Systematic Observations Financing Facility (SOFF)

Key results:
- Improved weather and climate prediction products
- Compliance with Global Basic Observing Network (GBON)
- GBON national contribution developed and verified
- GBON infrastructure and human and inst. capacity in place
- Data internationally shared and results-based finance provided

Justification for support:
- Responds to the UN Secretary-General's call at UNFCCC COP 26 and Danish commitments to enhance adaptation funding and engagement in addressing losses and damages with a focus on LDCs and SIDS. Supports the action launched by UN Secretary-General to *"ensure every person on Earth is protected by early warning systems within five years"*.
- Closes large meteorological data gaps that are a significant bottleneck for establishing effective climate modelling and early warning systems, but that few other initiatives invest in it.
- Enables informed and better preparedness, adaptation planning, and response strategies – thereby addressing the humanitarian-development nexus.
- For every dollar invested in climate data, at least twenty-six dollars in socio-economic return could be realised (World Bank).

Major risks and challenges:
- *Insufficient investment in downstream links of the hydromet value chain, leading to limited uptake/use of the weather data generated and made available by SOFF.* There are several ongoing climate modelling and early warning initiatives, which all rely on weather data. Mitigation: SOFF support is embedded in downstream initiatives, other initiatives are included in SOFF governance structure.
- *SOFF is not able to mobilize sufficient resources or interest from funders and investors to reach optimal operational levels or function at full capacity and/or initial fund-raising targets are unrealistic.* SOFF has already mobilised sufficient funding for initial support for the first 15 countries but is still significantly below the minimum fund mobilisation target. Mitigation: Proactive resource mobilisation, adjusting targets to correspond with available funding.
- *Sufficient longer-term funding for result-based financing for operation of maintenance is not mobilised.* The SOFF still has a major funding gap and that there is a history of donors not living fully up to the funding pledges made at UNFCCC COPs. Mitigation: the SOFF is a ten-year initiative, so there is considerable time to develop and strengthen the planned results-based finance mechanism.

File No.	2021-19859				
Country	Global				
Responsible Unit	GDK				
Sector	Environment and climate change				
Partner	UN MPTF Office, WMO, UNEP, UNDP				
DKK million	**2022**	**2023**	**2024**	**2025**	**Total**
Commitment	25				25
Projected disbursement	15.5	0.5	9.5	-	25
Duration	3 years: 1 July 2022 – 31 June 2025				
Previous grants	N/A				
Finance Act code	06.34.01.70				
Head of unit	Karin Poulsen				
Desk officer	Lisbeth Jespersen				
Reviewed by CFO	Katja Thøgersen Staun				

Relevant SDGs

Objectives:

Strengthen climate adaptation and resilient development through improved weather forecasts, early warning systems and climate information.

Environment and climate targeting - Principal objective (100%); Significant objective (50%)

	Climate adaptation	Climate mitigation	Biodiversity	Other green/environment
Indicate 0, 50% or 100%	100%	0%	0%	0%
Total green budget (DKK)	25m	0	0	0

Justification for choice of partner:

WMO is the designated UN agency for promoting international hydromet cooperation and coordination, and is responsible for the creation of global standards for observation. It is tasked with strengthening the provision of weather and climate services to reduce disaster risks and prevent climate induced losses and damages. UNDP has a network of 170 country offices and experience with working directly with national and local authorities. UNEP is the UN's designated lead agency on tackling the triple planetary crisis of climate change, biodiversity loss, and pollution. UNEP has strong expertise in advocacy, making knowledge and information accessible, and environmental and social safeguards.

Summary:

SOFF is a financial mechanism for the implementation of GBON, focusing on creating the foundation for effective weather and climate information services. SOFF aims to massively boost the collection and international exchange of basic surface-based observational weather and climate data, benefitting SIDS and LDCs in particular, and to a lesser extent emerging economies. In particular, the SOFF focuses on increasing capacities and systems for collecting weather data and sharing it globally through WMO, enabling compliance with GBON. SOFF will provide capacity development support and financing for weather station installation and rehabilitation. It also aims to build a long-term global system for results-based financing of weather data collection to finance the data collection in LDCs and SIDS.

Budget (engagement as defined in FMI**):**

Engagement 1 – the development project	DKK 24.5m
Engagement 2 – mid-term review	DKK 0.5m
Engagement 3 – un-allocated funds	-
Total	**DKK 25m**

Ministry of Foreign Affairs of Denmark

Danish Support for the UN Multi-Partner Trust Fund for the Systematic Observations Financing Facility (SOFF)

2022-2025

Project Document

Final
3 November 2022

Ref: F.2 2021-19859

List of contents

List of Acronyms

ADB	Asian Development Bank
AfDB	African Development Bank
AOSIS	Alliance of Small Island States
COP	Conference of the Parties
CREWS	Climate Risk and Early Warning Systems
CSO	Civil Society Organisation
DAC	Development Assistance Committee
DKK	Danish Krone
DMI	Denmark's Meteorological Institute
ELQ	Evaluation Learning and Quality unit
EUR	Euro
FPIC	Free Prior and Informed Consent
FRR	Final Results Report
GBON	Global Basic Observing Network
GDK	Green Diplomacy and Climate unit
GNDR	Global Network of Civil Society Organisations for Disaster Reduction
hPa	Hecto Pascal
HRBA	Human Rights-Based Approach
IDB	Inter-American Development Bank
IE	Implementing Entity
IFAD	International Fund for Agricultural Development
IPCC	Intergovernmental Panel on Climate Change
IsDB	Islamic Development Bank
LDC	Least Developed Country
LNOB	Leave No-One Behind
MEK	Ministry of Climate and Energy of Denmark
MFA	Ministry of Foreign Affairs of Denmark
MoU	Memorandum of Understanding
MPTF	Multi-Partner Trust Fund
NDF	Nordic Development Fund
NMHS	National Hydrological and Meteorological Services
NWP	Numerical Weather Prediction
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
REDD	Reducing Emissions from Deforestation and Degradation
SAA	Standard Administrative Arrangement

SDG	Sustainable Development Goal
SIDS	Small Island Developing State
SOFF	Systematic Observations Financing Facility
SSC	Strategic Sector Cooperation
ToC	Theory of Change
ToR	Terms of Reference
UN	United Nations
UN-REDD	United Nations REDD Programme
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNEG	United Nations Evaluation Group
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	US Dollar
WFP	World Food Programme
WIS	Weather Information System
WMO	World Meteorological Organization

1 Introduction

The present project document outlines the background, rationale and justification, objectives and management arrangements for development cooperation concerning the Danish Support to the UN Multi-Partner Trust Fund for the Systematic Observations Financing Facility (SOFF) in 2022-2025 (the SOFF's first implementation period), as agreed between the parties: the United Nations Multi-Partner Trust Fund Office (UN MPTF Office, hosted by UNDP) the World Meteorological Organization (WMO), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), and the Green Diplomacy and Climate (GDK) unit of the Ministry of Foreign Affairs of Denmark (MFA). The project document is an annex to the legal bilateral agreement with the implementing partners and constitutes an integral part hereof together with the documentation specified below.

"The Documentation" refers to the partner documentation for the supported intervention, which are the "*Systematic Observations Financing Facility (SOFF) Terms of Reference*", the *"Standard Administrative Arrangement for Systematic Observations Financing Facility Using Pass-Through Fund Management"* (SAA), the *"Standard Memorandum of Understanding for Systematic Observations Financing Facility Using Pass-Through Fund Management, November 2021"* (MoU), and the "*Draft SOFF Operational Manual*".

2 Context, strategic considerations, rationale and justification

2.1 Context

The climate crisis is rapidly accelerating, and the impacts are now visible everywhere, including record-breaking temperatures, and increased floods and wildfires. The number of disasters has increased by a factor of five over the past five decades, and economic losses have increased sevenfold with average daily losses of USD 383 million. There thus is an urgent need to enhance the level of ambition on climate change adaptation, and the annual adaptation funding needs in developing countries are expected to increase by up to USD 300 billion by 2030, and by up to USD 500 billion by 2050, so the current level of finance would need to increase tenfold by the end of this decade to meet the needs. (See Annex 1).

2.2 Rationale and justification

At the 26th Conference of the Parties (COP 26) of the United Nations Framework Convention on Climate Change (UNFCCC) in 2021, UN Secretary-General Guterrez called for a breakthrough in addressing climate change adaptation needs and loss and damages, appealing to all donors to allocate 50 pct. of their climate financing to climate change adaptation, and emphasising that early warning systems save lives. At the World Meteorological Day (23 March 2022), the UN Secretary-General announced that the UN would spearhead *"new action to ensure every person on Earth is protected by early warning systems within five years"* and appointed WMO to lead the effort and present an action plan at COP 27. Many countries have responded positively to this appeal, including Denmark, which has committed to direct at least 25 pct. of the Danish ODA towards climate action, of which 60 pct. would be for climate change adaptation in the poorest and most vulnerable countries.

Effective climate change adaptation and action to address loss and damages require access to high-quality weather and climate science and data. However, large data gaps in basic weather and climate observations limit the quality, accuracy and timeliness of weather forecasts and climate prediction, in particular in Least Developed Countries (LDCs) and Small Island Developing States (SIDS), which at the same time are the most vulnerable to weather hazards and climate change.

At the COP 25 in 2019, the major development and climate finance institutions formed the Alliance for Hydromet Development to scale up and unite efforts to generate better weather forecasts, early warnings, and climate information. As its first priority, the Alliance committed to establishing the Systematic Observations Financing Facility (SOFF) to close the weather and climate observation gap. WMO, UNDP, and UNEP decided to establish a Multi-Partner Trust Fund (MPTF) as a financial mechanism for the SOFF. At COP 26, the Danish Minister for Development Cooperation confirmed that Denmark would contribute to the SOFF MPTF.

The weather and climate data gap: Effective climate change adaptation decision-making requires quality weather and climate information, and investment in all six links of meteorological value chain presented in Box 1. However, most initiatives to improve climate modelling and early warning systems operate at the national level and focus mainly on the last three links of the value chain, and access to meteorological data remains a significant bottleneck for their accuracy and timeliness.

The weather and climate in any location is part of a global system, so the first three links in the value chain and rely on a global implementation approach. Accurate forecasting and modelling require access to local, regional and global data of sufficient accuracy and geographical granularity. For a prediction horizon beyond 24 to 36 hours, global observational data and global models are needed to underpin the predictions in any location. At the same time local observations are necessary for the models to generate the necessary data for effective forecasting at the national and local levels.

In 2019, the World Meteorological Congress established the Global Basic Observing Network (GBON), which specifies clear requirements for all WMO Members vis-a-vis gathering essential data at a minimum level of spatial resolution and time interval and freely exchange these internationally. However, LDCs and SIDS significantly lack the infrastructure and capacity to meet GBON requirements and need to rehabilitate or install approximately 2,000 weather stations to achieve the GBON target of about 2,300 stations.

The total estimated funding needed to support LDCs and SIDS in closing the GBON gap corresponds to USD 400 million for the next three-year period, which would support at least a tenfold increase of observations from LDCs and SIDS. Closing the GBON gap would be highly economically efficient; According to the World Bank, for every dollar invested at least twenty-six dollars in socio-economic return could be realised.

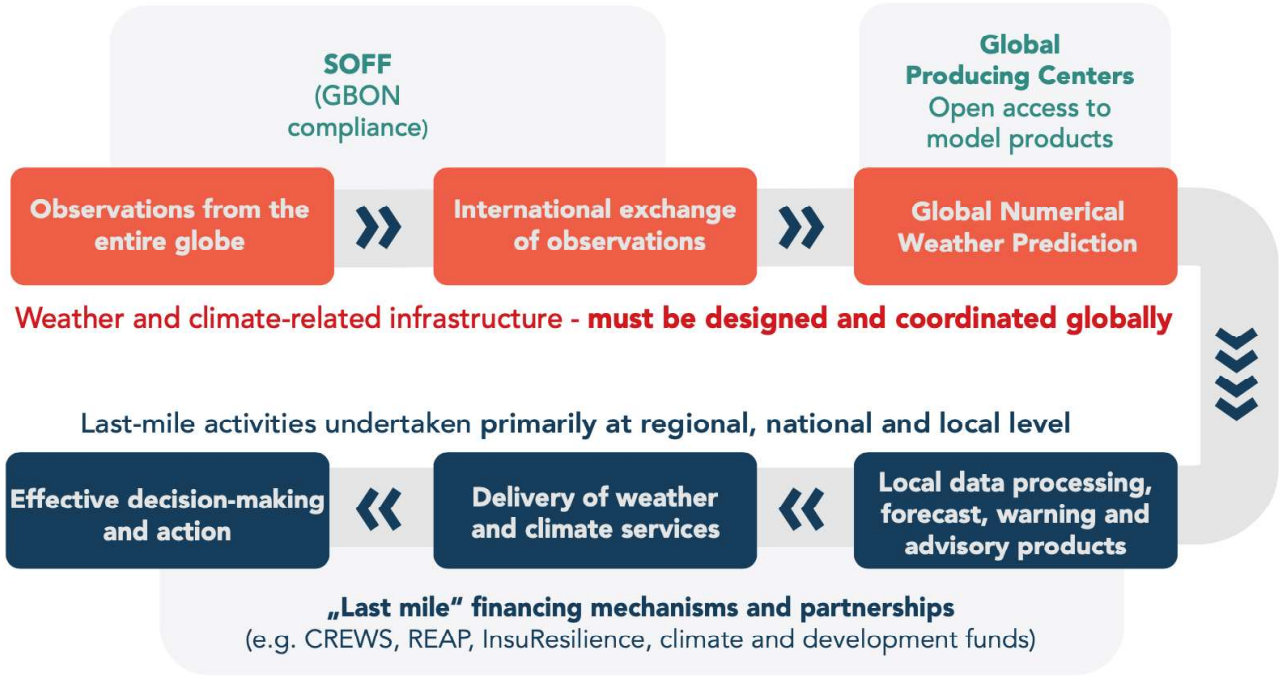
Box 1: The meteorological value chain

1. **Weather and climate observations** routinely made over all areas of the globe
2. **Observations exchanged internationally**

3. Numerical Weather Prediction (NWP) **output monitoring and prediction data** generated and shared internationally
4. **Global NWP output used** to generate weather and climate information (e.g. forecasts, warnings, seasonal outlooks, climate monitoring and prediction)
5. **Weather and climate information services** are delivered to users
6. **Effective decision-making** based on weather and climate information

The SOFF's contribution: The SOFF is a financial mechanism for enabling compliance with GBON to create the foundation for effective weather and climate information services (see Figure 1) – benefitting SIDS and LDCs in particular, and to a lesser extent emerging economies. It is a ten-year initiative, comprising three implementation periods of three, two and five years, respectively. The SOFF focuses on addressing gaps in the first two links of the meteorological value chain (see Figure 1), namely: 1) increasing capacities and systems for collecting weather data (including the necessary weather data infrastructure and equipment), and 2) sharing weather data globally through WMO. The SOFF will promote the establishment of a global results-based payment system, where LDCs and SIDS will receive international financing for continued operation and maintenance of national weather data collection systems, provided they collect and share weather data freely. The SOFF initially focuses on implementing weather infrastructure in areas with a clear national jurisdiction. Therefore, marine stations are not supported, but may be considered at a later stage.

