Ministry of Foreign Affairs – (Department for Multilateral Cooperation and Climate Change, MKL)

Meeting in the Council for Development Policy 1 October 2019

Agenda item 2

1. Overall purpose	For discussion and recommendation to the Minister
2. Title:	Contribution to IRENA for the SIDS Lighthouses Initiative 2.0
3. Presentation for Programme Committee:	18 December 2018

Danish Voluntary Contribution to IRENA for the SIDS Lighthouses Initiative 2.0

Key results:

- Contribution to achieving SDG7 and SDG13 and other SDGs, as well as targets in the Nationally Determined Contributions (NDCs) under the Paris Agreement on Climate Change, in participating SIDS.
- Accelerated deployment of Renewable Energy (RE) technologies and innovation in RE technologies for SIDS.
- Institutional capacity development to strengthen enabling framework for RE and improve data and information; strengthened partnerships for knowledge exchange. Emphasis on end use of RE and the nexus between RE and other development sectors.
- Support for development of bankable projects and access to finance.

Justification for support:

- SIDS are particularly vulnerable to climate change.
- Crucial to scale up efforts to deploy RE in these vulnerable countries with relatively fragile economies, to improve socio-economic development and enhance energy security.
- Essential for achieving the SDGs related to climate action and sustainable energy and NDCs in SIDS.
- IRENA has demonstrated knowledge and experience from the first phase of SIDS LHI that achieved set targets ahead of time.
- Demand from member states, including SIDS, for IRENA services. In 2018, Denmark provided a voluntary contribution to IRENA of DKK 40 million for long-term energy planning.

Major risks and challenges:

- Vested interests in traditional energy solutions.
- Fossil fuel subsidies that undermine a level playing field for RE.
- Limited institutional capacity in SIDS.
- Small scale of interventions, limiting access to financing on favourable terms.

File No.	F2 2019-15444				
Country	Global				
Responsible Unit	MKL with the Ministry of Energy Utilities and Climate (MEUC)				
Sector	Climate and energy				
Partner	IRENA				
DKK mill.	**2019**	**2020**	**2021**	**2022**	**2023**
Commitment	50	0	0	0	0
Proj. annual disburs.	12.5	12.5	12.5	12.5	0
Duration	late 2019-late 2023 (4 years)				
Previous grants	N/A				
Finance Act code	06.34.01.70 Klimapuljen				
Head of unit	Henriette Ellermann-Kingombe				
Desk officer	Bo Jul Jeppesen				
Financial officer	Kasper Thede Anderskov				

Relevant SDGs

Strategic objectives:

Participating SIDS are assisted in the green energy transition that will mitigate greenhouse gas emissions and strengthen resilience in SIDS' adaptation to climate change and improve energy security, thus contributing to SIDS meeting their set NDC targets and contributing to the achievement of the SDGs.

Justification for choice of partner:

IRENA, as the leading intergovernmental organisation on RE in the international energy and climate architecture, is a centre of excellence for knowledge and innovation, a global voice on RE, a network hub, and a source of advice and support for the global energy transformation. IRENA's role in coordinating the SIDS LHI first phase and providing substantive inputs throughout the initiative's duration was reflected by a high level of SIDS' confidence in IRENA demonstrated in the consultative process leading-up to LHI 2.0 and IRENA's role at the SIDS LHI 2.0 Ministerial held on 10 January 2019.

Summary:

Single partner project with these outcomes: 1. Knowledge on renewable energy in SIDS created and shared; 2. Institutional and technical capacity increased leading to an improved enabling environment for renewables in SIDS; 3. More robust and sustainable renewables sector development., with support to project development and facilitation of access to finance for renewable energy projects; 4. Partnerships within SIDS and with development partners and global energy initiatives strengthened.

