university cooperation project implemented in Vietnam by VLIR UOS. Theproject studies urban development under climate change, and provides scientific support in the form of tools to develop sustainable development plans, taking into account the need for (1) flood risk mitigation, (2) the role that green in the city can play in support of such mitigation, (3) the related needs for housing (water robust and climate proof). The research is covered by different PhD researchers, but strong cooperation between them exists because of their interdependencies.

The overall academic objective of the intervention is to "Create and disseminate knowledge on flood risks and sustainable urban development in the humid tropics under climate change". The overall development objective is to "Increase the sustainability of urban development in a flood/drought prone coastal area under different scenarios of climate change and urbanization and provide policy guidelines to the Government of Vietnam".

Specific objectives are:

1. To understand the complex chain of causal links between occurrence of flood and drought in relation to climate change and urban development by applying and adapting the DPSIR framework (DPSIR – Drivers – Pressure – States – Impact – Responses)

[50] BIO, Ibid
[51] Project Review Report, 2019 (Shared by BIO)
[52] BIO, Ibid

2. To explore different scenarios of urban development with special attention for the blue and green networks and sustainable building concepts
3. To develop urban planning tools, particularly so as to mitigate flood risk.
4. To strengthen the capacity of Vietnam National University (VNU) in research and education on hydrology and sustainable urban development in relation to climate change

The research covers two main themes which are strongly interconnected with many feedback loops, and influenced by climate change:

- **Hydrology and Integrated Water Management;**
- **Sustainable urban development.**

More specifically, the intervention concerns flood hazard analysis and flood risk modelling in Ha Thin City. In partnership with the Institute of Vietnamese studies and Development Sciences (IVIDES), a Vietnamese institution based in Hanoï. The 5 year programme began in 2016 has a total budget of 299.978 euros.

The research involved 2 Vietnamese PhD students undertaking their PhDs in Belgium in :

- **Hydrological (current and future pluvial urban flood hazard) assessment of Ha Tinh**
- **Sustainable Urban Development in Ha Tinh**

Two Vietnamese students undertook local PhD's in Vietnam in :

- **Remote Sensing for Sustainable Urban Development in Ha Tinh**
- **Simulation of outdoor thermal condition of sub-urban neighborhood typology in Ha Tinh**

In addition, 4 MSc thesis by Belgian students were undertaken in :

- **Flood risk modelling for Ha Tinh city, Vietnam, under current and future climate conditions**
- **Modeling of the urban flood hazard for Ha Tinh City, Vietnam, under current climate conditions**
- **Assessment of the impact of local climate zones on pm2.5 concentrations in Hanoi, Vietnam"**
- **Assessment of tree canopy cover and land cover with Landsat imagery in Ha Tinh, Vietnam"**

Further research and training was also undertaken by PhD students and a set of 9 Belgium Professors from KU Leuven and Université Catholique de Louvain (UCL) as well as 4 Vietnamese Professors from VNU.

2.4.2. Key findings

Climate relevance

Vietnam is one of the countries most at risk from rising sea levels and climate change. According to the World Bank, Vietnam is the most vulnerable country among the 84 coastal developing countries in terms of impact of climate change on population, gross domestic product (GDP), urban sprawl and wetland areas. Within Vietnam Ha Tinh is one of the poorest provinces.

Vietnamese cities are highly vulnerable to urban flooding as a consequence of climate change and rapid urbanisation that further increases its already high vulnerability. A better urban planning is needed to respond to climate change, disaster risks-related problems and an increasing population. Water is identified among those problems, even more pronounced in coastal cities like Ha Tinh city, that suffer from more frequent and stronger storms and typhoons, a changing rainfall pattern, and more regular and extreme floods. Working on local climate zones so as to understand how you can make cities more robust and resilient to climate change by building them differently is also essential.

How does catchment behaviour change when soils become more impervious by urbanisation? What can urban and peri-urban green contribute to flood reduction and improving city life? What niches of the urban and peri-urban landscape can be used as buffer? What is the impact on floods, in house thermal comfort and the urban heat island of certain water management measures, of using different building materials and of spatial arrangements, or of methods of energy use? Where are the highest degrees of freedom and risks, regarding certain measures (e.g. dykes, flood areas, temporary storage, improved or reduced infiltration, etc.) on the quantity and quality of the water and in particular floods? What is the current status and use of urban green and how is this developing? How does urban development work to reduce greenhouse gas emissions, including green infrastructure, smart solutions for water sensitive design, preventing heat islands, energy efficiency, and establishing operational early warning systems and evacuation plans, etc.? What is the perception of flood risk, understanding of climate change and public views on flood protection? These are all key questions. There is also a need for baseline data and monitoring. Scenarios need to be developed to deal with the issues of floods, deteriorating environmental condition and an increasing population.

Moreover, Vietnam, as a MIC country, is ideal for university collaboration. The country has reached a stage that needs for state-of-the art knowledge, rather than monetary support and this is one of the strong points of universities. The knowledge gained will ultimately also benefit other lower income countries that are vulnerable to climate change.

Alignment with local objectives

Adaptation to climate change and urban development, particularly flood risk mitigation, is increasingly perceived by the Government of Vietnam and policy makers at the different levels as a crucial issue for the future.

The WAMABE project fits entirely within the priority theme 'Environment and natural resources (Climate change)' that is described in the Vietnam Strategy Document. There are links with the Health theme, by working on the prevention of flooding and its resulting damage and risks of diseases and the theme 'Technology Development' by developing a tool box for urban planners (Spatial explicit modelling, Remote Sensing, GIS) to assess risks, water balances, energy flows and energy and water balances and fluxes and develop alternative scenario's.

Moreover, Climate change and environment have been put forward in the strategy paper "The Belgian Development Cooperation in middle-income countries" and in the 2011-2015 Development Plan of Ha Tinh province.

Partnerships

VLIR's main counterpart for the intervention is IVIDES.

Initially, strong links were planned to be developed with the Enable "Water management and urban development in relation to climate change in the provinces of Ha Tinh, Ninh Thuan and Binh Thuan" development project that worked in 3 coastal cities. Enable wished to involve VLIR through Klimos in a case study. There were strong potential synergies but subsequently a change in Enabel personel led to a weakening of the collaboration.