Figure 1. SOFF and the meteorological value chain



Source: WMO Secretariat, 2021

Coverage of Danish priorities: The planned Danish contribution to the SOFF reaffirms Denmark's commitment to contribute to climate change adaptation and addressing loss and damages. Funds for the SOFF MTFP were earmarked under the Danish development assistance budget in March 2022, based on a dialogue between WMO, UNDP, UNEP, and GDK (the MFA's thematic focal department for environment and climate change).

The Danish support for the SOFF will contribute to a number of priorities outlined in "***the World We Share – Denmark's Strategy for Development Cooperation***", in particular the **fight for climate, nature, and the environment**. Specifically, it will contribute to the Danish objectives of "*strengthening action to support climate change adaptation, nature, the environment and resilience in the poorest and most vulnerable countries*", "*leaving no-one behind*", and "*assuming international leadership within climate change adaptation…*". This

will be done by improving quality and availability of weather and climate data, which will allow for better weather forecasting and climate modelling. In turn, this will improve the evidence-base and inform decision-making at all levels (farmers, private sector, civil society, academia, local authorities, national authorities, regional bodies, international organisations), thus enabling better and more timely response strategies. Thereby, disaster prevention measures and response strategies can be made more effective, which will help saving lives, reducing damage to infrastructure and assets, reducing crop losses, and increasing agricultural productivity, thereby reducing vulnerability and enhancing resilience.

Poverty alleviation, leave no-one behind, gender, and human rights: Given that the poor, including the poorest of the poor and *women*, are disproportionally vulnerable to climate change, a contribution will be made to *poverty reduction*, *inclusive development*, and *leaving no-one behind*. The SOFF's strong focus on supporting LDCs and SIDS further contributes to this. Enhanced resilience may also reduce the pressure on vulnerable people to migrate. As such, the SOFF will make a contribution to strengthening *the link between development and humanitarian action*. Improved access to quality weather and climate-related information will also enhance civil society and citizen capacities to engage in informed decision-making and advocacy, so while the SOFF will not directly contribute to the promotion of human rights, it will make an indirect contribution to *empowering rights-holders to hold duty-bearers accountable*.

Moreover, a contribution will be made to Denmark's aspirations to "*raise the global climate ambitions*", as expressed in "***A Green and Sustainable World – The Danish Government's long-term strategy for global climate action***". In particular, the support for the SOFF will contribute to *"driving adaptation and resilience initiatives in the fight against climate change"* and *"increasing the ability to adapt to the adverse impacts of climate change affecting the poorest most severely and foster climate resilience"*. By promoting the establishment of a global results-based financing system for meteorological data collection in developing countries, the SOFF will contribute to *"ensure green development cooperation rooted in solidarity"*. ***Danish competencies and solutions*** will come into play through the engagement of Denmark's Meteorological Institute (DMI) as a SOFF peer advisor providing technical support to one or two meteorological institutes in Africa (see section 7 for a description of the Peer Advisor role in the SOFF).

The SOFF will contribute to achieving the internationally agreed adaptation targets under the United Nations Framework Convention on Climate Change (UNFCCC). It will also contribute to the Sendai Framework for Disaster Risk Reduction, in particular priorities i) understanding disaster risk, and iv) Enhancing disaster preparedness for effective response. Supporting the implementation of the SOFF will thus be a tangible manifestation of the ***Danish commitment to promoting multilateralism*** and cooperating with the UN.

With an explicit focus on generating necessary data and information for effective climate change adaptation and enhance the resilience of communities, the climate change adaptation Rio marker will be a significant objective of the project.

Annex 3 provides a justification of the project based on the six OECD/DAC quality criteria.

2.3 Strategic considerations

SOFF and the humanitarian-development nexus: Access to better weather data with a finer spatial and temporal resolution will allow for more accurate and more timely weather forecasts and early warning. It will also allow better modelling of the longer-term implications at the local level of climate change. This, in turn, will allow for better adaptation and enhanced resilience of livelihoods to a changing climate as well better preparedness and responses to weather hazards. In other words, better weather data can contribute to bridging the humanitarian-development nexus, both reducing the need for humanitarian assistance and facilitating timely delivery of humanitarian assistance. Moreover, better preparedness can also contribute to the prevention of development investments (e.g. in infrastructure or in land productivity) being destroyed by extreme weather events.

Links to other initiatives targeting the meteorological value chain: SOFF investments at the country level will not be stand-alone initiatives but incorporated as a component in existing or planned hydro-

meteorological or climate resilience and adaptation projects implemented by SOFF Implementing Entities (see Section 7). This is done to: a) ensure in-country coordination and action across the entire meteorological value chain, b) gain economies of scale in implementation and reporting, high-quality support from the Implementing Entities to the NMHS for GBON gap closure, and c) raise the profile of NMHS with central authorities (e.g. ministries of finance or planning). Depending on the nature of the host project, it is also expected to provide a link from the SOFF to the end-users.

Most other related initiatives address the last three links of the meteorological value chain. While some of them also address elements of the first steps, this is primarily in an ad-hoc and localised manner to fill specific gaps, rather than a comprehensive, systemic, and sustainable approach to improve the provision of weather data. As such, the SOFF is a unique initiative, as it specifically, systematically and comprehensively addresses the first two links of the value chain.

The SOFF is complemented by two other WMO initiatives, which combined address the entire value chain. The third link is targeted with the designation of Global Producing Centre for Long-Range Forecasts, which form part of the WMO Global Data-Processing and Forecasting System; the SOFF will contribute by improving the data foundation for the forecasting. WMO addressed the three upstream links of the value chain as the lead implementing partner of the Climate Risk and Early Warning Systems (CREWS) and host of the CREWS secretariat. CREWS is represented in the SOFF Steering Committee (see Section 7). CREWS thus provides a direct link between the upstream services provided by the SOFF and the end-users of weather and climate information, such as government entities, the private sector, civil society, academia, and the wider population, incl. poor and vulnerable people, living in LDCs and SIDS.

Financial sustainability: Over a ten-year period, the SOFF is expected to become a long-term results-based international financing mechanism, where LDCs and SIDS, if they share weather data freely and internationally, can access funding for ensuring continued weather station functionality and data collection in LDCs and SIDS. Thereby, the SOFF is intended to ensure long-term financial sustainability of the more comprehensive and thus more costly meteorological services required for GBON compliance (including weather station maintenance and maintaining a cadre of qualified staff). However, ensuring global political commitment and willingness to provide sufficient funding may prove difficult. Hence, Denmark will encourage that a comprehensive strategy is pursued for mobilising financing from multiple sources, also with a view beyond the planned ten-year duration of the SOFF. Such a strategy should systematically explore the scope and opportunities for including the private sector in the supported countries as well as developed countries, considering both philanthropic and commercial contributions.

Scope for Danish influence: Denmark will have a seat in the SOFF Steering Committee and will thus participate in the provision of strategic guidance, approval of work plans, and the selection of requests for support to be funded. This gives Denmark an opportunity to promote Danish priorities and interests, such as ensuring a strong link from the first two links of the value chain to the latter links and accessibility of data and information for end users of meteorological services as a means to enhance climate resilience, gender and the inclusion/empowerment of women, human rights, and private sector involvement in the financing of meteorological services.

Denmark and the other mobilised and expected donors are generally like-minded and have similar priorities in relation to the SOFF, such as emphasis on LDCs and SIDS (including Sub-Saharan Africa), gender, and ensuring long-term financial sustainability for example through engaging the private sector. All five Nordic countries are expected to contribute to the SOFF and support from the Nordic Development Fund (NDF) has already been fully approved. Moreover, European Union Member States figure prominently among the expected donors. Hence, there is scope for donor coordination and promoting joint Nordic and joint European positions in the Steering Committee.

2.4 Links to other Danish engagements

Denmark supports a number of initiatives related to weather data in early warning, forecasting, and vulnerability assessments, which can be reinforced by the strengthened collection and sharing of weather data that the SOFF is expected to deliver (see Annex 1). The scope for achieving synergy is further enhanced by the fact that some of the implementing partners of the Danish support are also involved in

the SOFF (UNDP, UNEP, and WFP). Some of the other initiatives supported by Denmark could potentially also serve as vehicles for SOFF delivery. Denmark could help ensuring potential synergies are banked upon in practice, including through the participation in the SOFF Steering Committee. There is limited risk of duplication between the SOFF and other Danish engagements, since the other engagements do not focus on addressing the first links in the value chain.

Of particular relevance to the SOFF is the planned strategic sector cooperation (SSC) between DMI and a meteorological institute in Africa (envisaged to be Ghana). DMI is also among the SOFF's peer advisors, which will provide technical advisory and support to developing countries vis-à-vis SOFF implementation (see section 7). DMI will explore opportunities for synergy between the provision of SOFF peer advisory services and the more in-depth institutional capacity development support it will provide to its SSC partner.

Moreover, Denmark providing an additional indirect contribution to the SOFF as a member and funder of NDF.

2.5 Lessons learned from previous support

Denmark has over the years supported various initiatives related to forecasting, early warning and disaster risk reduction, for example in Bangladesh, where Denmark has contributed to the considerable improvements Bangladesh have achieved vis-à-vis preventing that extreme weather lead to disaster with major reduction in the loss of lives to floods and cyclones. Denmark has over the years provided voluntary support to several UNDP and UNEP initiatives (including core funding for UNEP), in addition to Denmark's contribution as a member state of the two agencies. However, support for WMO has been limited to Denmark's member contributions and small-scale support related to workshops and the provision of information inputs to negotiation processes. While the SOFF MPTF itself is a new financing mechanism, MPTFs are a well-established and thoroughly tested UN mechanism with clear operational procedures, which are in accordance with international standards. Denmark has since 2004 provided support to 39 different MPTFs with a total contribution to date of USD 452 million (DKK 3.1 billion).

2.6 Project identification and formulation process

In the development of the SOFF, WMO carried out extensive consultations with several partners and stakeholders from beneficiary countries to heads of international organisations. Moreover, WMO in partnership with the Global Network of Civil Society Organisations for Disaster Reduction (GNDR) carried out regional consultations involving over 70 civil society organisations (CSOs) in Africa, Latin America and the Caribbean, and Asia and the Pacific, with a focus on maximising the benefits of SOFF at the community level and identifying the main barriers to SOFF implementation. For the programming of the Danish support, consultations were carried out with staff at WMO, the MFA, the Danish Ministry of Climate and Energy (MEK), DMI, NDF, the Norwegian Ministry of Foreign Affairs, and the Norwegian Meteorological Institute.

2.7 Choice of implementing partners and aid modalities

The lead implementing agencies for the SOFF are WMO, UNDP, and UNEP. The Danish grant will be channelled through the UN MPTF Office, which acts as Administrative Agent (trustee) for the SOFF MPTF. The Danish support to the SOFF is earmarked for countries eligible for development aid according to OECD/DAC.

The SOFF focuses on enabling activities and directing support to countries eligible for official development assistance (ODA) according to the Organisation for Economic Co-operation and Development's (OECD) Development Assistance Committee (DAC), in particular LDCs and SIDS.

3 Project objective

The development objective (SOFF goal) is to *strengthen climate adaptation and resilient development through improved weather forecasts, early warning systems and climate information services that save lives and livelihoods and protect property*.

The SOFF is expected to deliver two outcomes: a high-level outcome, *Improved weather and climate prediction products*, which will be achieved through lower-level outcome, *sustained compliance with the GBON*.

Eligible countries can upon request receive SOFF support in up to three phases (the timing and duration of each phase will be country-specific):

1. The **Readiness Phase**, during which LDCs, SIDS, and other ODA-eligible countries can access technical and advisory assistance provided by national meteorological services as peer advisors to define their GBON gap and to develop a GBON National Contribution Plan
2. The **Investment Phase**, during which LDCs and SIDS receive grants for investments and advisory support to establish the network of GBON stations and strengthen human and institutional capacity for GBON compliance
3. The **Compliance Phase**, during which LDCs and SIDS receive results-based finance in support of operation and maintenance expenses for GBON data- sharing compliant stations

4 Theory of change and key assumptions

The diagram below depicts the Theory of Change (ToC) for the SOFF can be summarised as follows:

- *If* LDCs and SIDS (and other ODA-eligible countries) identify their GBON gaps and develop plans for national GBON contributions (Readiness Phase outputs)
- *and if* the required weather data infrastructure is installed and human and institutional capacities are developed in LDCs and SIDS (Investment Phase outputs)
- *and if* LDCs and SIDs share weather data internationally and therefore receive results-based finance or operation and maintenance of their weather infrastructure (Compliance Phase outputs)
- *then* GBON compliance can be sustained (Outcome)
- *and then* weather and climate prediction products will be improved (High-level Outcome)
- *and then* improved weather forecasts, early warning systems and climate information services will strengthen climate change adaptation and resilient development (Goal/Impact)

A ToC diagram is presented in Annex 5. The main changes that will need to take place for the transformation to happen are outlined in more detail in Annex 4.

Assumptions: The SOFF ToC and results framework do not specify any assumptions. A preliminary set of assumptions is presented below.

1. The improved weather and climate prediction (global prediction models outputs) resulting from the increased data shared from the countries that the SOFF support will be taken up by other initiatives working on the downstream part of the value chain.
2. All supported countries will exchange weather data.
3. International donors are willing to provide medium- to long-term finance to cover running costs of enhanced weather data collection in LDCs and SIDS.

Annex 6 provides a detailed description of the assumptions.

Risks: The main risks are presented in Section 9. Annex 7 provides a detailed preliminary risk matrix.

5 Summary of the results framework

For results-based management, learning and reporting purposes Denmark will base the support on progress attained in the implementation of the project as described in the documentation. Progress will be measured through the SOFF's monitoring framework focusing on the indicators for the two outcomes and the four outputs of the readiness and investment phases, since only few LDCs or SIDS are expected to embark on the compliance phase during the first implementation period and only a small proportion of SOFF resources are planned to be spent on compliance phase support in 2022-2025. The full SOFF results

framework including indicators and targets for all three phases of the SOFF is presented in Annex 5. As stipulated in the draft SOFF Operational Manual, the Steering Committee reviews and adopts the results framework targets and baselines on an annual basis.

Table 1: Results framework for the SOFF

Project	Systematic Observations Financing Facility (SOFF)
Project Objective	Strengthen climate adaptation and resilient development through improved weather forecasts, early warning systems and climate information services that save lives and livelihoods and protect property

High-level Outcome	Improved weather and climate prediction products
Outcome indicator 1	NWP standard measures of skill
Outcome	Sustained compliance with GBON
Outcome indicator 2	Countries progress against the GBON gap analysis baseline
Readiness phase	
Output 1	GBON gap established and verified
Output indicator 1	Number of GBON gap reports produced and verified
Output 2	GBON national contribution developed and verified
Output indicator 2	Number of GBON national contribution plans developed
Investment phase	
Output 3	GBON infrastructure in place
Output indicator 3	Number of GBON-compliant stations installed and operating and internationally sharing data
Output 4	GBON human and institutional capacity in place
Output indicator 4	Number of GBON national contribution plans implemented
Compliance phase	
Output 5	Annual GBON compliance report and SOFF impact report produced
Output 6	GBON data internationally shared and results-based finance provided
Output 7	On-demand GBON operational and maintenance advisory provided
Output 8	Weather and climate analysis products freely available through WMO Global Producing Centres

6 Inputs/budget

The indicative total budget in the preliminary work programme (approved by the Steering Committee in June 2022) for the first implementation period (July 2022 – June 2025) of the SOFF is USD 200 million (see Table 2). A minimum fund mobilisation target of USD 50 million is aimed at to ensure a) the establishment of a SOFF Secretariat at a minimum critical mass; (b) SOFF programme delivery, focused on priority activities, especially those where quick wins are possible to rapidly demonstrate impact in local and global prediction products; and c) continuation of active resource mobilisation. So far, USD 24.3 million have been pledged from the Nordic Development Fund (NDF), Norway, Finland, Austria, and Ireland. France, the Netherlands, Portugal and Spain and are also considering making pledges. Moreover, WMO is in dialogue with the European Commission, Sweden, Belgium, Germany, Luxembourg, the United Kingdom, Korea, New Zealand, and the United States of America. Any budget changes will follow the standard procedures for UN MPTFs and be subject to approval by the Steering Committee. A full SOFF budget will be prepared and presented to the Steering Committee after funding requests from the selected beneficiary countries have been approved by the Steering Committee and budgets have been defined for each country and phase.