Budget in DKK million:

Output 1.1: A sound knowledge base tailored to SIDS for effective integration of RE.	4.32
Output 1.2: Creation of knowledge on RE and end-use needs and efficiency links.	3.20
Output 1.3: Knowledge, tools and methodologies developed that reinforce the links between renewables and broader social and economic agendas.	4.97
Output 2.1: Increased capacity to implement energy components of NDCs.	2.24
Output 2.2: Readiness assessments, road maps and other enabling framework tools developed and implemented.	8.88
Output 3.1: Key actors/institutions trained and able to use the project preparation and facilitation tools and platforms.	8.95
Output 3.2: Key actors/institutions supported to facilitate development of bankable projects and access to finance.	2.16
Output 4.1: LHI collaborative platform adapted to new priority areas and increased peer-to-peer exchange.	4.18
Output 4.2: SIDS renewable energy agenda promoted at regional and global levels.	2.39
Unallocated contingencies for unforeseen expenses incl. currency fluctuations, or shortfalls on other budget lines	4.98
IRENA Administration (7%) (Programme Support Cost)	3.48
MFA Mid-term Review	0.25
Total	**DKK 50.00 mill.**

Ministry of Foreign Affairs of Denmark (MFA)
International Renewable Energy Agency (IRENA)

Danish Voluntary Contribution to IRENA for the SIDS Lighthouses Initiative 2.0

2019-2023

Project Document

16 September 2019

Ref: F2 2019-15444

Contents

Abbreviations and Acronyms

AMG	MFA/Danida Aid Management Guidelines
AMS	Administration and Management Services
AOSIS	Alliance of Small Island States
CARICOM	Caribbean Community
CCEE	Copenhagen Centre on Energy Efficiency
CEM	Clean Energy Ministerial
COP	Conference of the parties (under the UNFCCC)
CO_2	Carbon dioxide
CSP	Country Support and Partnerships
CTCN	Climate Technology Centre and Network
DAC	Development Assistance Committee (OECD)
Danida	brand name for Danish international development assistance, under the Ministry of Foreign Affairs of Denmark
DEA	Danish Energy Agency
DEPP	DEA Energy Partnership Programme
DG	Director General
DKK	Danish Kroner
DNA	Designated National Authority
DTU	Danish Technical University
EE	Energy Efficiency
ESMAP	World Bank Energy Sector Management Assistance Program
ETM	Energy Transition Model
EUDP	Danish development and demonstration programme for energy technology
F2	MEUC and MFA electronic archive system
G20	The Group of Twenty (leading World economies)
GCF	Green Climate Fund
GEF	Global Environment Fund
GHG	Green House Gas
GTF	Global Tracking Framework
IEA	International Energy Agency
IITC	IRENA Innovation and Technology Centre
INDC	Intended Nationally Determined Contribution
IRENA	The International Renewable Energy Agency
KPFC	Knowledge, Policy and Finance Centre
LHI	Lighthouses Initiative
LDC	Least Developed Country
MEUC	Danish Ministry of Energy Utilities and Climate
MFA	Ministry of Foreign Affairs of Denmark
MKL	MFA Department for Multilateral Cooperation and Climate Change
MOU	Memorandum of Understanding
MRV	Measurement, reporting and verification
MTS	Mid Term Strategy
NAMA	Nationally Appropriate Mitigation Actions
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
ODA	Official development assistance, as defined by OECD DAC
OECD	Organisation for Economic Co-operation and Development
PC	Programme Committee
PCA	Project Cooperation Agreement
PPS	Planning and Programme Support (IRENA)
PSC	Programme support cost
PV	Photo voltaic
RE	Renewable Energy
REmap	IRENA Renewable Energy Road Map

RRA	IRENA Renewables Readiness Assessment
SDG	Sustainable Development Goal
SEforALL	Sustainable Energy for All – the formerly used acronym was SE4ALL
SIDS	Small island developing states
SIDS-DOCK	Initiative among AOSIS member countries to provide SIDS with a collective institutional mechanism to assist them transform their national energy sectors into a catalyst for sustainable economic development and help generate financial resources to address adaptation to climate change.
SMART	Specific, measurable, attainable, relevant, timebound
SMED	Strategic Management and Executive Direction
SMG	Senior Management Group (IRENA)
SWOT	Strengths weaknesses opportunities and threats
ToC	Theory of Change
TQS	MFA Department for Technical Quality Support
UAE	United Arab Emirates
UDP	UNEP DTU Partnership
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UN Environment	United Nations Environment Programme – the previously used acronym was UNEP
UNFCCC	United Nations Framework Convention on Climate Change
UPR	The Danish Council for Development Policy
USD	United States Dollar
VC	Voluntary contribution
VRE	Variable Renewable Energy
WB	World Bank
WHO	World Health Organization
WRI	World Resources Institute