Good relations have been developed between WAMADE and the Belgian Embassy in Hanoï. VLIR very much appreciates the collaboration of the Belgian Embassy. They used to have yearly workshops which were very much appreciated; it gave them moral support as well as a form of recognition and formal back up to their activities. The Embassy's support helps to obtain cooperation and support both from local authorities as well as other DPs. It also supports the emergence of additional projects and reaching out to a much wider audience then they would attain alone.

There were also links with a set of other on-going interventions:

- ASRO – KULeuven support to several PhD students from Can Tho University which contributed to a research project on "Water Urbanism to respond to Climate Change" (2010-2012), in collaboration with VIAP (Vietnam Institute of Architecture & Planning).
- A soil erosion project in North Vietnam implemented by Wallonie-Bruxelles International (WBI).
- Work by Institute for Soil and Environmental Transition (ISET) International, that is active in 5 more southern Provinces in Vietnam, and an IIED (International Institute for Environment and Development) project under the Asian Cities Climate Change Resilience Network (ACCCRN) on urban climate resilience planning in Quy Nhon city, Vietnam.
- An Asian Development Bank (ADB) project "Integration of Climate Technology Financing Needs into National Development Strategies, Plans and Investments Priorities" to conduct a climate change and technology assessment and evaluate the potential of incorporating various new and innovative climate technologies in the agriculture & water sector investments.
- Work by the Vietnam Green Building Council, an NGO working on the development and distribution of green building techniques and materials and works on certification.
- A Project on Climate change Induced water disaster and participatory information system for vulnerability reduction in North Central Vietnam (CPIS) funded by DANIDA (Denmark).

However, scant information is available on these interventions. Collaboration took place in various instances (soil erosion with WBI, IIED, ISET…) but the level of integration was weak and synergies appear to have been limited.

Efficiency

Despite a slight extension, the WAMADE project is considered as efficient.

Mapping the effect of hydrological infrastructure (dykes…) and the influence of man on waterflows was assisted by remote sensing methods and hydrological modelling methods. This helps see how modelled areas of flooding are different from observed areas of flooding and adjust the flood mapping models accordingly. On the whole it is a cost-effective way to achieve results and can be largely performed at a distance.

In terms of intervention method, one should note that, even though Ha Tinh remains the focal area of WAMADE, in 2019 part of the fieldwork was also carried in Hanoi. The size of Hanoi means that there is a larger contrast in local climate zones, air pollution, … making it more interesting from a scientific point of view.

A further important point is that adapting a city to climate change and making it more resilient can only be done with the local population and policy makers. Hence, a participatory environmental monitoring and modelling approach was important to achieving results.

Moreover, Covid-19 was obviously a setback for the entire WAMADE team. Beyond travel restrictions, for Vietnamese PhD students, social isolation in Belgium was mentally demanding. However, thanks to the Vietnamese government quite strict COVID control measures, it became rapidly possible again to carry out fieldwork driven and executed 100% by the Vietnamese team.

In terms of the collaboration with Enabel, the project started a year later than the Enabel action which was a problem as ideally research should come before development itself. As a result, Enabel's activities were already laid out before they could have any results which

lessened the interest of a collaboration with Enabel as there was no direct link with implementation. In addition, as Enabel wished to move ahead quickly, a lot of study work which could have been undertaken by VLIR was handed out to consultants. These did a god job but synergies between the two interventions were lessened.

Effectiveness & Impact

Most of the planned activities have been - or are being - carried out. Overall, most of the results will be obtained – and a bit extra with regards to the air quality work.

The study helped build a system for modelising (and predicting flooding) in urban areas. Research also helped understand how buildings can be made more climate proof. This links to the needs of housing but also to where you can build and where you shouldn't. Spatial phasing is a big issue both in Vietnam and in Belgium.

Green in the city is more related to local climate zones: they classify neighborhoods according to green spaces, the size of buildings or the height of buildings. This provides key information on how to design future cities.

More specifically, additional results can be pointed to:

- VNU benefited from the project through capacity building of staff and students. It has strengthened its experience and reputation as centre of excellence.
- Ha Tinh's city's people committee has benefited of the project's results on urban resilience planning.
- Ha Tinh provincial government has benefited through direct interaction with the scientists during project implementation. A decision support toolbox for local governments was planned to be developed to support sustainable urban planning (but no information has been collected on this tool).
- The national government has benefited from the research carried out in a small city whose results can be applicable to many other small cities in Vietnam.

Climate-related monitoring

In so far as this research project is concerned with data collection and modelisation of climate change effects one can say that climate related monitoring is at its core though it is embedded in the project itself and no specific monitoring system has been designed for the intervention as such.

Expected sustainability

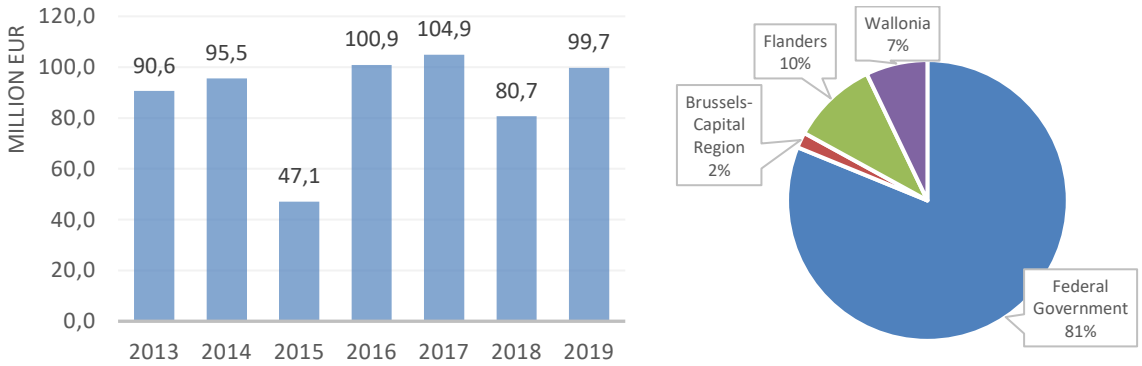
Sustainability of research results is inherent to the interest and relevance of such results. In the case of the WAMADE project results appear both relevant and crucial to future urban planning. It is likely that they will be very useful for the future.

Moreover, VLIR's collaboration with Vietnam in relation to climate issues goes on.