The **Danish support** to the first SOFF implementation period totals DKK 25 million, of which DKK 24.5 million will be transferred to the SOFF MPTF (see table 3). DKK 500,000 will be retained at the MFA for a Danish mid-term review of the SOFF, if possible, conducted jointly with other donors. Any currency risks (exchange rate losses and gains) are to be borne by the SOFF MPTF.

Of the amount disbursed to the SOFF MPTF, 90 pct. (DKK 22 million) will be spent on activities under the three SOFF phases (preliminarily allocated to the three components and an unallocated reserve). Of the remaining ten pct. (DKK 2.5 million), 2 pct. will cover SOFF secretariat costs, 1 pct. will cover the Trustee/Administrative Agent fee (standard percentage for MPTFs), and the remaining 7 pct. will cover administrative costs (indirect support costs) of WMO and the Implementing Entities (standard percentage for UN agencies). Funds for Implementing Entities will be disbursed directly from the UN MPTF Office. The anticipated proportion of funding for each SOFF phase and other costs is aligned with the overall SOFF work plan and budget the first Implementation Phase.

The Danish contribution to outputs and activities is earmarked to countries eligible for development aid according to OECD/DAC. Moreover, Denmark cannot fund global activities; hence, Outputs 5 and 8 under the Compliance phase will not be funded by Denmark and the Danish funding will exclusively be for activities under Outputs 1, 2, 3, 4, 6, and 7. Moreover, Denmark will not contribute to any SOFF support that the Steering Committee may decide to allocate to countries that are not ODA eligible. Denmark is not the only donor earmarking its support, NDF has earmarked its SOFF contribution for countries in Sub-Saharan Africa.

The UN MPTF Office, WMO and the Implementing Entities are responsible for ensuring that the Danish funds are spent in compliance with the agreement and with due consideration to economy, efficiency and effectiveness in achieving the results intended, the detailed specified in the SAA that Denmark will sign with the UN MPTF Office and the MoU signed by WMO, UNDP and the UN MPTF Office.

Table 2: SOFF first implementation period, indicative total budget (preliminary work programme)

SOFF MPTF	**Year 1** (2022-23) USD	**Year 2** (2023-24) USD	**Year 3** (2024-25) USD	**Total**	
				USD	**DKK** (estimated)
Readiness phase	3,000,000	4,000,000	4,000,000	11,000,000	1,027,684,000
Investment phase	-	60,000,000	80,000,000	140,000,000	1,027,684,000
Compliance phase	100,000	100,000	4,100,000	4,300,000	31,564,580
Total SOFF components	**3,100,000**	**64,100,000**	**88,100,000**	**155,300,000**	**1,139,995,180**
SOFF Secretariat	1,441,500	1,636,800	1,636,800	4,715,100	34,611,663
WMO and Impl. Entity admin. costs[1]	321,500	4,595,220	6,066,200	10,982,920	80,621,223
Unallocated		27,000,000		27,000,000	198,196,200
Trustee/Administrative Agent fee[2]	300,000	700,000	1,000,000	2,000,000	14,681,200
Total SOFF MPTF	**5,170,000**	**71,040,000**	**96,810,000**	**200,038,920**	**1,468,405,696**
NDF				10,131,096	74,368,000
Austria				4,052,439	29,747,200
Ireland				4,052,439	29,747,200
Finland				3,039,329	22,310,498
Norway				2,510,000	18,424,906
Iceland				500,000	3,670,300
Denmark (initial pledge)					
- Transfer to SOFF MPTF				*3,337,602*	***24,500,000***
- Retained by MFA for MTR				*68,114*	***500,000***
Donor total (less Danish MTR)				**27,622,904**	**202,768,691**
Remaining gap				172,416,016	1,265,637,005

Notes:
1) 7% of total funds disbursed to WMO and Implementing Agencies
2) 1% of funds disbursed to UN MPTR Office

Table 3: Danish contribution budget for SOFF first implementation period (indicative)

	Year 1 (2022-23) DKK	Year 2 (2023-24) DKK	Year 3 (2024-25) DKK	Total DKK
Tranche	**First**		**Second**	
Readiness phase: outputs 1-2	1,000,000		400,000	1,400,000
Investment phase: outputs 3-4	11,000,000		6,688,650	17,688,650
Compliance phase: outputs 6 and 7	-		520,000	520,000
Total SOFF components	12,000,000		7,608,650	19,608,650
SOFF Secretariat	400,000		188,000	588,000
Total administrative costs[1]	1,039,500		658,350	1,697,850
Unallocated	1,410,500		950,000	2,360,500
Trustee/Administrative Agent fee[2]	150,000		95,000	**245,000**
Total transfer to SOFF MPTF	**15,000,000**		**9,500,000**	**24,500,000**
Mid-term review, retained by MFA	-	500,000	-	**500,000**
Total Danish contribution	**15,000,000**	**500,000**	**9,500,000**	**25,000,000**

Notes:
1) 7% of total funds disbursed to WMO and Implementing Agencies
2) 1% of funds disbursed to UN MPTR Office

7 Institutional and management arrangements

The already established governance arrangements for the SOFF MPTF are based on standard arrangements UN MPTFs. Figure 3 provides an overview of the SOFF governance structure. The SOFF Operational Manual describes in detail the governance arrangements and the roles of the Steering Committee, the Advisory Board, the SOFF Secretariat, and the Trustee/Administrative Agent (UN MPTF Office). While the Operational Manual is in an advanced draft form, the governance arrangements have been approved by the Steering Committee.

The **Steering Committee** is the decision-making body of the SOFF, providing strategic direction in line with the objective and scope of the SOFF, taking into account the recommendations from the Advisory Board. It reviews and endorses strategic documents, manuals, work programmes, budgets, financial reports, monitoring/progress reports, and the commissioning of external evaluations. It will meet at least twice annually to monitor implementation progress, address major implementation issues, and provide strategic advice. The Steering Committee comprises WMO and donors/funders as decision-making members. The meetings are co-chaired by WMO and one representative of the funders (nominated on a rotating basis). Moreover, the following will participate in the Steering Committee discussions but not in decision-making: the Least Developed Countries Group on Climate Change (LDC Group), the Alliance of Small Island States (AOSIS), prospective funders that have notified the SOFF Secretariat that they consider making a pledge, UNDP, UNEP, the Climate Risk and Early Warnings Initiative (CREWS), the SOFF Secretariat (ex-officio), and the Administrative Agent (UN MPTF Office, ex-officio). The co-chairs may invite other participants to the Steering Committee meetings at their discretion and taking into account Steering Committee members' views. Such ad-hoc participants may be asked to intervene in specific sessions. Peer advisors and SOFF Implementing Entities may also be asked to participate in particular sessions to present or respond to questions from the Steering Committee, and Trustee/Administrative Agent.

The **Advisory Board** comprises a range of stakeholders across the meteorological value chain to provide advice to the Steering Committee in relation to strategic direction, and operations and programming (e.g. the SOFF portfolio of operations/interventions). Moreover, the Advisory Board will contribute to assessing and maximizing of the results of SOFF, facilitate synergies and dialogue between the SOFF, the

Advisory Board members and other relevant stakeholders with activities across the meteorological value chain, and provide insights to foster learning and innovation. The Steering Committee endorses the composition of the Advisory Board and reviews it regularly, taking into account the recommendations of the Advisory Board. The Advisory Board is co-chaired by UNDP and UNEP. Advisory Board recommendations will be publicly disclosed on the SOFF website.

The **SOFF Secretariat** is administratively hosted by WMO. It serves the Steering Committee and the SOFF Advisory Board in performing their functions. The SOFF Secretariat coordinates SOFF operations, including programming and appraisal processes, and facilitates coordination and collaboration between beneficiary countries, Implementing Entities, peer advisors and the WMO Technical Authority. Moreover, it liaises with the Administrative Agent/Trustee to ensure the Steering Committee is informed about the SOFF MPTF administration and fiduciary oversight and to ensure Administrative Agent has the required information to perform its duties. The SOFF Secretariat also monitors the progress and performance of SOFF portfolio, based on information provided by peer advisors, Implementing Entities, beneficiary countries and the Administrative Agent. Furthermore, it engages with SOFF stakeholders and facilitates information sharing and learning, transparent communication and outreach. The SOFF Secretariat coordinates SOFF resource mobilisation and outreach activities in close collaboration with the Steering Committee. The Steering Committee approves the budget of the SOFF Secretariat (staff costs and operational costs). It comprises a team of professional and administrative staff and operates under the overall guidance of the Steering Committee and is accountable to it. As co-creators, UNDP and UNEP may each second one staff member to the SOFF Secretariat to be funded by the SOFF MTPF.

The **Administrative Agent (trustee)** function is performed by the UN MPTF Office, hosted by UNDP in New York. The Administrative Agent executes and coordinate all administrative and management functions, ensures monitoring and control of operational risks, and administers funds in accordance with MPTF regulations, rules, policies, and procedures. The UN MPTF Office has signed a **standard Memorandum of Understanding (MoU)** with WMO, UNDP and UNEP and signs a **Standard Administrative Arrangement (SAA**) with each contributing donor. The Administrative Agent receives, administers, and release funds to Implementing Entities, WMO and other parties in accordance with decisions from the Steering Committee, prepares consolidated financial reports and coordinates the necessary audits. Moreover, it supports the financial aspects of SOFF programming and operations and provides advice on operational and strategic documents.

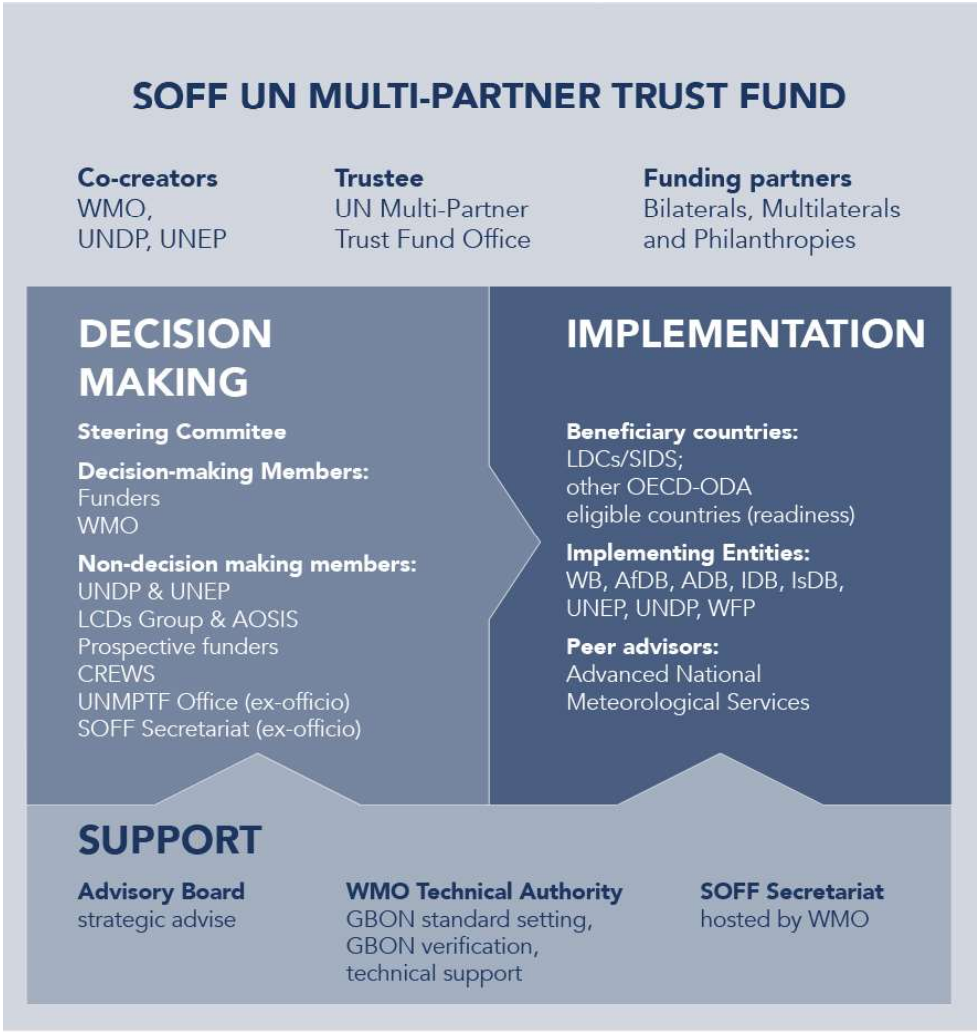
Implementation is carried out by SOFF **Implementing Entities**, including UNDP and UNEP, and national partners in the supported countries. Existing or planned programmes/projects of the Implementing Entities will be used as vehicles for SOFF implementation – SOFF support will not be implemented as stand-alone projects. The Implementing Entities are responsible for preparing and managing the implementation of investment phase grants within the specified terms of the approved funding requests. The Implementing Entities will collaborate with the peer advisors and the countries, including by providing information on ongoing or planned partnerships to strengthen the countries' hydromet capacities and GBON-related investments. In addition to UNDP and UNEP, other Implementing Entities will include a) UN organisations (initially UNDP, UNEP, the World Food Programme (WFP); and b) multilateral development banks (initially the Asian Development Bank (ADB), the African Development Bank (AfDB), the Inter-American Development Bank (IDB), the Islamic Development Bank (IsDB), and the World Bank). All SOFF Implementing Entities are expected to be members of the Alliance for Hydromet Development.

SOFF **peer advisors** will provide technical assistance to the supported countries. Peer advisors will provide advice and analysis to support beneficiary countries and Implementing Entities in designing and implementing activities related to the Readiness, Investment, and Compliance phases. They will also be

responsible for carrying out national GBON gap analyses in collaboration with the countries, and support the development of national contribution plans in coordination with the designated Implementing Entities.

The **WMO Technical Authority** will screen gap analysis reports to ensure consistency with GBON regulations.

Figure 3: SOFF governance and operational partners



A draft **SOFF Operational Manual** has been prepared and some sections have already been approved by the Steering Committee. The roles and responsibilities of WMO, UNDP, UNEP, other Implementing Entities, peer advisors and other stakeholders are specified in the SOFF Operational Manual.

An **operational guidance handbook** will be elaborated to provide practical guidance to Implementing Entities, peer advisors, and beneficiary countries (anticipated to be finalised by the end of 2022 and approved by the third Steering Committee meeting).

SOFF applies and relies on the fraud and corruption provisions contained in the SOFF MoU, legal agreements between the SOFF MPTF and the Implementing Entities, umbrella legal agreements signed between WMO and SOFF peer advisors, SAAs with funding partners, and the UNDP Policy against Fraud and other Corrupt Practices.