1. Introduction

IRENA

The International Renewable Energy Agency (IRENA) is an intergovernmental organisation founded in 2009 and established in 2011 with its Headquarters in Abu Dhabi, United Arab Emirates (UAE). The number of IRENA Members is presently 160[1], including Denmark. IRENA is the principal agency on renewable energy (RE) in the international sustainable energy and climate architecture, with a global mandate to support the transition to a sustainable energy future, serving as a platform for international cooperation and a centre of excellence and repository of policy, technology, resource and financial knowledge on RE. IRENA promotes the widespread adoption and sustainable use of all forms of RE, including bioenergy, geothermal, hydropower, ocean, solar and wind energy in the pursuit of sustainable development, energy access, energy security and low-carbon economic growth and prosperity. IRENA places strong emphasis on the importance of energy efficiency (EE) in the energy transition.

IRENA's Medium Term Strategy 2018-2022, developed over a two-year period in consultation with IRENA's global membership and with stakeholder input through its Coalition for Action. The strategy provides clear guidance on priority action areas for the next step in the transformation of the global energy system. IRENA has played, and is increasingly playing, a key role to push other international energy organisations in a more progressive direction in terms of assessing the costs and benefits of RE. This includes organisations such as IEA, UN Environment, and the World Bank.

IRENA's strategic focus is shaped by the priorities of its members. Supporting the SIDS has been an early focus area for the Agency, evidenced by the inclusion of SIDS work in each Work Programme of the Agency since its establishment in 2011 and a continuous flow of voluntary contributions[2].

IRENA has through the LHI first phase undertaken numerous analyses of the global context and the context in SIDS partner countries[3]. These knowledge products and tools have given IRENA strong insights into constraints and opportunities for sustainable energy solutions in a climate change perspective for participating SIDS.

As a member, Denmark provides assessed core funding to IRENA – the indicative Assessed Contribution to IRENA for 2018 is USD 0.14 million. In 2018, Denmark in addition provided a voluntary contribution of DKK 40 mill. to long-term energy planning. According to IRENA, the 2016-2017 biennium budget comprised assessed core funding contributions from member countries (USD 42.9 million) and non-assessed core funding (USD 18.2 million) for a total core

[1] As of 26 February 2019, IRENA has 160 ratifying Members (159 countries and the EU) and 23 States in Accession.
[2] Voluntary contributions supporting IRENA's activities in SIDS until 2018 were received from France, Germany, Japan, Netherlands, New Zealand, Norway and the UAE.
[3] including the REmap initiative, a knowledge hub, SIDS focused publications, quickscans for several SIDS, Renewable Readiness Assessments, policy support and Roadmaps, grid integration studies, a Global Atlas online, a Project Navigator tool providing online support for the development of bankable projects, and a Sustainable Energy Marketplace for matchmaking between SIDS partner countries, service and technology providers, RE project developers, investors and financiers

budget of USD 61.1 million. In addition, voluntary contributions (totalling USD 23.1 million) were committed. For the 2018-2019 biennium, the core budget is almost unchanged at USD 64.1 million.

IRENA has three principal organs: i) the Assembly of IRENA members, the Agency's supreme decision-making body, which meets once a year; ii) the Council, which meets at least twice a year where IRENA's membership is represented in regions (21 members), but all members can attend the meetings as observers and iii) the Secretariat. The council meetings (and its two underlying committees) provide an opportunity for policy-makers and experts to engage in discussions on key findings stemming from IRENA's recent work, and to consider programmatic, strategic and institutional matters during the implementation of the work programme and in preparation for Assembly sessions. The MFA and the MEUC jointly manage the Danish cooperation with IRENA.

The SIDS Lighthouses Initiative (LHI)

The LHI is a partnership with 36 SIDS[4] and 22 other bilateral and multilateral development partners. There are numerous synergies and potential complementarities with regional associations of SIDS (e.g. CARICOM, AOSIS), SIDS-DOCK, the Pacific NDC Hub, the Pacific and Caribbean Regional Centres on Renewable Energy and Energy Efficiency, the regional development banks, the World Bank, the EU, to mention but a few.