Annex 9: Overview of financial flows

This annex includes a general overview of the financial flows of the federal contribution to climate finance, including an overview of the 4 main actors in the scope of this evaluation (Enabel, BIO, NGA-IAs and FPS Environment).
Since 2013, with the exception of 2015, Belgium has consistently overshot its commitment to spend €50 million a year on international climate finance (figure 1). The Federal contribution alone – which represents 81% of the total financing over the period under analysis – covers the country's commitment.

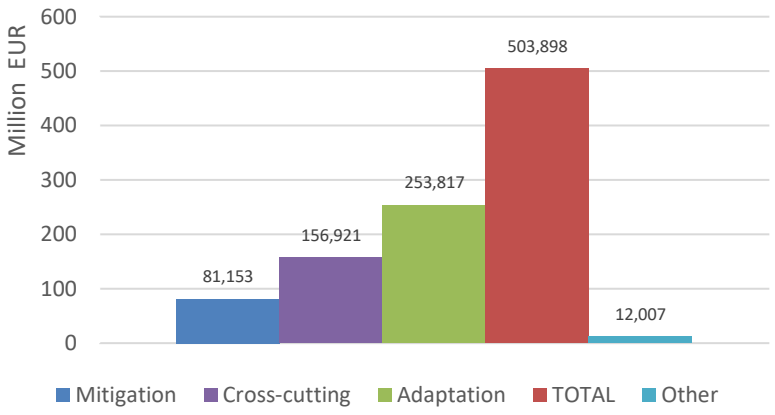
Figure 1 - Belgian contribution to international climate finance between 2013 and 2019 (in EUR) and share per source of funding. Source: ADE based on DGD data.



Source: ADE/Trinomics based on DGD data

The total federal contribution to international climate finance between 2013 and 2019 represents EUR 503.898 million. Belgian authorities are concerned about maintaining a balance between climate mitigation and adaption finance; as a result, over half of Belgian climate finance has been directly dedicated to climate change adaptation (figure 2). This proportion rises to 2/3 if one assumes that "crosscutting funds" are equally allocated to climate change adaptation and mitigation.

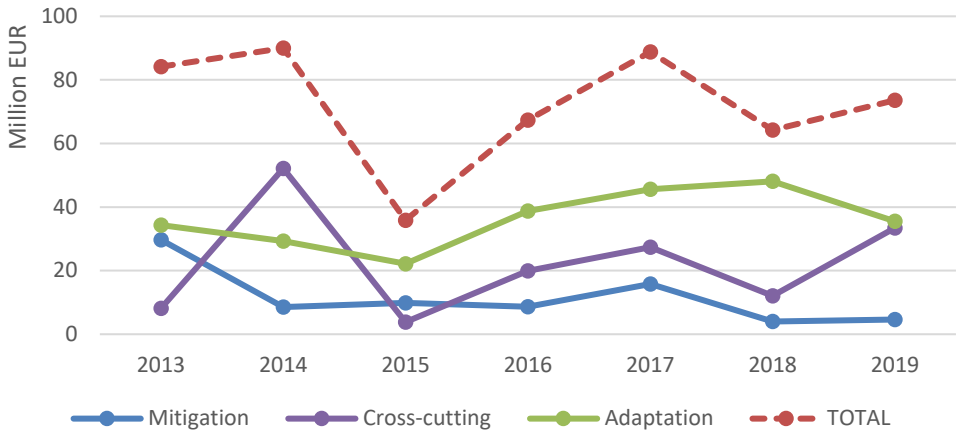
Figure 2 - Federal Climate Finance Total Amount, per type of support, between 2013 and 2019



Source: ADE/Trinomics based on DGD data

Overall, the Federal contribution to Climate Finance has ranged between EUR 60 and EUR 90 million per year, with 2015 being the year with the lowest contribution - around EUR 35 million (figure 3). This can be explained by the fact that no annual pledge to the LDCF was made in 2015. The evolution of federal contributions to international climate finance between 2013 and 2019 shows a consistent focus on adaptation year on year.

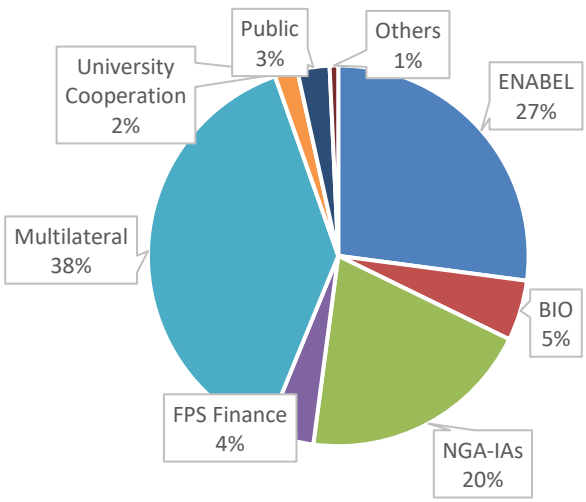
Figure 3 - Federal contribution to international climate finance per type of support between 2013 and 2019



Source: ADE/Trinomics based on DGD data

The distribution of the federal contribution to international climate finance according to the different types of actors supported between 2013 and 2019 (figure 4) indicates that the main recipients of Federal climate funds are multilateral agencies (38% of federal climate finance), followed by Enabel (27%) and NGA-IAs (20%). BIO (5%) and FPS Environment (less than 1%) have managed lesser shares of federal climate finance over the period 2013-2019.