The MoU also contains measures for respecting Danish and UN red lines vis-à-vis child labour, sexual exploitation, abuse and harassment (SEAH), and anti-terrorism.

The SOFF MoU, SAA, SOFF ToR and draft SOFF Operational Manual include provisions and procedures, including for: a) progress reporting; b) financial reporting; c) monitoring, evaluation and review; and d) risk management. Reporting, accounting and procurement provisions are described in section 8, and risk management in section 9.

Prioritisation and allocation of SOFF support: SOFF support will be based on requests from eligible countries. The SOFF Secretariat will prepare and propose a prioritisation of beneficiary countries' requests for Steering Committee consideration and decision, based on the criteria presented in box 2 below and on information provided by beneficiary countries, the WMO Technical Authority, peer advisors and Implementing Entities, (see 4.5.1). The SOFF Secretariat will inform the Steering Committee on how the programming criteria are applied to each funding request. The Steering Committee will closely monitor how the programming criteria are applied and provide recommendations for the fine tuning as needed. Donors contributing the SOFF, including Denmark, will have seats in the Steering Committee, and thus participate in, and directly influence, decisions related to the periodisation of requests and fine tuning of the prioritisation criteria.

Box 2: Programming criteria for SOFF support

- **Close the most significant data gaps**: Emphasis on those geographic areas that currently have the poorest observational coverage, where strengthening the observing network would yield the largest results regarding the quality of the numerical weather prediction products
- **Target "easy fixes":** Countries where through relatively small interventions, stations and related infrastructure could be fixed to start quickly delivering the data into the global system per GBON regulations
- **Maximize delivery capacity**: Countries where Implementing Entities and peer advisors can operate and deliver SOFF support efficiently and effectively
- **Create leverage**: Opportunities for complementarity of SOFF with larger operations under implementation or preparation by the Implementing Entities and other funds, including by the Advisory Board Members
- **Sub-regional gains**: Opportunities to create economies of scale and optimize the design of the observing networks through multi-country/sub-regional implementation
- **Ensure country balance:** Balanced support among SIDS and LDCs and across regions, including fragile and conflict-affected states

Source: WMO Secretariat, 2021

Communication of results: A detailed communication plan has not been elaborated for the SOFF, but the draft Resource Mobilization and Outreach Strategy contains some provisions for outreach and advocacy. The draft Resource Mobilization and Outreach Strategy will be presented for approval at the second Steering Committee meeting. Emerging opportunities for communication and visibility will be utilised. For example, sessions and side events at the UNFCCC Conferences of the Parties (COPs) will be used or making the SOFF visible to high-level decision-makers and the broader public. It is expected that the SOFF's Annual Reports are launched at the UNFCCC COPs.

Learning: A detailed learning strategy has not been elaborated for the SOFF. The SOFF Secretariat will collect and disseminate lessons learned, incl. in the progress reports. The Steering Committee, Advisory Board, SOFF secretariat, and Implementing Entities will take lessons into consideration in the oversight, management and implementation of decisions, incl. findings and recommendations emanating from evaluations and reviews.

7.1 Monitoring, review and evaluation

The SOFF Secretariat will be responsible for monitoring and reporting on the overall progress of the SOFF. Based on the SOFF results framework, the SOFF Secretariat coordinates the monitoring of SOFF and the elaboration of the annual reports. It draws on information from the beneficiary countries, the peer

advisors, the Implementing Entities (which will be responsible for monitoring the progress of the specific initiatives funded by the SOFF), and the WMO Technical Authority. Moreover, the Advisory Board is expected to contribute to SOFF monitoring and evaluation, particularly of "last-mile impact". The monitoring provisions are described in the standard SAA for MPTFs and the SOFF MoU signed by WMO, UNDP, and UNEP. WMO, the UN MPTF Office, UNDP, UNEP and the donors will hold consultations at least annually to review the status of the Fund.

An independent evaluation in the third year of the SOFF mentioned in the SOFF ToR. Evaluation of the SOFF MPTF will be subject to the provisions of described in the standard SAA for MPTFs and the SOFF MoU, in accordance with the UN evaluation policies for MPTFs and the UN Evaluation Group Standards (UNEG).

The Green Diplomacy and Climate unit of the Ministry of Foreign Affairs of Denmark shall have the right to carry out any technical or financial supervision mission that is considered necessary to monitor the implementation of the project. This include a planned mid-term review in the latter half of the second year of implementation and no later than a year prior to the ending of the first SOFF implementation period, for which DKK 500,000 are retained by the MFA. It will inform the programming of a potential/tentative second phase of Danish support for the SOFF. The mid-term review will most likely be conducted jointly with other funders and/or WMO, unless the MFA finds there is reason to conduct it separately. For example, the planned independent evaluation in the third year mentioned in the SOFF ToR may be too late for informing the planning the potential second phase of Danish support.

After the termination of the project/programme support, the Green Diplomacy and Climate unit of the Ministry of Foreign Affairs of Denmark reserves the right to carry out evaluations in accordance with this article.

8 Financial Management, planning and reporting

The Danish support will be disbursed to the MPTF in two tranches. The first tranche of DKK 15.5 million will be disbursed in December 2022 and the second tranche of DKK 9.5 million in 2024. The DKK 0.5 million retained by MFA for the mid-term review will be spent in 2023. The disbursements will be aligned with the financial cycle of the SOFF MPTF and based on needs for funding.

The SOFF Secretariat can reallocate up to ten pct. of the budget line to other budget lines, whereas changes exceeding ten pct. must be presented to, and approved by, the Steering Committee. Any reallocations to budget items for salaries and staff costs must be approved by the Steering Committee.

Both parties will strive for full alignment of the Danish support to the implementing partner rules and procedures, while respecting sound international principles for financial management and reporting.

Overall, the SOFF will adhere to all financial management-related rules and regulation of the UN MPTF Office and participating UN agencies and multilateral development banks; which have been approved by the Member States, including Denmark.

The fiduciary requirements for the Danish support are spelled out in the standard SAA that will be signed by Denmark and the Administrative Agent and adhere to Danish requirements. The standard SAA also adheres to the general rules, regulations and fiduciary requirement that apply for UN MPTFs (Denmark has in the past supported several MPTFs under the same provisions).

Procurement will be in accordance with UN rules and regulations, the standard provisions for MPTFs, and the rules and regulations of the concerned party, i.e. WMO (including peer advisors), UNDP, UNEP, and other Implementing Entities (UN agencies and multilateral development banks).

The UN MPTF office will set up a separate account for the SOFF MPTF. WMO, UNDP, UNEP and other Implementing Entities will also set up separate accounts for the SOFF in their respective financial systems, which for all the concerned UN entities and multilateral development banks are compliant with International Public Sector Accounting Standards (IPSAS). The budgets are prepared in accordance with UN harmonized budget categories (see box 3). At the reporting deadlines (as per the MoU), UNDP and UNEP will provide separate financial reports for each account and submit annual financial reports to the UN MPTF Office no later than 30 April. The UN MPTF Office will consolidate the annual financial flows and report to the MFA and other donors. The reporting will allow for clear distinguishing of resource utilised for non ODA-eligible countries (not funded by Denmark), and ODA-eligible countries, WMO, UNDP and UNEP will provide additional information on resource utilisation by phase in the narrative reports. UN MPTF Office will manually track the earmarked contribution and make sure that no transfer is made from the contribution to progamme activities that target countries that are not eligible for ODA.

Reporting will be done in accordance with the provisions stipulated in the SOFF Operational Manual, the SOFF Terms of Reference, the legal agreements between the UN MPTF Office and the SOFF Implementing Entities, the umbrella legal agreements signed between WMO and the SOFF peer advisors, the MoU, and the SAA. Based on consolidated reports prepared by the SOFF secretariat with information provided WMO, UNDP, UNEP and Implementing Entities, the Administrative Agent will prepare and the following reports to the donors:

- Annual consolidated narrative progress reports (following the 1 July-30 June SOFF implementation year), no later than five months after the end of the calendar year (31 May)
- Annual consolidated financial reports following the calendar year (31 December cut-off), no later than five months after the end of the calendar year (31 May)
- Certified annual financial statement from the Administrative Agent, no later than five months after the end of the calendar year (31 May)
- A final consolidated narrative report, after the completion of the activities in the approved programmatic document, no later than six months after the end of the calendar year of operational closure (30 June 2026)
- A final consolidated financial report, based on certified final financial statements and final financial reports received from participating UN organisations and multilateral development banks after the completion of the activities in the approved programmatic document, no later than five months after the end of the calendar year of financial closure (31 May 2026)
- A certified final financial statement ("Source and Use of Funds"), no later than five months after the end of the calendar year of the financial closure (31 May 2026)

In addition to the above, the SOFF secretariat will provide the following annually:

- Summary of the WMO GBON Compliance report (30 June cut-off)
- Analysis of the impact of observations (30 June cut-off), prepared by WMO

The overall reporting for the SOFF will be submitted to Denmark. Denmark will not require separate technical reporting for the Danish support.

The SOFF MPTF will be subject to UN external and internal audit procedures as per UN rules and regulations for MPTFs and the participating UN organisations, as described in the standard SAA and the MoU. This includes audit provisions for the Administrative Agent, the participating UN organisations, and implementing partners (e.g. Implementing Entities, peer advisors).

Box 3: Harmonized expense categories for UN system reporting

1. Staff and other personnel costs

2. Supplies, commodities and materials
3. Equipment, vehicles and furniture, including depreciation
4. Contractual services
5. Travel
6. Transfers and grants to counterparts
7. General operating and other direct costs
8. Indirect support costs

9 Risk management

Based on the preliminary risks and mitigation strategies identified in the SOFF ToR, a detailed preliminary risk matrix with the risks identified, risk levels and intensity, and response measures is presented in Annex 7. An updated risk matrix will be included in the operational manual. A detailed risk matrix and risk management framework are anticipated to be adopted by the 4th Steering Committee in March 2023. Other risks may apply to the individual engagements at country level. Individual risk frameworks will be elaborated for each grant provided to countries. The overall risks related to SOFF is assessed as limited. The main overall risks are the following:

- *Insufficient investment in downstream links of the hydromet value chain, leading to limited uptake/use of the weather data generated and made available by SOFF.*
  However, considering that there are several ongoing climate modelling and early warning initiatives, which all rely on available weather data, the likelihood of this risk occurring is low.
- *SOFF is not able to mobilize sufficient resources or interest from funders and investors to reach optimal operational levels or function at full capacity and/or initial fund-raising targets are unrealistic.*
  SOFF has already mobilised sufficient funding from a range of donors for the readiness phase in the first 15 countries, and the SOFF Secretariat is in dialogue with other donors. However, the funds mobilised are still significantly below the minimum fund mobilisation target, so the likelihood of this risk occurring is medium.
- *Sufficient longer-term funding for result-based financing for operation of maintenance is not mobilised.* (Note: this risk is not included in the SOFF Secretariat's preliminary risk matrix)
  The SOFF still has a major funding gap and that there is a history of donors not living fully up to the funding pledges made at UNFCCC COPs. On the other hand, the SOFF is a ten-year initiative, so there is considerable time to develop and strengthen the planned results-based finance mechanism. Overall, the likelihood of this risk occurring is medium, and it may affect some, but not necessarily all, countries.

Overall risk monitoring and reporting on risk factors will be done by the SOFF Secretariat as part of the regular reporting to the Steering Committee. Key mitigation or adaptation measures taken in accordance with the risk management strategy and their direct influence on achieving the expected results will be highlighted. Moreover, the quality assurance and risk mitigation procedures of the Implementing Entities will be relied upon for SOFF implementation.

UNDP and UNEP have strong capacities vis-à-vis environmental and social safeguards. This includes the principles of free prior and informed consent (FPIC). All activities will adhere to the safeguards of WMO, UNDP, UNEP and other Implementing Entities and relevant UN policies.

10 Closure

The SOFF MPTF is envisaged to run for ten years, with three implementation periods (2022-2025, 2025-2027, 2027-2032), thereby providing continuity, stability, and the possibility for medium-long term exit strategies. Moreover, the SOFF aims at facilitating the establishment of a longer-term global results-based

finance/payment system to enable LDCs and SIDS to operate and maintain the infrastructure installed/rehabilitated and continue gathering and reporting weather data in compliance with GBON.

The first three-year period of the SOFF MPTF will end on 30 June 2025. Within six months after the end of year of operational closure (2025) of the first three-year implementation period, i.e. no later than 30 June 2026, a narrative completion report will be submitted to the donors, including MFA. Moreover, within five months after the end of the year of completion of the activities, i.e. no later than 31 May 2026, a certified final financial statement and final financial reports will be submitted to the donors to the SOFF, including Denmark. Any unspent funds with interest will be used for a purpose mutually agreed upon or returned to the donors in proportion to the contribution of each donor, as decided upon by the donor and the Steering Committee.

GDK will prepare a final results report (FRR) within three months after receipt of the completion report.

Annex 1: Context Analysis

1. Overall Development Challenges, Opportunities and Risks

The climate crisis is rapidly accelerating. The Sixth Assessment Report of the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) provides evidence of intensifying climate change across the globe and of the need to act with much greater urgency. Greenhouse gas emissions have been growing more rapidly than ever expected and the impacts are now visible everywhere, including record-breaking temperatures, and increased floods and wildfires. Indeed, according to the World Meteorological Organization (WMO) Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes, the number of disasters has increased by a factor of five over the past five decades, and economic losses have increased sevenfold with average daily losses of USD 383 million.

Thus, there is an urgent need to enhance the level of ambition on climate mitigation and adaptation. The UN Environment Programme's (UNEP) 2020 Adaptation Gap Report estimates that annual adaptation funding needs in developing countries are expected to increase by up to USD 300 billion by 2030, and by up to USD 500 billion by 2050. This means that the current level of finance would need to increase tenfold by the end of this decade to meet the expected needs.

The UN Secretary-General has called for a breakthrough in climate adaptation and climate finance. This will require new instruments, actors and innovative solutions through which adaptation finance can be delivered. It will also need to be underpinned by the best available science and data.

However, there are currently large data gaps in basic weather and climate observations, negatively affecting the quality of weather forecasts and climate prediction everywhere. Closing these data gaps, especially in Small Island Developing States (SIDS) and Least Developed Countries (LDCs), is essential for the world to be better prepared and to effectively adapt to a changing climate.

The weather and climate in any location is part of a global system. Hence, accurate forecasting and modelling require access to both local, regional and global data of sufficient accuracy and adequately fine geographical granularity/coverage of weather field data collection. Good outcomes – users taking action in response to weather and climate prediction, resulting in lives and livelihoods saved, protection of property, and increased economic activity – happen when all links in the chain work and are working effectively together. The value chain comprises six links, three globally coordinated links followed by three links at the regional, national and/or local level:

1. **Weather and climate observations** routinely made over all areas of the globe
2. **Observations are exchanged internationally** in particular with global Numerical Weather Prediction (NWP) systems
3. **NWP output monitoring and prediction data** for weather and climate are generated and shared with all WMO Members (193 countries and territories)
4. **The global NWP output** is used by National Hydrological and Meteorological Services (NMHSs) and other entities (incl. the private sector), to generate weather and climate information: i.e., local forecast products, watches and warnings, seasonal outlooks, climate monitoring and prediction products, etc.
5. **Weather and climate information services are delivered to users**, including national and local authorities, businesses, media, academia, Civil Society Organizations (CSOs), and the general public.
6. **Effective decisions** in response to weather and climate information are made by authorities, agents in all economic sectors, and individuals.