The LHI was launched at the 2014 UN Climate Summit. Its Action Statement and Action Plan defined LHI as a framework for action aimed at deploying renewables to enable SIDS energy system transformation, by moving away from developing projects in isolation to a holistic approach that consider all relevant elements from policy and market frameworks, through technology options to capacity building. The LHI facilitates co-ordinated support through partnerships with public, private, intergovernmental, and non-governmental stakeholder organisations and academic institutions. One of the key strategies for the long-term sustainability of the work undertaken by IRENA is to find local institutions and partners who can ensure continued progress, and train-the-trainers for capacity building purposes. In the past, such an approach was successfully undertaken in the Pacific through partnerships with the regional entities and universities.

IRENA plays a dual role, that of the coordinator and facilitator of the Initiative, and as a partner in the Initiative. As the coordinator, IRENA uses its convening power to engage partners, provides secretariat support for organisation of meetings, maintenance of an independent website, dissemination of information and outreach, among others. As a partner in the Initiative, IRENA places all of its expertise in relation to SIDS (analytical, technical, country support) under the umbrella of the LHI. Given IRENA's leading role in renewable energy and close engagement with SIDS, this expert input will comprise a significant part of the project.

[4] Please refer to overview tables at the end of Annex 1 for further information on SIDS generally and on SIDS participating in LHI in particular.

The LHI Action Plan approved by all founding partners, defined 7[5] Priority Action Areas and set the following targets to be achieved by 2020:

• Mobilise USD 500 million for renewable energy investment;

• Deploy 100 MW of new solar photovoltaic (PV);

• Deploy 20 MW of new wind power.

In 2017, SIDS accounted for 2.75 GW of the renewable energy capacity, of which more than 400 MW were installed from 2014 to 2017. In this context, more than 250 MW of solar PV and 50 MW of wind have been installed since the launch of LHI, and over USD 500 million has been mobilised for renewable energy investments. Therefore, the abovementioned targets for LHI's installed capacity and funding mobilisation for 2020 have successfully been met and exceeded well ahead of schedule.

SIDS LHI 2.0

Building on these results[6] and taking into consideration the evolution of the energy context in SIDS, IRENA undertook a consultation exercise to determine the main priority areas for the new phase of the Initiative. An important development was the adoption of the Agenda 2030 that placed renewables at the heart of the development agenda and the emergence of NDCs. At present 34 SIDS have renewables as part of their NDCs, out of which 7 have an ambition of 100%. Because of these developments, the SIDS LHI 2.0 was launched at a High-Level Roundtable held on 28 September 2018 at the UN General Assembly. In connection with the IRENA 9th Assembly in Abu Dhabi in January 2019, a Ministerial meeting was held on SIDS LHI 2.0, which confirmed the priority areas for the initiative going forward – these priorities are reflected in Annex 12 and throughout this project document.

The SIDS LHI 2.0 project will maintain a clear focus on impact and change on the ground and aim for more tailor-made technical advice. The main thrust is to continue the success of LHI phase one. A main lesson is the absolute importance of ownership. The main change has been to move from general advocacy on RE to more detailed diagnosis of barriers and solutions (e.g. consider bundling of many small RE projects to achieve economies of scale and better financial terms for investments).

[5] i) Strengthening the institutional framework, including through closer cooperation and co-ordination between government and private sector; ii) Improving the knowledge base, including information about technology options, their level of maturity, appropriateness and economics and developing a strategy for resource assessment: iii) Supporting renewable energy planning and setting energy policy priorities; iv) Using energy roadmaps as the framework for funding priorities; v) Supporting renewable energy deployment, including advice concerning developer and technology selection criteria; vi) Strengthening human and institutional capacity, notably in ministries and utilities for energy transition planning and management; vii) Increasing regional and international co-ordination and co-operation in target areas.

[6] See also the January 2019 IRENA publication "SIDS Lighthouses Initiative Progress and Way Forward".

A Concept Note for a voluntary contribution to IRENA of DKK 50 mill. to support LHI 2.0 was discussed in the Danida Programme Commitee (PC) in December 2018[7]. The PC found that the proposed project was relevant, can help strengthen the resilience of these highly vulnerable states, contributes to the SDGs and is in accordance with Danish Development priorities. The PC stressed the need to ensure that the Danish contribution would be 100% ODA eligible and also stressed the need for more information of the results and achievements from the LHI first phase, and further elaboration of cross-cutting issues like youth, gender, and employment. These concerns are reflected in the project document that is also informed by developments at the IRENA 9th Assembly in January 2019. IRENA will submit to the MFA a report containing a list of all project activities on an annual basis. This report will include the list of all countries supported by the Danish project in the course of the year to show the ODA compliance. The annual financial reporting must include an overview of total contributions to the LHI divided into ODA and non-ODA contributions, combined with an overview of funds spent on ODA and non-ODA eligible countries.