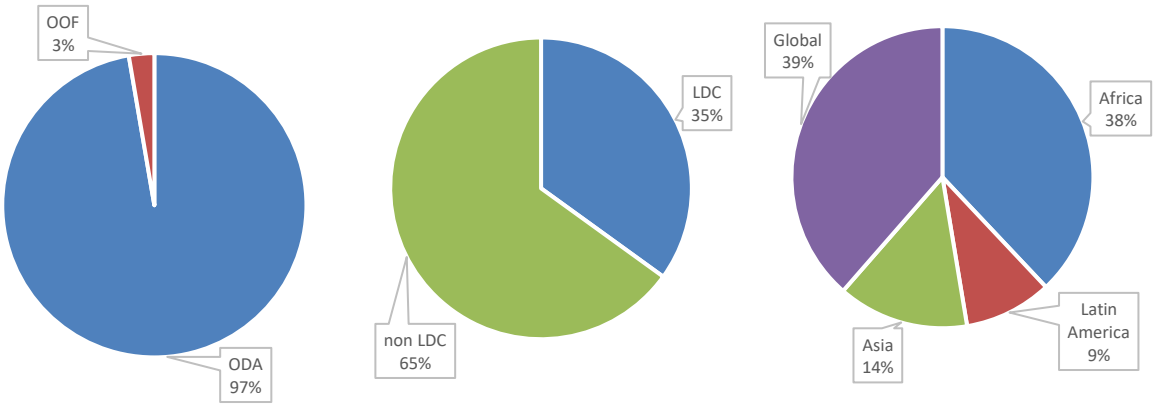
Figure 4 - Federal contribution to international climate finance per type of actors between 2013 and 2019



Source: ADE/Trinomics based on DGD data

For the period 2013-2019, on average, 97% of the contributions consisted of resources reported as ODA. Moreover, on average, over a third of federal funds were channelled to projects in LDCs. The majority of the resources were channelled to African countries (38%) and to global-level initiatives (39%); the rest were directed to Asia (14%) and Latin America (9%).

Figure 5 - Federal contribution registered as ODA and OOF; Federal contribution directed to LDC; and geographical distribution of federal contribution to international climate finance between 2013 and 2019



Source: ADE/Trinomics based on DGD data

For the analysed period, 95% of the federal contributions to international climate finance were provided through grants while small amounts of funds were provided through other financial instruments such as loans and equity.
In 2017 and 2019[7], federal contributions to international climate finance regists include Rio-markers information. During this period, on average, half of the federal contribution were registered under Rio-marker 1 (51%) and Rio-marker 2 (49%).

Figure 7: Federal contribution to international climate finance registered as Rio-1 and Rio-2 markers between 2017 and 2019. Source: ADE based on DGD data.

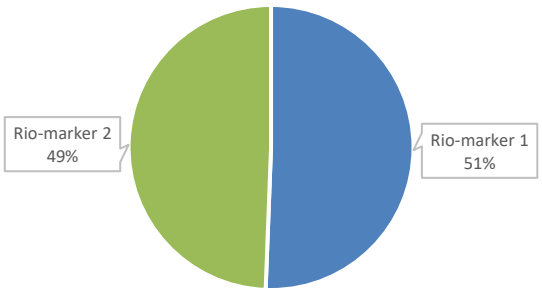
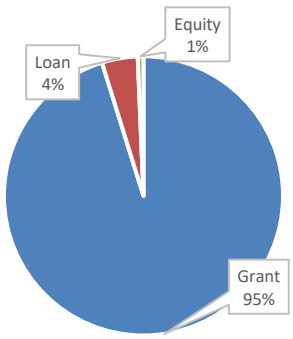


Figure 6 - Federal contribution to international climate finance through different financial instruments between 2013 and 2019. Source: ADE based on DGD data.

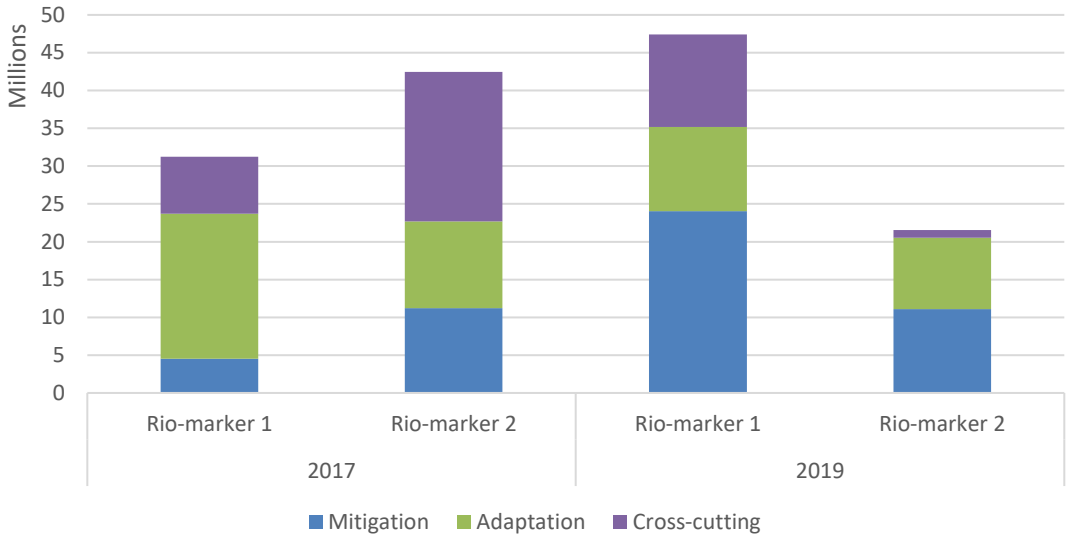


Source: ADE/Trinomics based on DGD data

Moreover, the contributions registered as Rio-marker 2 have decreased in 2019 (figure 8), while Rio-marker 1 registered contributions have increased from 2017 to 2019, with contributions with a mitigation focus representing almost 50% of the total federal contribution. Overall, this contribution analysis shows that there is a consistent trend in privileging adaptation over mitigation when supporting international climate finance. Moreover, most of the funding has been channelled to African countries or to global-level initiatives. Grants have been the main financial instrument used in the federal contribution to climate finance.

[7] Rio-marker data is only available in 2017 and 2019.

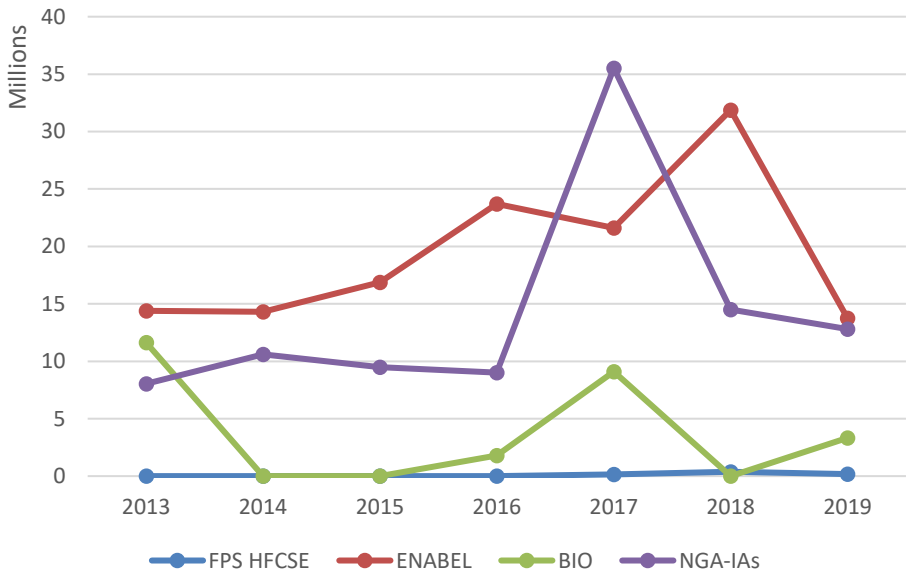
Figure 8 - Federal contribution to international climate finance registered as Rio-1 and Rio-2 markers, per type of support, in 2017 and 2019