The first three links in the value chain constitute the global meteorological infrastructure and rely on a global implementation approach. In contrast, the last three links are typically implemented nationally. The importance of the global nature of the first three links cannot be overstated. For a prediction horizon beyond 24 to 36 hours, the use of global observational data and global models to underpin the predictions in any location is needed, even if the target area for a given prediction is very small and

local. Conversely, without local efforts everywhere to make and exchange observations, the models cannot generate the data needed for effective forecasting at the national and local levels. All countries, therefore, share an interest in the first three links in the chain, while they handle the last three primarily individually.

There are numerous initiatives to improve climate modelling and early warning systems implemented by several actors within both development cooperation and humanitarian assistance, including UN agencies, NGOs, bilateral donor interventions. These mostly operate at the national level, addressing mainly the last three links of the value chain. However, without complementary investments in the first three links, investments in the last three will often not have the expected benefits. Access to meteorological data remains a significant bottleneck.

In 2019, the World Meteorological Congress and its 193 member countries and territories agreed to establish the Global Basic Observing Network (GBON) and committed to improving data collection and sharing of weather data freely across countries. GBON sets out an obligation and clear requirements for all WMO Members to acquire and internationally exchange the most essential observational data at a minimum level of spatial resolution and time interval. However, LDCs and SIDS significantly lack the infrastructure and capacity to meet GBON requirements. This adversely impacts the accuracy of weather and climate products, both locally and in areas far from the missing data. In order to achieve the GBON target of about 2,300 observation stations (surface and upper air stations) in these countries, about 2,000 stations need to be rehabilitated or installed.

List the key documentation and sources used for the analysis:

- SOFF ToR

Are additional studies/analytic work needed? How and when will it be done?

For each country receiving SOFF support, a GBON gap analysis will be carried out to (output 1 in the SOFF results framework), to identify key policy, institutional and capacity gaps and constraints and identify the key entry points and priorities vis-à-vis SOFF implementation and GBON compliance.
The preliminary SOFF risk matrix will be further developed by the SOFF Secretariat and submitted to the Steering Committee for approval in late 2022 or early 2023.

2. Political Economy and Stakeholder Analysis

The SOFF is a global initiative, which will support all LDCs and SIDS as well as provide readiness support for other ODA-eligible countries, based on requests for support. As such, the political economy context varies significantly; some countries are conflict-affected, others are institutionally and socially fragile, and yet others are stable. Similarly, government capacities and accountability vary significantly among countries, as do capacities of the private sector, and civil society.

Since the SOFF has a very specific and mainly technical focus on improving the collection of weather data (setting up policies and institutional frameworks, building capacities, and installing equipment), it will only to a limited extent be linked to vested and economic interests and power relations. Nonetheless, the expected improved access to weather and climate information will contribute to an increased understanding the impacts of climate by authorities, the private sector, civil society, academia and citizens – thereby contributing to both a) enabling informed decision-making at all levels vis-à-vis climate change adaptation, preparedness and disaster risk reduction, and b) increasing the ability to hold governments accountable vis-à-vis climate action and disaster management. This in turn, may affect government interest in investing in and creating an enabling environment for the collection of weather data.

Stakeholder analysis: The key implementing partners in the project are briefly described in Annex 2. The main stakeholders and beneficiaries of the SOFF are:

- SOFF donors: Role: financing the SOFF, including the results-based financing system. Interest: enhancing the effectiveness of their investments in climate change adaptation, disaster risk reduction, and humanitarian action. Influence: high, through participation in SOFF Steering

Committee.

- SOFF Implementing Entities: Role: implementing SOFF support at national/regional level through existing initiatives. Interest: strengthened effectiveness and sustainability of their initiatives vis-a-vis climate change adaptation, early warning and disaster risk reduction, and planning humanitarian action. Influence: high, through the planning and execution of SOFF support.
- SOFF peer advisors: Role: technical assistance to beneficiary NHMS and Implementing Entities. Interest: transfer of knowledge and technical skills. Influence: medium, the provision of technical assistance can ensure the quality and appropriateness of the SOFF investment, provided it is taken on board.
- National Hydrological and Meteorological Services (NHMS): Role: collection of (GBON compliant) weather data. Interest: improved collection of data and improved delivery of weather services. Influence: high, as the direct responsible parties for weather data collection and sharing-
- Central government institutions: Role: user of weather data, establishment of policy and institutional framework for weather data collection. Interest: improved evidence for decision-making vis-à-vis policies, plans and investments in climate change adaptation, early warning, disaster risk reduction, and emergency responses. Influence: high, as key national decision-makers providing the policy and institutional framework and public financing for weather data collection.
- Local governments: Role: user of weather data. Interest: improved evidence for decision-making vis-à-vis policies, plans and investments in climate change adaptation, early warning, disaster risk reduction, and emergency responses. Influence: low, user of weather data.
- Private sector: Role: user of weather data, weather data service provider (potentially paying for some services), and/or supplier of equipment. Interest: improved access to forecasts for investment and business decision-making, or business opportunities as services provider/supplier. Influence: low, user of weather data, service provider.
- Civil society: Role: user of weather data. Interest: improved access to forecasts for community-projects, advocacy and holding governments accountable. Influence: low, user of weather data.
- Academia: Role: user of weather data, education of meteorologists. Interest: improved access to data for research and modelling. Influence: low, user of weather data.
- Citizens: Role: user of weather forecasts, which in turn require quality weather data. Interest: access to better forecasts for livelihoods and disaster risk reduction decision-making. Influence: low, user of weather forecast.

List the key documentation and sources used for the analysis:

- SOFF ToR

Are additional studies/analytic work needed? How and when will it be done?

GBON gap analysis (see section 1 of this annex).

3. Fragility, Conflict and Resilience

The SOFF in particular targets LDCs and SIDS, of which several are conflict-affected or others are institutionally and socially fragile (see Annex 4).

Migration from LDCs and SIDS to seek opportunities for improved livelihoods and safety is significant, and expected to be further exacerbated as climate change increasingly impacts on livelihoods, food security, and resilience. Improved weather data will improve the accuracy and timeliness of weather forecasting and climate modelling, which in turn can enhance the effectiveness of a) planning of, and investments in, climate change adaptation, b) early warning and disaster risk reduction measures, c) emergency responses and humanitarian action. Better forecasts will also facilitate better agricultural planning, thereby reducing the risk of crop and livestock losses. This will lead to enhanced resilience, which is expected to reduce the push to migrate. With these anticipated effects, the SOFF is contributes significantly to the implementation of the **humanitarian-**

development-peace nexus.

List the key documentation and sources used for the analysis:
- SOFF ToR

Are additional studies/analytic work needed? How and when will it be done?
GBON gap analysis (see section 1 of this annex).

4. Human Rights, Gender, Youth and applying a Human Rights Based Approach

Women, the poor, and vulnerable groups are particularly at risk to the impacts of climate change and exteme weather. Hence, the SOFF contributes to gender equality and leaving non-one behind, as the improved accuracy and timeliness of weather forecasting and climate modelling that the SOFF enables, can enhance the effectiveness of a) planning of, and investments in, climate change adaptation, b) early warning and disaster risk reduction measures, c) emergency responses and humanitarian action.

Moreover, the operation and maintenance of weather stations could provide local livelihoods opportunities, which could be targeted to women, youth, and vulnerable people.

Improved access to weather and climate information and knowledge will also contribute to enabling civil society and citizens as rights-holders to hold governments as duty-bearers accountable for decision-making, investments and service provision vis-à-vis climate action, disaster risk reduction, and emergency responses. It will also contribute to strengthening the ability of the duty bearers to provide appropriate and timely services in these areas.

UNDP and UNEP (and the other UN agencies and multilateral development banks that will act as SOFF Implementing Agencies) embrace a human rights-based and gender-sensitive approaches (albeit with room for further improvement) and have strong social safeguards in place.

List the key documentation and sources used for the analysis:
- SOFF ToR
- MOPAN assessments of UNDP and UNEP

Are additional studies/analytic work needed? How and when will it be done?
GBON gap analysis (see section 1 of this annex).

5. Inclusive sustainable growth, climate change and environment

The project has a strong focus on climate change adaptation. Since the SOFF's investments are exclusively related to weather data collection, with an emphasis on capacity development and installation of weather stations, the risk of negative effects on inclusive sustainable growth and environmental degradation is low, and any negative effects would be localised to the vicinity of weather stations and thus easy to mitigate. Hence, environmental impact assessment are not foreseen to be required. All envisaged Implementing Entities have policies and procedures in place vis-à-vis environmental safeguards.

As described above, the SOFF contributes to gender equality and leaving non-one behind, since women and vulnerable groups are particularly susceptible to the impacts of climate change.

Moreover, the improved availability of weather data will contribute to improved climate modelling, which in turn can contribute to advocacy efforts vis-à-vis more ambitious climate mitigation action, including in the context of UNFCCC negotiations and national implementation.

Are additional studies/analytic work needed? How and when will it be done?
GBON gap analysis (see section 1 of this annex).

6. Capacity of public sector, public financial management and corruption

The SOFF will benefit from the financial management and fiduciary standards and capacities of the UN and multilateral development banks, including well established procedures for MPTFs. Moreover,

SOFF support to beneficiary countries will be delivered through existing initiatives, benefitting from their systems, procedures, and oversight. Peer advisors (e.g. DMI) will provide technical assistance, e.g. in relation to policy, technical solutions, and selection of appropriate meteorological equipment.

List the key documentation and sources used for the analysis:

- MOPAN assessments of UNDP and UNEP
- SOFF and standard MPTF documentation: SAA, MoU

Are additional studies/analytic work needed? How and when will it be done?

GBON gap analysis (see section 1 of this annex).

7. Matching with Danish strengths and interests, engaging Danish actors and seeking synergies

The table below provides an overview of ongoing and planned initiatives related weather data supported by Denmark, outlining the potential for synergy and mapping the risk of duplication.

Programme	Partner	Countries	Weather data element	Synergy potential	Duplication risk
SSC with a *(Under preparation)*	DMI	A Sub-Sahara African country *(probably Ghana)*	Strategic sector cooperation between the Danish and partner country meteorological services.	DMI is a SOFF peer advisor and will seek synergy between its SOFF and SSC engagements.	None
Core funding	NDF	Sub-Saharan Africa	NDF provides a large grant for SOFF, earmarked or Sub-Saharan Africa.	Opportunity for Nordic coordination on messages and priorities in SOFF Steering Committee.	None
Sahel Adaptive Social Protection Program (SASSP) – phase 2	World Bank	Burkina Faso, Chad, Mali, Mauritania, Niger	Early warning systems on natural hazards and food and nutrition insecurity.	The SOFF complements with better data for more accurate forecasting, climate information, and early warning.	None
Enhanced Adaptation for Smallholder Agriculture Programme (ASAP+)	IFAD	Burkina Faso, Mali	Provision of access to climate information services.	The SOFF complements with better data for more accurate forecasting, climate information, and early warning.	None
Regional Programme on Climate Security in the Western Sahel	UNDP (SOFF Implementing Entity)		Early warning on climate risks: a) enhancing access to information, b) regional seasonal forecasting forum for discussing and validating climate forecasting and the potential impacts.	The SOFF complements with better data for more accurate forecasting, climate information, and early warning. Could be used for delivery of SOFF support.	None
Scaling Up Anticipatory Actions for Climate Shocks in the Horn of Africa	WFP (SOFF Implementing Entity)	Djibouti, Ethiopia, Kenya, Uganda	Integration of new methodologies for drought forecasting, incl. impact-based forecasting, into national meteorological services'	The SOFF complements with better data for more accurate forecasting, climate information, and early warning.	Low

			operational systems. Forecast-based financing for anticipatory actions.	Could be used for delivery of SOFF support.	
Local Climate Adaptive Living (LoCAL) Facility *(Under preparation)*	UNCDF	21 African countries (incl. earmarked funding for Somalia, Uganda)	Grants for local adaptation investments based on vulnerability assessments. Decentralisation of climate risk and vulnerability assessments to local level.	The SOFF will contribute to filling a major gap: limited availability of local weather data.	Low
Core funding	UNEP (SOFF Implementing Entity)	Global	World Environment Situation Room: Global climate information on website, incl. links to other websites, incl. essential climate variables on WMO website.	The SOFF will complement with better weather data and information.	None

- Identify areas/sectors where we have the most at stake – interests and values.	Climate change adaptation and addressing loss and damages, incl. early warning and disaster risk reduction are key Danish priorities – the SOFF is intended to strengthening action in these areas with better weather and climate data.
- Identify where we can have influence through strategic use of positions of strengths, expertise and experiences.	Denmark can influence the SOFF through participation in the Steering Committee. DMI's expertise will benefit SOFF delivery, as DMI will be peer advisor to one or more African countries. Moreover, some of the initiatives supported by Denmark could serve as vehicles for SOFF support to countries.
- Identify where Denmark can play a role through active partnerships for a common aim/agenda or where is there a need for Denmark to take lead in pushing an agenda forward.	Nordic countries (incl. NDF, which Denmark co-finances) and EU Member States figure prominently among the SOFF donors – there is thus scope for promoting shared Nordic and European priorities in the Steering Committee.
- Mapping of Danish foreign policy engagement, commercial engagement, trade relations and investment, Danish local and central authorities, civil society organizations, IFU and academia. Identify concrete opportunities for synergies.	DMI is a peer advisor to the SOFF and will provide technical support to MFA and MEK vis-à-vis the engagement in the SOFF Steering Committee and oversight of SOFF.
- Assessment of the donor landscape and coordination, and opportunities for Denmark to deliver results through partners including through multilaterals and EU.	Nordic countries (incl. NDF, which Denmark co-finances) and EU Member States figure prominently among the SOFF donors – there is thus scope for promoting shared Nordic and European priorities in the Steering Committee. The SOFF is a UN initiative and the Implementing Entities are UN agencies and multilateral development banks.
Are additional studies/analytic work needed? How and when will it be done? No additional studies or analytical work are required.	

Annex 2: Partner Assessment

1. Brief presentation of partners

The lead implementing agencies for the SOFF are WMO, UNDP, and UNEP. The Danish grant will be channelled through the UN MPTF Office, which acts as Administrative Agent (fund administrator) for the SOFF MPTF. The principal UN agencies engaged in the SOFF are centrally placed in the international architecture for addressing the impacts of climate change.

The project is underpinned by a) the 2019 World Meteorological Congress agreement on the Global Basic Observing Network (GBON) and commitment to improving data collection and sharing of weather data freely across countries, and b) the formation of the Alliance for Hydromet Development (at UNFCCC COP 25) and the Alliance's commitment to establishing the SOFF to close the weather and climate observations gap.

WMO is the designated UN agency for promoting international cooperation and coordination on the state and behaviour of the atmosphere, its interaction with the land and oceans, the weather and climate it produces, and the resulting distribution of water resources. WMO thus promotes the establishment of an integrated global observation network to provide and exchange weather, climate and water-related data, and is responsible for the creation of global standards for observation and monitoring. It is also tasked with strengthening the provision of weather, climate and water-related services to reduce disaster risks and contribute to climate change adaptation. With this mandate, WMO is uniquely positioned and has a key role vis-à-vis supporting the roll-out of GBON and assisting LDCs, SIDS and other countries in obtaining better weather data for informed decision-making vis-à-vis climate change adaptation and early warning.