2. Key Issues to be addressed

The dynamic nature of renewable energy offers a unique set of circumstances, as the emergence of new technologies, policies and business models makes the energy transition process unusually fast. SIDS have a particular role to play as they can leapfrog with RE solutions, without the limitations of long-standing structures and systems that shaped infrastructure and economies. Adopting a South-South cooperation approach that enables peer-to-peer exchanges of best practices and lessons learned is, therefore, of significant relevance to SIDS' sustained energy sector transformation.

Identified challenges in SIDS include particular vulnerabilities to climate change, necessitating building-up resilience in the energy sector to ensure energy security; heavy dependence on expensive fossil fuels resulting in very high electricity tariff structures often designed for diesel generation; fossil fuel subsidy schemes that undermine a "level playing field" for sustainable energy solutions; weak local capacity for energy planning and regulation and for development of bankable RE project proposals; limited access to affordable finance; weak access to reliable data; vulnerabilities in other economic and social sectors such as water and food security that depend on energy. However, there are major opportunities as there is a strong political momentum for the green energy transition and the business case for RE and EE is now competitive to traditional fossil fuel-based energy generation. Further information about the issues, challenges and opportunities that this project will address – and IRENA's comparative advantages in addressing them – is found in Annex 12.

The SIDS representatives interviewed by the identification mission to Abu Dhabi in November 2018 have all highlighted the importance of better access to sustainable energy for women, which will facilitate energy security and job creation in end-use sectors. The emphasis on the nexus between energy, water, and food security will further support socio-economic

[7] The formulation process included a mission by the MFA and the external formulation consultant to Abu Dhabi in late November for meetings with IRENA Headquarters staff and meetings with the embassies of Fiji, Maldives, and Comoros. The MFA has also had discussions with IRENA during the 16th Council meeting in November 2018 and the 9th Assembly during January 2019. The formulation process has included ongoing close consultations with the IRENA Planning and Programme Support team in Bonn.

development for the benefit of women. At the IRENA 9th Assembly a special IRENA Statement on Gender and Renewable Energy was adopted.

While access to affordable, reliable, sustainable and modern energy for all is a Sustainable Development Goal (#7), access to renewable energy is not a human right in itself. But given the role of sustainable energy as a broader enabler of human and economic development, it is strongly interconnected with basic rights such as the right to life, food, health, shelter, education, etc. The contribution to be made by the project in terms of capacity development and tools for more well-informed and transparent decision making in the energy transition, including better understanding of the socio-economic benefits also in end-use sectors, will enable the duty bearers (i.e. the political decision-makers and public authorities) to be mindful of the needs and priorities of end-users and ultimate beneficiaries at the household and enterprise level (the rights holders in human rights terminology). The human rights principles of participation, accountability, non-discrimination, and transparency will thus be supported - and this could be an example to be highlighted under project achievements.

Climate change and environmental aspects are inherent objectives and areas of emphasis in all aspects of LHI.

3. Reviews & evaluations

An independent review[8] of IRENA's activities and impact during 2011-2015 found that IRENA had grown significantly while pushing forward the global debate on renewables; the global mandate and membership from both OECD and non-OECD countries was a strength; activities had delivered impact upstream on the renewable energy value chain, to help clear bottlenecks and promote the deployment of RE; IRENA had been established as the global technical and knowledge leader on RE, the credible voice of RE in global forums and as a country advisor; IRENAs outputs were trusted, all IRENA Members interviewed indicated that there has been some form of tangible, positive impact as a result of IRENA's work. The Review also concluded that IRENA should focus on prioritizing core activities where IRENA is best placed to deliver impact, focus on defining and bolstering the RE business case (i.e. energy-intensive end-use sectors and manufacturing) recognising that private sector engagement is critical, leverage strategic and activity level partnerships and communications to amplify its impact, and adapt its processes and organization to remain agile and respond to changing needs.