Source: ADE/Trinomics based on DGD data

The federal contributions to these actors have followed quite a regular trend over the mentioned period with a peak in NGA-IA support in 2017 (figure 9).

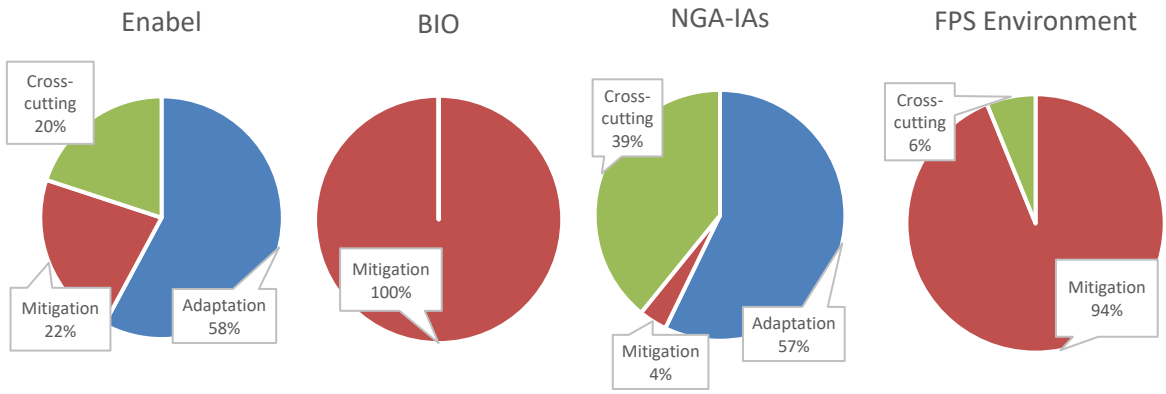
Figure 9 - Evolution of the federal contribution to international climate finance towards the 4 main actors between 2013 and 2019



Source: ADE/Trinomics based on DGD data

Overall, the Federal contribution to each of the 4 actors has ranged to a maximum EUR 35 million per year. The annual contribution to Enabel has ranged between EUR 13 million and EUR 31 million and to the NGA-IA between EUR 9 million and EUR 35 million. FPS Environment's ICF contribution has varied between 157 000 EUR and 381 000 EUR since 2017. Finally, based on the MMR, BIO has not invested federal contributions in 2014, 2015 and 2017. In the other years investments, calculated as grant equivalents following the OECD methodology, have ranged from EUR 1.5 million to EUR 11 million. The way grant equivalents have been calculated for BIO will be further analysed in the subsequent stages of the evaluation.

Figure 10: Contribution to international climate finance of the 4 main actors per type of support between 2013 and 2019. Source: ADE based on DGD.

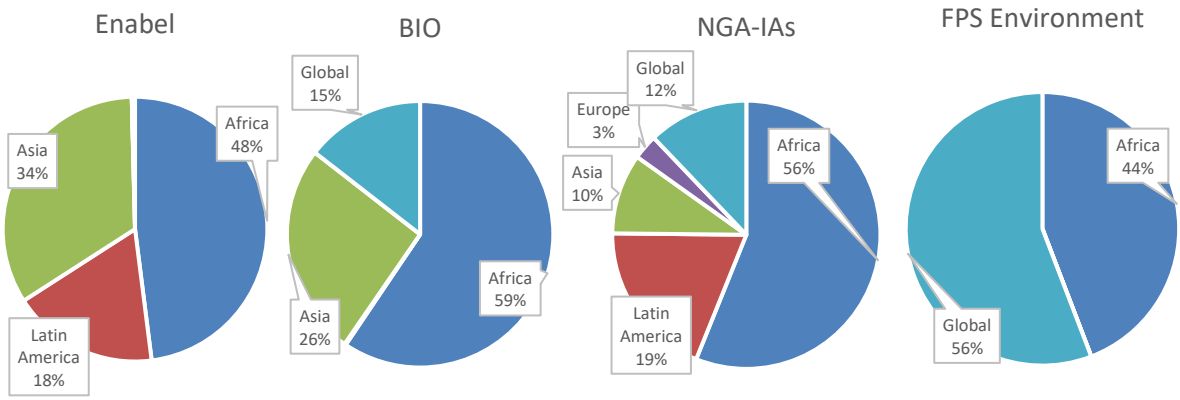


Source: ADE/Trinomics based on DGD data

As mentioned above, the evolution of federal contributions to international climate finance between 2013 and 2019 shows a globally consistent focus on adaptation year on year. However, there are some significant differences among the 4 main actors (figure 15). Enabel and NGA-IA contribution to climate finance focuses mostly on adaptation, with 58% and 57% respectively. BIO and FPS Environment contributions to international climate finance have a much higher focus on mitigation with 100% and 94%, respectively and almost no strictly adaptation interventions.

The majority of the resources of the main 4 actors were channelled to African countries, which is consistent with the overall federal contribution to climate finance. Asian countries have also received an important share of the funds of most actors and Enabel and NGA-IA have channelled a non-neglible part of their funds to Latin America. Finally, BIO, NGA-IA and FPS Environment channel a significant amount of funds to global-level initiatives.