UNDP is the largest UN agency and responsible for promoting sustainable economic growth and human development to eliminate poverty. Climate change, and in particular adaptation, is a priority area of engagement for UNDP. UNDP is a primary actor on climate change within the UN. The SOFF implementation will benefit from UNDP's wide network of 170 country offices and experience with working directly with national and local authorities.

UNEP is the UN's designated lead agency on environment and tackling the triple planetary crisis of climate change, biodiversity loss, and pollution. UNEP is a primary actor on climate change within the UN. The SOFF will benefit from UNEP's expertise in advocacy, making knowledge and information available and accessible, and environmental and social safeguards.

The **UN MPTF Office** has decades of experience with administering MPTF's, governed by tested standard procedures, rules, and regulations.

2. Summary of partner capacity assessment

Denmark has over the years provided voluntary support to several UNDP and UNEP initiatives (including core funding for UNEP), in addition to Denmark's contribution as a member state of the two agencies. However, support for WMO has been limited to Denmark's member contributions and small-scale support related to workshops and the provision of information inputs to negotiation processes.

While the SOFF MPTF itself is a new financing mechanism, the UN has decades of experience with MPTFs for joint interagency collaboration towards achieving shared objectives. As such, the MPTF is a well-established and thoroughly tested mechanism with clear operational procedures, which are in accordance with international standards. Denmark has since 2004 provided support to 39 different MPTFs with a total contribution to date of USD 452 million (DKK 3.1 billion), mainly with a humanitarian-, peace-building- and governance-related focus. Moreover, in 2009-2013, Denmark provided USD 9.9 million (DKK 68 million) for the UN-REDD MTPF, an initiative implemented by UNEP, UNDP, and

FAO with a focus on preventing deforestation-related greenhouse gas emissions. While no longer receiving financial support from Denmark, the UN-REDD initiative is still operational, and widely seen as a particularly successful example of UN interagency collaboration. The SOFF's delivery model has similarities with UN-REDD, e.g. with a joint fund secretariat hosted by WMO, fund administration handled by the UN MPTF Office and a flexible division of labour based on a combination of each agency's technical capacity, existing partnerships, and in-country presence.

WMO

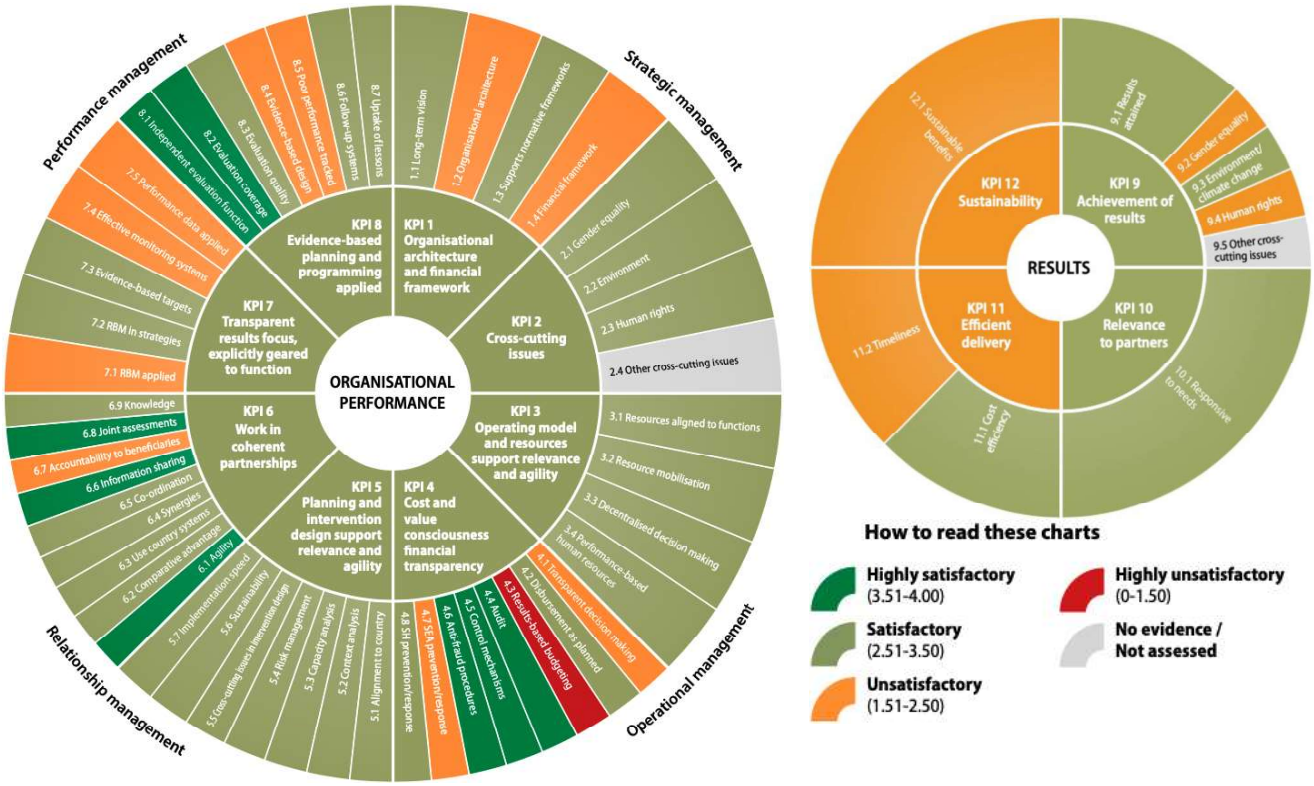
No MOPAN assessment or external organisational evaluation of WMO are available. Key performance indicators are assessed in WMOs internally conducted performance assessment reports, but these focus on the progress (by both WMO and WMO members) on the achievement WMO's five long-term goals, not on WMO's overall performance as an institution. Moreover, Denmark has no prior experience with WMO as a project implementer.

WMO is UN specialised agency dedicated to promoting and facilitating international cooperation and coordination on the state and behaviour of the Earth's atmosphere, its interaction with the land and oceans, the weather and climate it produces, and the resulting distribution of water resources. It is a neutral and independent technical authority on weather/climate data gathering, analysis, modelling, and standards. WMO leads international hydromet processes and coordinate and has strong links to NMHS. However, being one of the smaller UN agencies, WMO is of small size and has limited resources, and no no regional or country offices. As such, WMO is more geared towards a normative and standard-setting role than project implementation.

UNDP

The MOPAN assessment (2020) found that UNDP is recognised and valued for its traditional programmatic and "operational backbone" roles. UNDP has improved its internal policies, business processes, systems, tools and instruments, risk management, and people management. It has a robust approach to detect potential fraud and corruption and is recognised as the most transparent UN organization UNDP is a decentralised project implementing agency delivering approx. 5,000 active development projects, most resources are project-based, and 93 pct. of its workforce based at the country level. However, gaps remain between central/corporate policies and strategies and country level practice, as decentralised country offices are not obliged to implement signature solutions. UNDP is strongly committed to partnership approaches, in particular with strong partnerships with national governments, whose priorities define UNDP's engagement at the country level and supports nationally led action. However, this has raised questions about its contribution to upstream "whole-of-society" policies and strategies, a lack of thematic focus, its concept of "beneficiaries" and measures to ensure that "no one is left behind". Moreover, there is little evidence of vertical and horizontal development and systematic use of knowledge, and the integration of lessons learned is insufficient. UNDP's interventions are relevant and responding to the needs and priorities of partners. There is mixed evidence of UNDP's development results; performance is relatively strong in poverty reduction, governance, climate change and environment, but less so in resilience, energy, and gender. Cost-efficiency appears to be satisfactory, but timeliness is a concern, as is sustainability. UNDP has made progress in its approach to gender equality and women's empowerment; but performance is constrained by under-resourcing and progress is limited. UNDP's social and environmental safeguards have improved. A human rights-based approach is mandatory for all UNDP programming, but the performance is unclear. UNDP has a designated policy on sexual harassment, aligned to UN standards. The figures below show the findings of the MOPAN assessment.

Overview of 2020 MOPAN assessment findings – UNDP



UNEP

The MOPAN assessment (2016) found that UNEP is an effective multilateral organisation with comparative advantages in relation to global normative frameworks and leadership on environmental issues. Further, UNEP is providing a robust evidence base for advocacy and policy dialogue on environmental issues. It has a sound operational model and has in place the appropriate policies, processes and procedures that are expected of a well-functioning multilateral organisation, although greater use of performance data and lessons learned from past interventions would strengthen planning outcomes. Overall, UNEP had achieved a solid level of performance in achieving stated programme objectives and obtaining expected outputs. However, evidence of its results at the project level is somewhat mixed. On the whole, UNEP's interventions for countries and at the country level are assessed as generally positive, and they appear to be aligned with member needs and priorities. However, alignment and integration of UNEP's interventions with the work of other UN agencies, to make best use of its comparative advantage, remains work in progress. The figures below show the findings of the MOPAN assessment. UNEP has improved the way it integrates cross-cutting issues into operations and project/programme design processes, although evidence of results on cross-cutting outcomes is limited and further strengthening the monitoring of outcomes is needed.

Overview of 2016 MOPAN assessment findings – UNEP

Organisational effectiveness	Operational Management
KPI 1: Organisational architecture and financial framework enables mandate implementation and achievement of expected results	KPI 3: Operating model and human/financial resources support relevance and agility

KPI 2: Structures and mechanisms in place and applied to support the implementation of global frameworks for crosscutting issues at all levels	KPI 4: Organisational systems are cost- and value-conscious and enable financial transparency/accountability
Relationship Management	**Performance Management**
KPI 5: Operational planning and intervention design tools support relevance and agility (within partnerships)	KPI 7: Strong and transparent results focus, explicitly geared to function
KPI 6: Works in coherent partnerships directed at leveraging and/or ensuring relevance and catalytic use of resources	KPI 8: Evidence-based planning and programming applied
Development Effectiveness	
KPI 9: Achievement of development and humanitarian objectives and results	KPI 11: Results delivered efficiently
KPI 10: Relevance of interventions to needs and priorities of partner countries and beneficiaries	KPI 12: Sustainability of results

3. Summary of key partner features

Name of Partner	Core business	Impor-tance	Influe nce	Contribution	Capacity	Exit strategy
UN MPTF Office (hosted by UNDP)	A UN centre of expertise on multi-donor and multi-agency finance mechanisms.	High	Low	Fund administrator for the MPTF	Well-established and thoroughly tested mechanism with clear operational procedures, which are in accordance with international standards. Joint financing and donor coordination capacities. No technical capacity.	No special requirements after end of project. The SOFF MPTF is envisaged to run for 10 years (three implementation periods), thereby providing continuity, stability and the possibility for medium-long term planning and exit strategies.
WMO	WMO is dedicated to international cooperation and coordination on the state and behaviour of the Earth's atmosphere, its interaction with the land and oceans, the weather and climate it produces, and the resulting distribution of water resources.	High	High	Oversight, technical and administrative support. Co-chairs the SOFF Steering Committee. Hosts the SOFF Secretariat. Screens gap analysis reports to ensure consistency with GBON regulations. Elaborates operational manuals and guidelines for Implementing Entities, peer advisors, and beneficiary countries. Enters contracts with peer advisers	Neutral and independent technical authority on weather/climate data gathering, analysis, modelling, and standards. Leads international hydromet processes and coordination. Strong links to NMHS. Weaknesses include: small size, limited resources, no regional or country offices.	No special requirements after end of project – WMO will continue to pursue objectives related to the project as part of its core mandate and build on project results.
UNDP	UN lead agency on international development. UNDP helps countries to	Medium	High	SOFF Implementing Entity. Co-chairs the AOFF Advisory Board. Implements SOFF	UNDP has a wide network of 170 country offices and strong experience with working directly with national and local authorities, including on climate change adaptation and	No special requirements after end of project – UNDP will continue to pursue objectives related

	develop policies, leadership skills, partnering abilities, institutional capabilities, and to build resilience to achieve the SDGs. Focus areas; sustainable development, democratic governance and peace building, and climate and disaster resilience.			support countries – delivered through existing UNDP interventions.	resilience and the link to poverty eradication and economic development. Strong links to planning ministries and a range of sectorial ministries. Weaknesses include limited resources and hydromet science not being a core area expertise. Threats include potential competition with other Implementing Entities, however perceived unlikely to affect the project.	to the project as part of its Strategic Plan and build on project results.
UNEP	Global authority that sets the environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the UNs system and serves as an authoritative advocate for the global environment.	Medium	High	SOFF Implementing Entity. Co-chairs the AOFF Advisory Board. Implements SOFF support countries – delivered through existing UNDP interventions.	Neutral and independent technical authority on environmental policy. Provision of high-level environment policy forum within the UN system, and focal point for a wide range of international environment processes and networks. Strong links to environment ministries, regional and other environmental bodies and with the business and private sector. Experience and leadership working at the science-policy interface, facilitating multi-stakeholder processes, and promoting cooperation. Weaknesses include: small size, limited resources, no regional or country offices. Threats include potential competition with other Implementing Entities, however, perceived unlikely to affect the project.	No special requirements after end of project – UNEP will continue to pursue objectives related to the project as part of its MTS and build on project results.

Annex 3: SOFF Responsiveness to OECD/DAC Quality Criteria

OECD/DAC has defined six quality criteria, which serve as the reference framework for evaluating international cooperation interventions. They are also a useful framework for the justification of the project.

Relevance
The project addresses SDG 13 (Climate Action). By improving access to weather and climate data, which in turn will inform climate modelling and risk assessments, the SOFF contributes to the delivery of the globally agreed adaptation commitments under UNFCCC and the Sendai Framework for Disaster Risk Reduction. It also contributes to SDG 1 (No Poverty) SDG 2 (Zero Hunger) by improving access to weather and climate data, which in turn will inform decision-making enabling increased agricultural productivity and reduced losses of crops and assets.

Internal and external coherence
The SOFF is fully integrated in the UN system. It brings together many of the key global and regional weather data actors both within and outside the UN, some of which Denmark is also supporting. It is thus anticipated to contribute to enhanced coordination and synergy.

Effectiveness
The SOFF provides a clear strategy for building national capacities for improved collection, analysis and sharing of weather data. It specifically addresses the first two links of the meteorological value chain, whereas most early warning initiatives mainly focus on the last four links of the value chain. Thereby, the SOFF fills a gap.

Efficiency
The SOFF draws upon the well-established and thoroughly tested UN MPTF model for delivery. It draws upon the comparatives strengths of WMO (meteorological data collection and analysis), UNDP (capacity, policy and institutional development support for developing countries), and UNEP (environmental expertise, advocacy and knowledge management). Moreover, the SOFF mobilises the skills and capacities of a broad range of partners, incl. international organisations, governments, meteorological services, science and research bodies, and the private sector. The SOFF support to countries will be delivered through already existing programmes, thereby tapping into already existing structures and delivery mechanisms.

Impact
The SOFF aims at contributing to and catalysing largescale improvement in climate resilience. This will be done through improving weather data collection and analysis, and making knowledge and information available for decision-making and adaptation planning.

Sustainability
The SOFF is envisaged to run for ten years (three periods), thereby providing continuity, stability and the possibility for medium-long term planning and exit strategies. It also aims to build a long-term global system for results-based financing of weather data collection in LDCs and SIDS.

Annex 4: Assessment of SOFF According to Danida AMG Standard Questions

The project is briefly summarised below using the eight standard questions in the Danida Guidelines.