An Evaluation of IRENA REmap (see page 2) covering 2012-2017 found that countries expressed growing demand, unmet expectations and hopes for more support from REmap. The REmap tool and analysis should integrate the development and deployment of renewable energy more across sectors – power supply, transport, buildings, industry – and other aspects of energy systems, such as energy efficiency and storage (for country, regional and global analyses). IRENA's work on socio-economic aspects, macro-economic effects, and geopolitical implications of renewable energies should also be fully integrated. On modalities, the evaluation noted some disadvantages of voluntary contributions (VCs came from a few countries; were

[8] http://remember.irena.org/sites/Documents/Shared%20Documents/10th_Council/IRENA%20Impact%20Review%202011-2015.PDF

often small and short-term, were provided with often very tight timeframes or restrictions on spending the funds and could have negative impacts on medium-longer term staffing levels, structures, work-flows, and organisational development). However, these disadvantages are mitigated by IRENA pursuing multiple multi-year voluntary contributions that enable better strategic governance and planning of funded projects and initiatives in recent years.

An extensive dialogue with partners of the LHI took place over 12 months to help shape the priorities for the next phase. The conclusions of the consultation process was discussed at the High-Level Roundtable in September 2018 and the SIDS Ministerial Meeting at the 9th IRENA Assembly in January 2019. Extensive feedback received from these processes defined the next phase of the LHI with an added emphasis of the importance of SIDS ownership and practical support. The main change has been to move from general advocacy on RE to more detailed addressing of barriers and solutions, aligned with the NDC and SDG priorities and strategies.

Specifically, SIDS recommended the adoption of a holistic approach within the LHI, the extension of the focus beyond the power sector (e.g. transport, e-mobility), the inclusion of energy efficiency considerations, the expansion of the focus of the work from assessment and planning to the implementation of effective and innovative solutions, the continued provision of technical and regulatory advisory services, the support of access to finance and bankability considerations, the increase of efforts on capacity building and the need to enhance the collection and dissemination of data and statistics to aid informed decision-making and allow for impact monitoring.

4. Strategic Considerations and Justification

The justification for the proposed project is based on its direct relevance in responding to the above-cited needs and priorities. IRENA can address these issues effectively in four project components/key outcome areas (ref. Annex 3), based on its knowledge and experience from engagements with SIDS stakeholders and beneficiaries (ref. context and partner analyses in Annex 1 and 2). IRENA's expertise, experience, tools, outreach and networks can make efficient use of project resources. The focus on influencing and enabling both policy makers and practitioners will facilitate sustainability[9] and impact, as will the pro-active use of impact drivers.

The cooperation builds on strategic considerations of the mandate and comparative advantages of IRENA, its experience with renewable energy in SIDS, its knowledge management, and capacity development expertise as outlined against each outcome area/component in Annex 12.

LHI 2.0 is considered the most effective and efficient way for Denmark of supporting the green energy transition in SIDS, given IRENA's outreach and active partnership with SIDS that has been well-established in LHI phase one and the demand-led, multi-partner nature of the LHI 2.0 initiative including its synergies and collaboration with other initiatives, as further explained in Annex 12.

[9] Country level exit strategies will be prepared in due time before completion, with a view to ensuring the sustainability of outputs and outcomes.

Denmark does not at present have an organisation strategy for IRENA. Overall, Denmark focuses internationally on ensuring a cost-effective low carbon transition and aims to influence in particular the major emerging economies, since their transition is instrumental to reaching the goals in the Paris agreement. The Danish priorities for IRENA's work are articulated in Assembly and Council meetings and Denmark has been one of the most active countries here and formulated its strategy in mandate papers as a part of consultations leading up to the governance meetings and strategy processes. Denmark's comprehensive response to the IRENA MTS 2018-22 was articulated by the MEUC – some key points were:

- Climate change is well embedded in IRENA's MTR pillars.
- It should be a clear strategic priority that IRENA stays generic in its advisory work to governments and engage in partnerships with these implementing organisations.
- Crucial to streamline IRENA's activities in the medium and long-term for greatest impact in terms of deployed MW of RE and thematically focus on overcoming barriers, in order to take RE to the next level in global energy systems.
- Specifically focus on system integration of high shares of RE, market design that is fit for RE, risk mitigation for RE investments.
- Strengthening the business case for RE should remain IRENA's priority, including by contributing to the effort to refine the market structures in this context. The needs for risk mitigation instruments and enabling policy frameworks remain vital elements of renewable energy deployment at scale.
- Crucial that IRENA continues to engage closely with other international energy organizations and fora such as the Clean Energy Ministerial, IEA, etc., in order to avoid duplication of work and to enhance possible synergies.