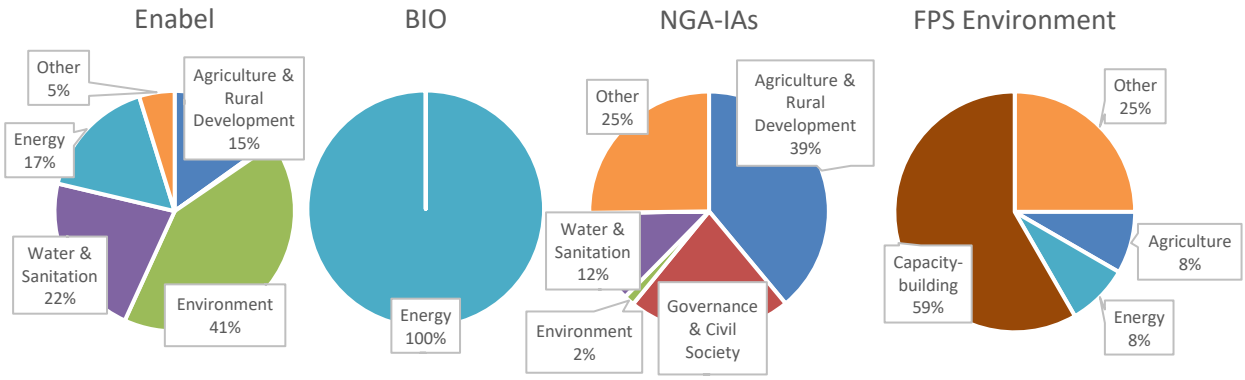
Figure 11: Geographical distribution of contribution to international climate finance of the 4 main actors between 2013 and 2019. Source: ADE based on DGD data



Source: ADE/Trinomics based on DGD data

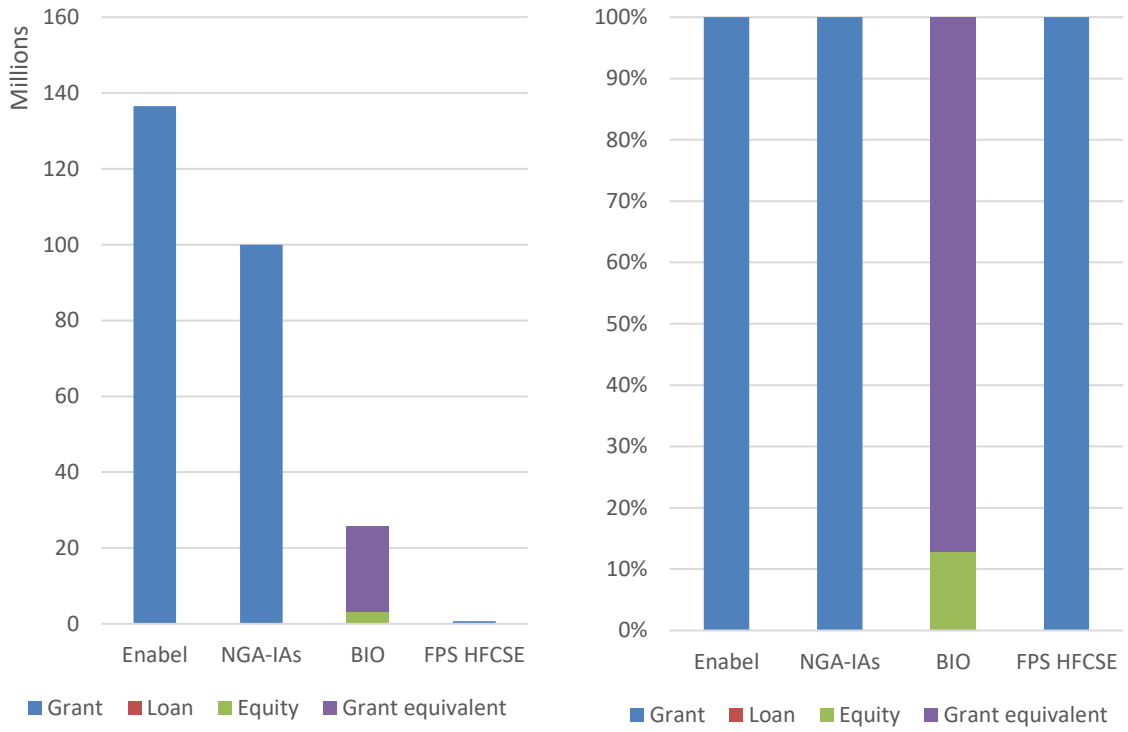
Between 2013 and 2019, BIO has channeled 100% of its contributions to climate finance to the energy sector. The FPS Environment has focused largely on capacity building, using 59% of its resources for that purpose. Enabel and NGA-IA contributions to climate finance are widely distributed amond different sectors. Enabel has channeled its resources to environment-related activities(41%), water and sanitation sector (22%), energy (17%) and agriculture and rural development (15%). While NGA-IA have focused on agriculture and rural development (39%) and governance and civil society (22%). The distribution of the contributions of the 4 main actors among different sectors can hence reflect the complementarity of the actors.

Figure 12: Sector distribution of contribution to international climate finance of the 4 main actors between 2013 and 2019. Source: ADE based on DGD data



Source: ADE/Trinomics based on DGD data

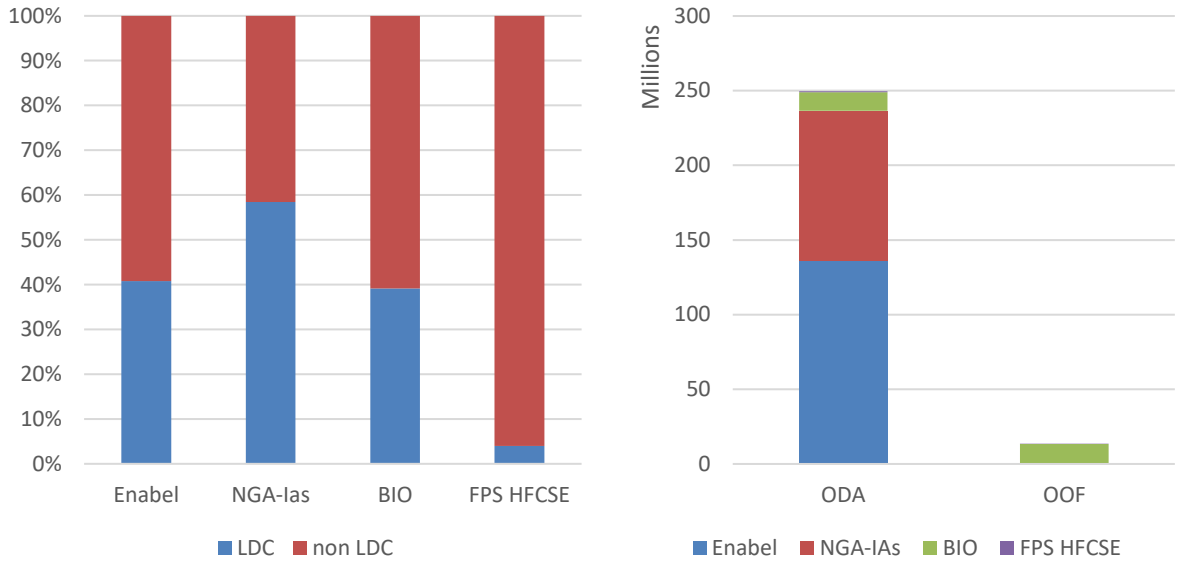
Figure 13 - Contribution to international climate finance of the main federal actors through different financial instruments between 2013 and 2019. Source: ADE based on DGD data