1) Political, economic, societal and institutional context

The impacts of climate change are now visible everywhere. The number of weather-related disasters has increased fivefold over the past five decades and economic losses have increased sevenfold with average daily losses of USD 383 million. Developing countries, in particular LDCs and SIDS, are disproportionally affected the impacts of climate change and face major financial, capacity and data constraints vis-a-vis adapting to climate change. Poor and vulnerable segments of the population in developing countries are particularly vulnerable to the impacts of climate due to several factors, including a larger degree of dependency on agriculture and natural resources, little economic capacity to compensate for the loss of income and assets due to extreme weather.

2) The development problem or issue and the desired transformation

Effective and cost-effective climate change adaptation require access to scientific knowledge and data, to understand what climate change will mean in the local context and what appropriate adaption measures would look like, as well as to enable effective early warning and timely measures to prevent that extreme weather events lead to disasters. Accurate forecasting and modelling require access to both local, regional and global data of sufficient accuracy and adequately fine geographical granularity. Currently, the data gaps in basic weather and climate observations, in particular in LDCs and SIDS, negatively affect the quality of weather forecasts and climate prediction. Closing these data gaps is thus essential for enabling the development and implementation of appropriate response strategies. Improved collection of weather data with significantly higher spatial and temporal resolution than today, and improved sharing of weather data internationally will improve weather predictions and climate models and enable the provision of more accurate and more timely weather and climate information (incl. forecasts and early warnings) to users, who in turn will be able to make more effective responses to extreme weather events as well as long term changes in the climate.

3) The main changes that will need to take place for the transformation to happen

The goal of the SOFF is to "Strengthen climate adaption and resilient development through improved weather forecasts, early warning systems and climate information services", and the expected high-level outcome of the SOFF is "improved weather and climate prediction products". The SOFF will contribute to this by strengthening the first two links of the meteorological value chain, namely the collection of weather data, and the international sharing of weather data, thereby creating the foundation for effective weather and climate information services. This is articulated with the SOFF's expected direct outcome "sustained compliance with the GBON". To this end, the SOFF will take countries through three phases with eight related outputs, which can be summarised as follows: 1) Readiness Phase – developing countries will be supported in identifying their gaps vis-à-vis GBON compliance and developing national plans for achieving GBON compliance; 2) investment Phase – LDCs and SIDS will be supported technically and financially in putting the necessary infrastructure (weather stations, meteorological equipment) and capacities (institutional and human) in place for GBON compliance; and 3) compliance phase – LDCs and SIDS will through results-based financing/payments be supported in the continued operation and maintenance of weather stations – payments will be based on annual reporting and sharing of data internationally in line with GBON requirements.

4) The most important drivers/champions of change

The SOFF in particular targets national hydrological and meteorological services (NHMS) as they have the direct responsibility for the weather data collection and analysis and provision of weather information. SOFF peer advisors play an enabling role by providing technical support, expertise and capacity development for NHMS in LDCs and SIDS. Implementing Entities provide through their existing initiatives vehicles for the delivery and integration of SOFF support in national systems and processes. The private sector is increasingly playing a role, both as providers of equipment and services and as users of weather information. In some countries, private firms are contracted by the NHMS to operate weather stations, and in some cases the private firms own weather stations. Private businesses are not just

consumers of data, they also play an important role as technology providers as well as providers of information and services to parts of the public sector, other businesses, and the wider society. SOFF will support countries in developing the most appropriate approach to partnering with the private sector to achieve the goal of GBON compliance. SOFF funds can be used to engage the private sector engage public-private partnerships. Civil society organisations are data users vis-à-vis early warning, disaster risk reduction, and humanitarian action. Moreover, civil society plays a role vis-à-vis ensuring the needs of poor and vulnerable people and women are addressed in weather data services. At the global level, the Alliance for Hydromet Development plays an important role in promoting sustainable financing models for weather data collection and mobilising international support.

5) Modalities and instruments Denmark will use to contribute to the change

The SOFF will provide support for institutional and human capacity development, technical assistance, rehabilitation and installation of weather stations, and equipment for weather data collection. Denmark will provide financing for the SOFF MPTF, which is earmarked for support to ODA-eligible countries, including LDCs and SIDS.

6) The main conditions in place for the change to happen

Governments across the world have over the years become increasingly committed to climate change adaptation, in part due to a growing demand from the public, and part due to an increased awareness an increased understanding of the economic and social importance of climate resilience. There is also an understanding of the importance of weather data or informed decision-making and effective adaptation, disaster risk reduction, and humanitarian responses. This includes a commitment to sharing weather data freely and internationally. The increased momentum for strengthening weather service as an important input to climate change adaption is evidenced by formation of the Alliance for Hydromet Development at the UNFCCC COP 25 in 2019, and the agreement by 193 countries to establish GBON the same year.

7) The main assumptions that will need to hold true for the change to happen

The SOFF ToC and results framework do not specify any assumptions. A preliminary set of assumptions is presented in Annex 5.

8) The main risk factors that may prevent, delay or limit the changes from taking place

The overall risks to the project have been identified preliminarily by the SOFF Secretariat. The preliminary risk matrix with mitigation measures is presented in Annex 6. An updated risk matrix will be included in the operational manual. Individual risk frameworks will be elaborated for each grant provided to countries.

Annex 5: Theory of Change and Results Framework

Project	Systematic Observations Financing Facility (SOFF)
Project Objective	Strengthen climate adaptation and resilient development through improved weather forecasts, early warning systems and climate information services that save lives and livelihoods and protect property

High-level Outcome		Improved weather and climate prediction products	
Outcome indicator 1		NWP standard measures of skill	
Baseline	2022	-	NWP standard measure of skill baseline (30 June cut-off)
Target	Year 1	-	-
Target	Year 2	-	-
Target	Year 3	-	-
Target	Total	-	-
Outcome		Sustained compliance with GBON	
Outcome indicator 2		Countries progress against the GBON gap analysis baseline	
Baseline	2022	-	WMO GBON Gap report (30 June cut-off)
Target	Year 1	-	-
Target	Year 2	-	-
Target	Year 3	-	-
Target	Total	-	-
Readiness phase			
Output 1		GBON gap established and verified	
Output indicator 1		Number of GBON gap reports produced and reviewed	
Baseline	2022	-	Countries' status (30 June cut-off)
Output 2		GBON national contribution plan developed and verified	
Output indicator 2		Number of GBON national contribution plans developed	
Baseline	2022	-	Countries' status (30 June cut-off)
Target	Year 1	15	ODA-eligible countries
		3 million	*USD*
Target	Year 2	20	ODA-eligible countries
		4 million	*USD*
Target	Year 3	20	ODA-eligible countries
		4 million	*USD (committed)*
Target	Total	55	ODA-eligible countries
		11 million	*USD*
Investment phase			
Output 3		GBON infrastructure in place	
Output indicator 3		Number of GBON-compliant stations installed and operating and internationally sharing data	
Baseline	2022	-	Country baseline as stated in the GBON National Contribution plan
Output 4		GBON human and institutional capacity in place	
Output indicator 4		Number of GBON national contribution plans implemented	
Baseline	2022	-	-
Target	Year 1	3	ODA-eligible countries (LDCs, SIDS)
		12 million	*USD (committed)*
Target	Year 2	10	ODA-eligible countries (LDCs, SIDS)
		40 million	*USD (committed)*
Target	Year 3	15	ODA-eligible countries (LDCs, SIDS)
		60 million	*USD (committed)*
Target	Total	28	ODA-eligible countries (LDCs, SIDS)
		112 million	*USD (committed)*
Compliance phase			
Output 5		Annual GBON compliance report and SOFF impact report produced	

Output indicator 5		Annual reports produced	
Baseline	2022	-	-
Target	Year 1	1	Report
		300,000	*USD*
Target	Year 2	1	Report
		300,000	*USD*
Target	Year 3	1	Report
		300,000	*USD*
Target	Total	3	Reports
		1 million	*USD*
Output 6		GBON data internationally shared and results-based finance provided	
Output indicator 6		Total number of stations internationally sharing observations	
Baseline	2022	-	WMO GBON Gap report (30 June cut-off)
Target	Year 1	-	-
Target	Year 2	100-200	Stations (in ODA-eligible countries) – retroactive payment at the end of year 1
		5 million	*USD*
Target	Year 3	200-400	Stations (in ODA-eligible countries) – retroactive payment at the end of year 2
		9 million	*USD*
Target	Total	200-400	Stations
		14 million	*USD*
Output 7		On-demand GBON operational and maintenance advisory provided	
Output indicator 7		Number of satisfactory advisory services delivered	
Baseline	2022	-	-
Target	Year 1	-	-
Target	Year 2	15	ODA-eligible countries (LDCs, SIDS)
		1.5 million	*USD*
Target	Year 3	20	ODA-eligible countries (LDCs, SIDS)
		2 million	*USD*
Target	Total	35	ODA-eligible countries (LDCs, SIDS)
		3.5 million	*USD*
Output 8		Weather and climate analysis products freely available through WMO Global Producing Centres	
Output indicator 8.1		Number of Global Producing Centres that provide free and open access to data	
Baseline	2022	-	-
Output indicator 8.2		Number of products that have free and open access	
Baseline	2022	-	-
Target	Year 1	-	-
Target	Year 2	-	-
Target	Year 3	-	-
Target	Total	-	-

Annex 6: Preliminary Assumptions

The SOFF ToC and results framework do not specify any assumptions. A preliminary set of assumptions is presented below.

1) The improved weather and climate prediction (global prediction models outputs) resulting from the increased data shared from the countries that the SOFF support will be taken up by other initiatives working on the downstream part of the value chain.
The SOFF addresses and directly contributes to the first three links of the value chain (observations acquisition, exchange and global modelling), while other initiatives address the lather three links. It is assumed that all actors working on any activity related to early warnings and climate services use and depend on the weather and climate prediction products that will be improved through the SOFF.

2) All supported countries will exchange weather data.
193 WMO Members approved last October 2021 the WMO Unified Data Policy, GBON and the SOFF. The data policy reaffirms the commitment to the free and unrestricted exchange of data and will help the WMO community strengthen and better sustain monitoring and prediction of all Earth-system components, which is expected to lead to major socio-economic benefits as a result. It is assumed that all supported countries will exchange the data, given that it is an obligation that they committed to as part of the WMO Unified Data Policy agreement, which in turn will enable all WMO Members to deliver better, more accurate and timely weather- and climate-related services to their constituencies. Moreover, countries will only receive results-based financing from SOFF, if they comply with GBON regulations for data sharing. GBON defines the specific requirements for the acquisition and unrestricted exchange of basic weather and climate observations.

3) International donors are willing to provide medium- to long-term finance to cover running costs of enhanced weather data collection in LDCs and SIDS.
Operating and maintaining additional weather data stations and equipment to meet GBON requirement require financial resources at a level, which LDCs and SIDS cannot mobilise themselves. Hence, the SOFF compliance phase aims at providing results-based financing to ensure continued functionality of weather stations and data collection. This model is based on the premise that governments and possibly the private sector and philanthropies are willing to provide continued finance (for the SOFF compliance phase and beyond) for weather data collection and sharing, since such data will be a global good directly benefitting all countries, in addition to the supported LDCs and SIDS.

Annex 7: Risk Management (preliminary matrix)

The preliminary matrix presents the risks and mitigation measures identified by the SOFF Secretariat.

Contextual Risks

Risk Factor	Likelihood	Impact	Risk response	Residual risk	Background to assessment
Conflict and safety/political insecurity negatively affecting selection of countries and implementation (e.g., delays)	Almost certain (in some countries)	Significant (in some countries)	For each funded project and initiative, a risk management framework will be developed that includes a high risk country/regional assessment and mitigation measures for political risks with a focus on possible conflict or instability, in cooperation with the Implementing Entities. The SOFF Secretariat will work with Implementing Entities (incl. those with experience in fragile and conflict-affected states) to assess the situation and explore opportunities to promote hydromet. Funding may be reserved for countries with instability or conflict.	Associated risks and volatility could limit the willingness/ability of Implementing Entities to prepare hydromet projects with a SOFF component and/or delay or hinder implementation progress and the achievement of outcomes. Conflicts/unrest may increase in magnitude or spread to new locations.	Several SOFF eligible countries are affected: • 22 ODA eligible countries are affected by medium or high intensity conflict • 3 LDCs are affected by high intensity conflict • 11 LDCs (incl. 1 SIDS) are affected by medium intensity conflict • 17 ODA eligible countries high institutional and social fragility • 10 LDCs/SIDS (7 LDCs, 9 SIDS) are affected by high institutional and social fragility (World Bank, 2022; UN, 2022)
Potential need for multi-country SOFF engagement may not appeal to all Implementing Entities	Unlikely	Minor	This may limit the effectiveness of potentially earmarked funds and will have to be explained to funders. SOFF Secretariat in collaboration with WMO will work with recipient countries and Implementing Entities to ensure a supranational regional focus where needed.	Many agencies and initiatives have a country-based approach and structure, and less capacity to implement a transboundary or regional approach.	SOFF metrics of success – data delivery at endpoints far from the origin of the observations – may necessitate activities along the data delivery chain, in some cases partly outside the country were data is missing.

Insufficient institutional capacity and/or political commitment in recipient countries to ensure successful implementation of SOFF investments	Almost certain (in some countries)	Major (in some countries)	During the Readiness phase, capacity limitations will be assessed and needed capacity-building measures identified for implementation during the Investment phase. The peer advisors and Implementing Entities will communicate with national counterparts to build effective engagement and political support. SOFF long-term open-ended results-based payments will be a significant incentive for countries to prioritise the operation and maintenance of SOFF investments.	Capacity constraints in LDCs and SIDS are likely to persist beyond the SOFF implementation periods. Governments are likely to change in many countries during the first SOFF implementation period which may lead to major shift in political priorities. Political priorities can be difficult to influence.	LDCs and SIDS are generally characterized by major financial, institutional and human resource capacity constraints. Lack of institutional capacity or political support in recipient countries may hamper implementation.