Table 4.1 shows how the proposed project outcomes and outputs are aligned to IRENA MTS and work programme elements.

Table 4.1 – Project alignment to IRENA Strategic frame: MTS 2018-2022 and Work Programme 2018-2019

IRENA MTS Pillars	IRENA 5-year MTS Strategic objectives	Link to project outcomes	IRENA biennial work programme outputs	Link to project outputs	Comments
Centre of excellence for energy transformation.	Empower effective policy and decision-making by providing authoritative knowledge and analysis on renewables-based energy transformation at global, national and sectoral levels.	Outcome 1: Knowledge on renewable energy in SIDS created and shared.	Countries provided with the tools and information necessary to support accelerated deployment of renewable energy. Countries are aware of the latest innovations in technology, policies and finance.	Output 1.1: A sound knowledge base tailored to SIDS for effective integration of RE. Output 1.2: Creation of knowledge on RE and end-use needs and efficiency links. Output 1.3: Knowledge, tools and methodologies developed that reinforce the links between renewables and broader social and economic agendas.	Deliverables under this output of relevance cover: - Knowledge creation - Tools and methodology Deliverables under this output of relevance cover - Engagement and outreach.
Global voice of renewables.	Shape the global discourse on energy transformation by providing relevant timely, high-quality information and access to data on renewable energy.	Outcome 4: Partnerships within SIDS and with development partners and global energy initiatives strengthened.	Contribution of renewable energy to socio-economic and climate goals articulated.	Output 4.1: LHI collaborative platform adapted to new priority areas and increased peer-to-peer exchange.	Deliverables under this output of relevance cover - Knowledge creation.
Network hub.	Provide an inclusive platform for all stakeholders to foster action, convergence of efforts and knowledge sharing for impact on the ground.		Regional action plans and initiatives supported by IRENA.	Output 4.2: SIDS renewable energy agenda promoted at regional and global levels.	Deliverables under this output of relevance cover: - Engagement and outreach - Tools and methodologies
Source of advice and support.	Support country-level decision-making to accelerate the renewables-based transformation of national energy systems, advance strategies to diversify energy sources, reduce global emissions	Outcome 2: Institutional and technical capacity increased leading to improved enabling environment for renewables in SIDS. Outcome 3: More robust and sustainable	Regional action plans and initiatives supported by IRENA.	Output 2.1: Increased capacity to implement energy components of NDCs. Output 2.2: Readiness assessments, road maps and other enabling framework tools	Deliverables under this output of relevance cover: - Engagement and outreach - Tools and methodologies

	and achieve sustainable development.	renewables sector development, with support to project development and facilitation of access to finance for renewable energy projects.		developed and implemented. Output 3.1: Key actors/institutions trained and able to use the project preparation and facilitation tools and platforms. Output 3.2: Key actors/institutions supported to facilitate development of bankable projects and access to finance.	

The proposed support is highly relevant to Denmark's development priorities as described in the Danish Government strategy for development cooperation and humanitarian assistance, "The World 2030"[10]. The project is directly relevant to four of the five SDGs pursued actively: SDG5 (gender equality), SDG7 (affordable and clean energy), SDG 13 (climate action), and SDG 17 (partnerships). It is also relevant to SDG 8 (economic growth), which is a priority in both poor and fragile countries. Project outcomes are also well aligned to the priorities for funding under the Danish Climate Envelope[11] (which is the source of funding for the proposed project). The project will have a climate change mitigation impact as well as an impact on SIDS' resilience to climate change.

Synergies with other Danish multilateral and bilateral sustainable energy cooperation.
It is a Danish strength and interest that Denmark provides quality international development cooperation on climate change and sustainable energy, including the many initiatives under the Danish Climate Envelope. The Danish energy model and its emphasis on long-term planning, grid integration of variable RE, and partnerships between the public and private sectors is appealing to SIDS and Denmark has itself championed sustainable energy solutions in islands (e.g. Samsø, Bornholm) that have been more ambitious than national plans. A Danish secondment[12] to IRENA of a renewable energy expert has been agreed in principle (see Annex 13) which could help maximise synergies and complementarities with Danish international energy cooperation and experience.