Source: ADE/Trinomics based on DGD data

Between 2013 and 2019, the main financial instrument used by Enabel, NGA-IA and FPS Environment were grants. BIO has mainly chanelled resources through the use of loans (presented as "grant equivalents" in the above figure), as well as through equity.

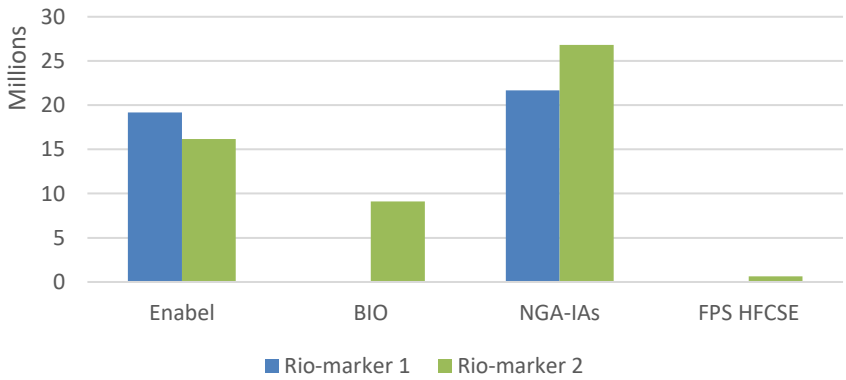
Figure 14 - Contribution to international climate finance of the main federal actors registered directed to LDC; and registered as ODA and OOF; between 2013 and 2019. Source: ADE based on DGD data.



Source: ADE/Trinomics based on DGD data

For the period 2013-2019, contributions of Enabel and NGA-IAs consisted of resources reported as ODA. BIO more or less split its contributions between ODA and OOF. It is unclear what this distribution is for FPS Environment: although the FPS Foreign Affairs considers these contributions as OOF, they are mostly reported as ODA in the MMR database (this will be clarified further on in the evaluation). Enabel, BIO and NGA-IA have, on average, channeled more than 40% of the funds to projects in LDCs. FPS Environment also appears to have channelled the majority of its funds to non LDCs, but this will be further analysed in the subsequent stages of the evaluation as much of its ICF, although it is reported as "global" may infact be mostly focused on LDCs.

Figure 15 - Contribution to international climate finance of the 4 main actors registered as Rio-1 and Rio-2 markers between 2017 and 2019



Source: ADE/Trinomics based on DGD data

Finally, between 2017 and 2019[8], Enabel and NGA-IA have reported around half their ICF contributions (EUR 16 million and EUR 26 million respectively) as Rio-marker 2 (climate specific support). On the other hand, BIO and FPS Environment report almost all their ICF support as rio-marker 2.

[8] Rio-marker data is only available in 2017 and 2019.

Annex 10: Rio Markers Methodology[9]

This annex aims at clarifying the methodological for the Rio Markers.

The system works as follows. A financial flow can be marked 0, 1 or 2. If mitigation or adaptation[10] is not an objective of the project, the score will be 0. If the mitigation or adaptation is the principal objective of the project, it will be scored 2. If the mitigation or adaptation is not the principal aim of the project but still significant, it will be scored 1. This method is also used by most of the Annex I-countries for their Biennial reports (OECD 2015). However, the Rio Markers system has not been developed with the purpose of quantification in mind: it is rather set up to make a qualitative "flagging" on whether an (ODA) project could be marked as climate-relevant or not.

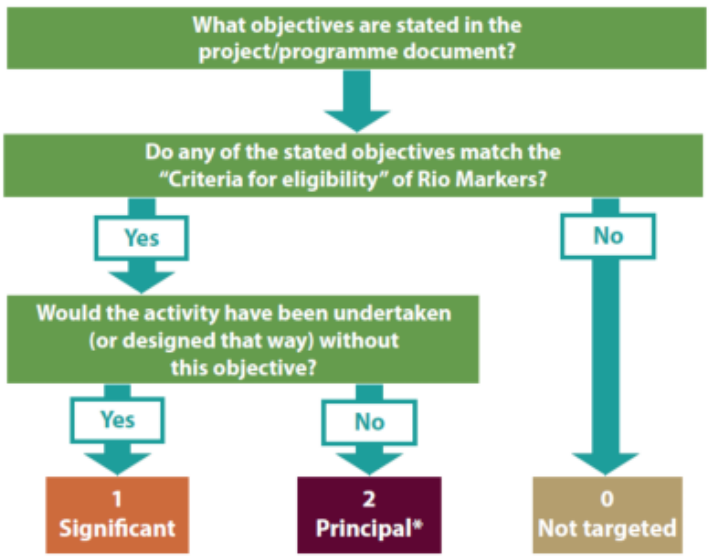


Figure 1: Decision tree for scoring an activity against a Rio marker

* Assigning a double "principal" score (e.g. to both mitigation and adaptation) to the same activity should be considered only upon explicit justification. Indeed, a sustainable forest management project can contribute to biodiversity conservation, to capturing carbon (climate change mitigation) and to reducing climate risk (climate change adaptation). In drylands such a project can also help to combat desertification; but not all score combinations are equally meaningful.