Programmatic risks

Risk Factor	Likelihood	Impact	Risk response	Residual risk	Background to assessment
Limited Implementing Entity engagement and/or difficult partner coordination during Readiness and Investment phases	Likely	Major	SOFF Steering Committee with the support of the SOFF Secretariat will focus on countries promising "easy wins" during the first implementation period, and engage intensively with all Implementing Entities, the Alliance for Hydromet Development and with recipient countries to ensure maximum coverage of SIDS and LDCs. SOFF programming criteria will ensure that in the prioritised countries, Implementing Entities and peer advisors have strong delivery capacities. The approval of funding requests will be the result of multiple consultation processes with the countries, Implementing Entities and peer advisors to	Some SIDS and LDCs may not request assistance. Implementing Entities may not be able to respond to all requests during the initial five-year SOFF implementation period.	High number of eligible countries: • 149 countries are SOFF support eligible (SOFF ToR, 2021): • 76 countries are eligible for full SOFF support (UN, 2022): 46 LDCs, 36 SIDS

			ensure there is readiness to deliver results in the selected countries.		
Limited or poor-quality peer support	Unlikely	Significant	The SOFF Secretariat and WMO will monitor and report on the implementation of peer advisor support on an ongoing basis. Imeplementing Entities and beneficiary countries will evaluate the work of the peer advisors. WMO will provide technical support and screen the main outputs from the peer advisors.	While peers can receive some support, capacity constraint or insufficient availability of peer may remain.	SOFF will rely on technical support from NMHS peers, but this may not be forthcoming or be of poor quality.
Insufficient investment in downstream links of the hydromet value chain – limiting the motivation of NMHS to engage in SOFF activities	Unlikely	Major	The Country Hydromet Diagnostics gap analysis offered on a demand basis will assess the entire value chain. SOFF support is embedded in broader hydromet projects of Implementing Entities, which address other constraints in the hydromet value chain. Other downstream donors and initiatives are included in the SOFF governance structure, allowing them to influence SOFF. The Advisory Board will focus on ensuring that links between upstream and downstream activities are developed.	The SOFF has very little control over the level and nature of funding for downstream links of the value chain.	Reaping the full benefit from improved observations will depend on the development of the entire value chain. Insufficient attention to downstream links will reduce the benefits from improved observations. Several actors and initiatives address the downstream links of the value chain, with a particular focus on LDCs and SIDS.
Investments have detrimental environmental or social impacts	Unlikely	Minor	Implementing Entities will ensure that social and environmental policies are properly applied. During the Investment phase, the Implementing Entities' social and environmental standards, guidelines, and procedures, including environmental and social risks mitigation measures, gender policy, institutional arrangements,	Even with strong safeguard in place, local specificities may be missed.	SOFF funded investments may have negative social or environmental impacts, e.g. encroaching on limited natural resources, protected areas, fragile or indigenous land; or may lead to involuntary resettlement. Such negative impacts will be localised.

			and other requirements will apply. The Implementing Entities' grievance and control mechanisms will apply. UNEP has strong capacity in safeguards. SOFF will work with WMO and private sector partners to pioneer the use of modern technologies to mitigate negative environmental impacts. Transition to modern technologies needs to be planned and managed carefully, taking into account technical capabilities, structural issues, and training needs.		
Non-compliance with fiduciary and procurement standards	Unlikely	Major	During the Investment phase, SOFF will rely on Implementing Entities to ensure their regular fiduciary and procurement standards are met. The Implementing Entities' social and environmental standards, guidelines, and procedures, including environmental and social risks mitigation measures, gender policy, institutional arrangements, and other requirements will apply. The existing IE grievance and control mechanisms will apply.	Even with strong fiduciary and procurement standards in place, there is always some risk of non-compliance, especially related to procurement by local partners.	Low procurement and financial management capacities among local partners and misuse of funds is an inherent risk in many LDCs and SIDS.

Institutional risks

Risk Factor	Likelihood	Impact	Risk response	Residual risk	Background to assessment
SOFF Secretariat administrative capacity is limited, especially during the start-up phase	Likely	Major	The SOFF Secretariat will draw on advisory support from UN MPTF. The SOFF Steering Committee will work to ensure that the Secretariat is appropriated staffed and	The level of staffing and administrative support depends on the volume of donor funding mobilised.	The SOFF is expected to support a large number of countries and mobilise multiple Implementing Entities.

			resourced. Administrative practices will be adjusted as needed.	Staff mobilisation and recruitment takes time.	
SOFF is mismanaged, compromising its operations and causing reputational damage	Very unlikely	Significant	UN MPTF has strict management procedures in place to mitigate such risk. The governance structure is designed to ensure appropriate policies are developed, implemented and monitored, ensuring full oversight, reporting, transparency, and accountability functions.	The delivery is dependent on Implementing Entities and partners.	Low financial management capacities among local partners and misuse of funds is an inherent risk in many LDCs and SIDS. UN agencies have decades of experience with fund management.
SOFF is not able to mobilize sufficient resources or interest from funders and investors to reach optimal operational levels or function at full capacity and/or initial fund-raising targets are unrealistic	Likely	Major (depending on size of gap)	Active resource mobilisation is underway and will continue during the early phases of implementation, with the engagement of UNDP, UNEP, and WMO. Country coverage targets will be adjusted in line with available resources. As SOFF implementation progresses, the SOFF Steering Committee, based on the information on contributions is expected to to decide on stepped up efforts to reach key funding targets to be able to deliver support for all SOFF phases, in particular for countries already receiving SOFF Readiness and Investment support.	Even if the SOFF mobilises enough funding to become adequately operational, the level may not be sufficient for optimal operation. The absorption capacity of LDCs and SIDS may be insufficient for large amounts of funding.	The financial targets for the SOFF are very ambitious, due to the magnitude of the weather data gap. Donor countries often pledge far larger volumes of climate financing than actually provided. Donor countries tend to prioritise interventions with direct impacts on the ground.

Annex 8: Budget Details

SOFF first implementation period, total budget

SOFF MPTF	Year 1 (2022-23) USD	Year 2 (2023-24) USD	Year 3 (2024-25) USD	Total USD	Total DKK (estimated)
Readiness phase	3,000,000	4,000,000	4,000,000	11,000,000	1,027,684,000
Investment phase	-	60,000,000	80,000,000	140,000,000	1,027,684,000
Compliance phase	100,000	100,000	4,100,000	4,300,000	31,564,580
- Data sharing, results-based financing	-	-	*3,000,000*	*3,000,000*	*22,021,800*
- Advisory services	-	-	*1,000,000*	*1,000,000*	*7,340,600*
- SOFF impact report	*100,000*	*100,000*	*100,000*	*300,000*	*2,202,180*
Total SOFF components	**3,100,000**	**64,100,000**	**88,100,000**	**155,300,000**	**1,139,995,180**
SOFF Secretariat	1,441,500	1,636,800	1,636,800	4,715,100	34,611,663
Administrative costs	321,500	4,595,220	6,066,200	10,982,920	80,621,223
WMO indirect support for SOFF Sec.[1]	*108,500*	*123,200*	*123,200*	*354,900*	*2,605,179*
WMO admin fee for peer advisory[2]	*220,000*	*280,000*	*350,000*	*850,000*	*6,239,510*
Implementing Entity fees[3]	-	*4,200,000*	*5,600,000*	*9,800,000*	*71,937,880*
Unallocated		27,000,000		27,000,000	198,196,200
Trustee/Admin. Agent fee[4]	300,000	700,000	1,000,000	2,000,000	14,681,200
Total SOFF MPTF	**5,170,000**	**71,040,000**	**96,810,000**	**200,038,920**	**1,468,405,696**

Notes:
1) 7% of budget allocated for SOFF Secretariat
2) 7% of Readiness + Compliance phase allocations (for peer advisers)
3) 7% of Investment Phase allocations (disbursed directly from Administrative Agent to Implementing Entities)
4) 1% of funds received by UN MPTR Office

SOFF first implementation period, donor mobilisation

Donor	USD	EUR	DKK
NDF	10,131,096	10,000,000	74,368,000
Austria	4,052,439	4,000,000	29,747,200
Ireland	4,052,439	4,000,000	29,747,200
Finland	3,039,329	3,000,000	22,310,498
Norway	2,510,000		18,424,906
Iceland	500,000		3,670,300
Denmark	**3,337,602**		**25,000,000**
- Transfer to SOFF MPTF	*3,337,602*		*24,500,000*
- MTR, retained by MF	*68,114*		*500,000*
Donor total (less Danish MTR)	**27,622,904**		**202,768,691**
Total budget for SOFF MPTF first implementation period	200,038,920		1,468,405,696
Remaining gap	172,416,016		1,265,637,005

Danish contribution to SOFF first implementation period by component (indicative) and year

	Year 1 (2022-23) DKK	**Year 2** (2023-24) DKK	**Year 3** (2024-25) DKK	**Total** DKK
Tranche	**First**		**Second**	
Readiness phase: outputs 1-2	1,000,000		400,000	1400,000
Investment phase: outputs 3-4	11,000,000		6,688,650	17688,650
Compliance phase: outputs 6 and 7	-		520,000	520,000
Total SOFF components	12,000,000		7,608,650	19608,650
SOFF Secretariat	400,000		188,000	588,000
Total administrative costs[1]	1,039,500		658,350	1697,850
Unallocated	1,410,500		950,000	2360,500
Trustee/Administrative Agent fee[2]	150,000		95,000	245,000
Total transfer to SOFF MPTF	**15,000,000**		**9,500,000**	**24500,000**
Mid-term review, retained by MFA	-	500,000	-	**500,000**
Total Danish contribution	**15,000,000**	**500,000**	**9,500,000**	**25000,000**

Notes:
1) 7% of total funds disbursed to WMO and Implementing Agencies
2) 1% of funds disbursed to UN MPTR Office

Annex 9: List of Supplementary Materials

#	Document / Material	Source
1	SOFF Terms of Reference	SOFF Secretariat
2	SOFF Operational Manual, draft	SOFF Secretariat
3	Standard Administrative Arrangement for Systematic Observations Financing Facility Using Pass-Through Fund Management, October 2021	UN MPTF Office
4	Standard Memorandum of Understanding for Systematic Observations Financing Facility Using Pass-Through Fund Management, November 2021	UN MPTF Office
5	Draft Resource Mobilization and Outreach Strategy, June 2022	SOFF Secretariat
6	SOFF Advisory Board Terms of Reference, adopted by SC in June 2022	SOFF Secretariat
7	Preliminary SOFF work programme 2022-2025	SOFF Secretariat
8	GBON National Contribution Plan – Operational guidance for SOFF beneficiary countries, peer advisors and Implementing Entities, draft, June 2022	SOFF Secretariat

Annex 10: Plan for Communication of Results

Extract from the SOFF's draft Resource Mobilization and Outreach Strategy:

Outreach and advocacy efforts will focus on expanding the SOFF funding base as well as further positioning SOFF in the climate agenda:

- Further positioning SOFF within UNFCCC: SOFF Steering Committee members, including the LDC Group and AOSIS, are encouraged to promote SOFF within the UNFCCC process, aiming at ensuring that COP decisions reflect the need for SOFF and closing the systematic observations gap. The SOFF Secretariat will engage in the UNFCCC process, including through SOFF submissions, in support of these efforts.
- Tapping high-level political advocacy opportunities: The SOFF Secretariat will promote the participation of Steering Committee members in high-level events when they provide an opportunity to create further SOFF momentum and support.
- SOFF co-founders WMO, UNDP and UNEP promoting SOFF: The three co-founders will seek to further promote understanding of SOFF at events and in their reports and publications.
- Showcasing SOFF impact by SOFF Advisory Board members: The Advisory Board is expected to maximize SOFF by linking SOFF with their and other initiatives across the meteorological value chain to ensure "last mile" impact. SOFF Advisory Board Members are encouraged to showcase good practice examples.
- Continuing consultations: Consultations with civil society and the private sector will continue in order to ensure that local perspectives are voiced and incorporated into the design of SOFF operations. The representatives of the civil society and the private sector in the Advisory Board are expected to identify opportunities to promote SOFF among their constituencies.

Annex 11: Process Action Plan

Action/product	Deadlines	Responsible/involved Person and unit	Comment/status
Formulation, quality assurance and approval			
ToR for appraisal	1/9 2022	Consultant	
1st draft full project documentation	1/9 2022	Consultant/DMI/GDK/SOFF	
Draft project documentation ready for appraisal	21/9 2022	Consultant	
Appraisal	21/9 – 5/10 2022		GDK (Frank Frank Rothaus Jensen)
Final project documentation –	1/11 2022	Consultant	
Quality assurance	1/11 2022	GDK	Quality Assurance Checklist (Annex 9): documentation of the appraisal process
Submission to Undersecretary for Development Policy for endorsement	2/11 2022	GDK (Head of Unit), ELQ	Checklist for approval by the Under-secretary for development policy:
Endorsement	15/11 2022	Undersecretary for Development Policy	
Presentation to Minister	30/11 2022	ELQ	
Approval	30/11 2022	Minister for Development Cooperation	
Initial actions following the Minister's approval			
Publication on Danida OpenAid	Dec. 2022	GDK	
Signing of MFA-SOFF agreement	Dec. 2022	GDK	Signing of agreement, immediately upon approval by Minister
Registration of commitment(s) in MFA's financial systems	Dec. 2022	GDK	
Disbursement of 1st tranche	Dec. 2022	GDK	
Mid-term review	Jul-Dec 2023	GDK	Jointly with other donors, if possible
Submission of annual report to MFA	2023	SOFF	
Disbursement of 2nd tranche	2024	GDK	To be aligned with SOFF financial year

ANNEX 4 SUMMARY OF APPRAISAL RECOMMENDATIONS

Title of Project	**Danish support to the Multi-Partner Trust Fund of the UN Decade on Ecosystem Restoration 2022-2025**
File number/F2 reference	2021-19859
Appraisal report date	14 October 2022
Council for Development Policy meeting date	N/A

Summary of possible recommendations not followed
N/A

Overall conclusion of the Appraisal

There are **compelling arguments for Denmark to support LDCs and SIDSs in developing their capacity for surface-based observations and exchange of data**. Most importantly, it will help save lives, livelihoods and property. In addition, the World Bank's estimate of a return of 25 dollars for each dollar invested in improving surface-based observations in developing countries is difficult to ignore. In socio-economic terms, this places the SOFF in the category of investments that has the potential to be highly economically efficient.

The **SOFF design** is based on a simple, phase-wise, process approach to the development of sustainable capacities with the national hydro-met services in the beneficiary countries. This wider scope and ambition makes the SOFF much more than a simple financing facility. SOFF is better understood as a process facilitator designed to make it easier for LDCs and SIDSs to commit to the development of their capacity for surface-based observations and exchange of data. It aims to achieve this by providing easy access to the financing and technical assistance needed, and by offering an opportunity for technical staff to engage with an international community of their peers and for national decision-makers to do what is politically correct. SOFF is in this way a comprehensive package that should appeal to all the intended beneficiary countries.

In conclusion, the Appraisal finds that the SOFF relevant and justified in terms of Denmark's political priorities and development strategy.

The SOFF will be a good addition to Denmark's current portfolio of projects aimed at supporting climate change adaptation. It holds tremendous potential for creating an impact due to its simple implementation "blue print" and ability to draw on established development actors for the simultaneous implementation in numerous countries.

Recommendations by the Appraisal	**Follow up by the responsible unit**

R#1: *The appraisal recommends that DK requests the SOFF to (1) reduce the provision to a max of 10% of the total budget; and (2) ensure that the use of contingency provision is decided by the SC, preferably no later than during the preparation of the annual work plan and budget for year 3.*	The overall SOFF budget indicated is an indicative overall estimate. A full SOFF budget will be prepared and presented to the Steering Committee after funding requests from the selected beneficiary countries have been approved by the Steering Committee and budgets have been defined for each country and phase. **To align with the terminology used by MFA, the "contingency" budget line has been renamed "unallocated".** **The preliminary budget for the Danish contribution has been amended, and the unallocated amount has been reduced to below 10%.**
R#2: *The appraisal recommends that DK insist that the SC is briefed at least annually on developments in risk factors with a 'major' or 'significant' impact as well as the status of the identified risk responses.*	A detailed risk matrix and risk management framework are anticipated to be adopted by the 4th Steering Committee in March 2023. Overall risk monitoring and reporting on risk factors will be done by the SOFF Secretariat as part of the regular reporting to the Steering Committee. **The text has been adjusted to reflect this more clearly.**

I hereby confirm that the appraisal team has identified the above-mentioned issues and provided the corresponding recommendations as stated above to be addressed properly in the follow-up to the appraisal.
Signed in…Copenhagen…….. on the …… 2022

Frank Rothaus Jensen

Appraiser

I hereby confirm that the responsible unit has undertaken the follow-up activities as stated above. In cases where appraisal recommendations have not been accepted, reasons for this are given either in the table or in the notes enclosed.
Signed in…Copenhagen…….. on the 16/12 - 2022

Head of Unit/Embassy

KARIN POULSEN