Although the Rio Marker method was never intended for the quantification of finance flows, most countries are now using it for their climate finance reporting, as the system is rather straightforward and has the advantage of clarity. However, the use of the Rio Markers has one major discussion point, which is related to the weighting of the flows to get an aggregated estimate for the total climate flows. For the activities marked '0' or '2', the weighting issue generates no discussion:

- If an activity is marked '2' (principal), climate finance are accounted at 100%, and the whole sum is taken into account for calculating total climate flows.

[9] See "OECD DAC Rio Markers for Climate: Handbook"; OECD DAC, 2015

[10] Only mitigation and adaptation are referred two as the other two markers (desertification and biodiversity) are not used for this evaluation.

- If the activity has a marker '0' (not an objective), logically 0% of the flow is labelled as climate finance.

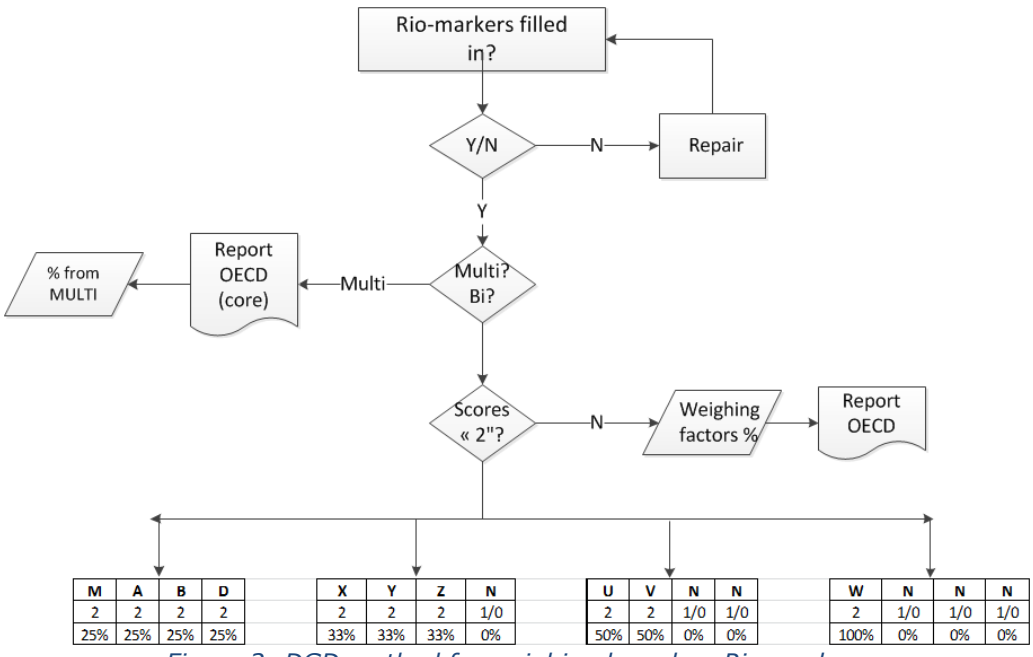
However, for the activities marked '1' (climate is not the principle, but still a significant objective), several options are available with regard to the weighting. Although several countries use different practices and weighting methods with regard to the treatment of the '1' markers, two main options are used within the Belgian context:

Method 1: 0-40-100: The European Commission and the Flemish actors have decided to use the following weighting method:

- 0 % if the activity scores 0 on both the mitigation and adaptation marker
- 40 % if the activity scores 1 on one of the markers
- 100% if the activity scores 2 on one of the markers

If a project marks on "1" for both mitigation and adaptation, only 40% in total is counted as climate finance (20% mitigation and 20% adaptation). Flanders does this by categorizing the activity as cross-cutting (both mitigation and adaptation), rather than marking it both on mitigation and adaptation.

Method 2: DGD method: The Federal Development Cooperation administration (DGD) has developed its own weighting method based on sector codes which are attributed to each project. In total, there are 101 categories. The DGD weighting factors per sector can be found in Annex 1 (in Dutch). The rationale between this weighting method 'sui generis' is the possible overvaluation (double counting) of the 40% which is attributed to the "1" marker in the Flemish and EU systems (Interviews). This weighting method has been developed for all Rio Markers (including desertification and biodiversity), in order to avoid double counting (Interviews). If a project scores 1 on mitigation or adaptation, the sector code will define the percentage of the budget that can be allocated as climate finance (ibid). In practice, the total percentage allocated to the total of the two climate-related Rio markers rarely exceeds 40% of the flow. As a result, the DGD method mostly leads to significantly lower total climate flows than method 1. The decision tree used for the DGD method is as follows:



M	A	B	D
2	2	2	2
25%	25%	25%	25%

X	Y	Z	N
2	2	2	1/0
33%	33%	33%	0%

U	V	N	N
2	2	1/0	1/0
50%	50%	0%	0%

W	N	N	N
2	1/0	1/0	1/0
100%	0%	0%	0%

Figure 2: DGD method for weighing based on Rio markers

The DGD method does not only take into account the mitigation and adaptation markers, but also the biodiversity and desertification markers. The sum of the four markers can never exceed 100%. This means that, even with a marker 2 for 'mitigation', the weight can be less than 100%, if there is a positive marker for biodiversity or desertification. For example, a project with markers 2-0-20 will get a 50% climate finance weight in the DGD method but a 100% climate finance weight in the 0-40-100 method. The example shows that the two methods can result in different weights in case of a marker '1' or '2'.

Lise Van Dyck and Kris Bachus (2016) indicate that the **Rio Marker methodology** proves to be very helpful in defining which projects are climate-relevant and which are not. The manual is clear and user-friendly, which makes it relatively easy to give the correct marker to each project. However, the method also has its limitations, especially in deciding the difference between a '0' and a '1': here, a strict application of the Rio Marker methodology would probably lead to less projects being selected. We suspect (on the basis of titles) that many projects currently marked with a '1' in the database only have a limited climate component.
- The DGD 0-40-100 method usually **leads to higher reported climate finance flows**, as the description per actor clearly shows. However, we suspect this difference is partially due to the different attribution of the Rio Markers. DGD includes several programme funding for NGOs, but only weights them at 5%. Under the 0-40-100 method, these projects are automatically weighted at 40%, which explains the big difference. The DGD method may have a higher validity for the projects with Rio Marker '1', while the 0-40-100 method has the benefit of international comparability, although the 0-40-100 method is not applied by every country.