Synergies with other Danish supported cooperation on sustainable energy will be emphasised, particularly the 2018 support to long-term planning. While that project does not have a specific geographic focus on SIDS, the project scope includes the general importance of long-term

[10] See Figure 1 page 10 in The Word 2030.
[11] Guiding Principles for the Climate Envelope, Page 6: National strengths: Where possible, Climate Envelope funds will be targeted interventions where Denmark can add value in terms of national strengths, competences… Therefore, Climate Envelope interventions will thematically focus on energy including renewable energy, energy planning, energy efficiency and reform of policy frameworks. Page 6: Priority will be given to interventions where chances of achieving transformational change through accompanying changes in policy, markets or finance structures (both public and private) are largest.
[12] As was the case in the Voluntary Contribution to IRENA on long-term planning that was approved in October 2018.

planning that is also beneficial in SIDS; socio-economic impacts and skill gaps related to RE planning and deployment; clean energy investment strategies and best practice in private investment mobilization; exchange of best practices among practitioners and policy makers; and analysis tools applied in end-use sectors.

Moreover, there are potential synergies with other Danish bilateral cooperation programmes supported by the Danish Energy Agency, for example in Indonesia, itself an island nation. Also, it is important to consider synergies with Danish multilateral support including:

- The World Bank Energy Sector Management Assistance Program (ESMAP), which also serves as the knowledge hub in the Sustainable Energy for All architecture and which draws on IRENA inputs to landmark publications and tool including the above-cited SDG7 Progress Report.
- The Copenhagen Centre on Energy Efficiency (CCEE) under the UNEP DTU Partnership in Copenhagen, that is a global hub for EE and with which IRENA cooperates (e.g. in the IRENA Publication on Synergies between Renewable Energy and Energy Efficiency (2017).
- The African Development Bank Sustainable Energy Fund for Africa (SEFA) – several SIDS are AfDB regional member countries.
- The Climate Technology Centre and Network (CTCN) that is the operational arm of the UNFCCC Technology Mechanism. CTCN and IRENA have cooperated e.g. on a 2017 webinar "Development of bankable mini-grid projects: 9 steps towards improved energy access".
- The International Energy Agency (IEA). IRENA cooperates directly with IEA several different ways. Recent examples include the publication "Renewable Energy Policies in a Time of Transition" (2018) that was a joint effort of IRENA, OECD/ IEA and REN21, and both IRENA and IEA are custodian agencies of the SDG7 within the UN processes.

5. Theory of Change and key Assumptions

A graphic illustration of the Theory of Change (ToC) is shown in Figure 5.1. The narrative ToC is elaborated below.

What are the changes this project wants to contribute to? The project will contribute to a green energy system transition and low-carbon development path consistent with SDG 7 as well as contributing to implementation of NDCs and the Paris Agreement.

How will change happen in the specific context? The use and share of renewable energy in SIDS will be increased through four main intervention areas: an increase in awareness and knowledge on energy transition; institutional and technical capacity for improving the enabling environment for renewables; greater investment in renewables through identification of bankable projects and increasing the ability to access finance and; creating a collaborative network among SIDS and global renewable energy initiatives and stakeholders. Ultimately, a target of 5 GW of additional renewables across the SIDS is aimed for, as an aspirational target defined by IRENA based on an ambitious interpretation of LHI participating SIDS' own targets. The LHI 2.0 will catalyse and facilitate the realisation of this target. This 5 GW target

encapsulates the indicators of the Danish Climate Envelope (as this is demand-led and directly entails corresponding CO2 emission reductions and mobilising finance).

What is the role of the key project partners? The key project partners are IRENA and the national stakeholders in the SIDS themselves including the public, private, and civil society sectors. IRENA will implement the project and under each outcome will undertake a number of knowledge management, capacity development and networking interventions. Stakeholders in SIDS will engage with IRENA and the networks created and enhanced in order to improve the enabling environment in each state and to develop bankable projects, access finance and implement them.

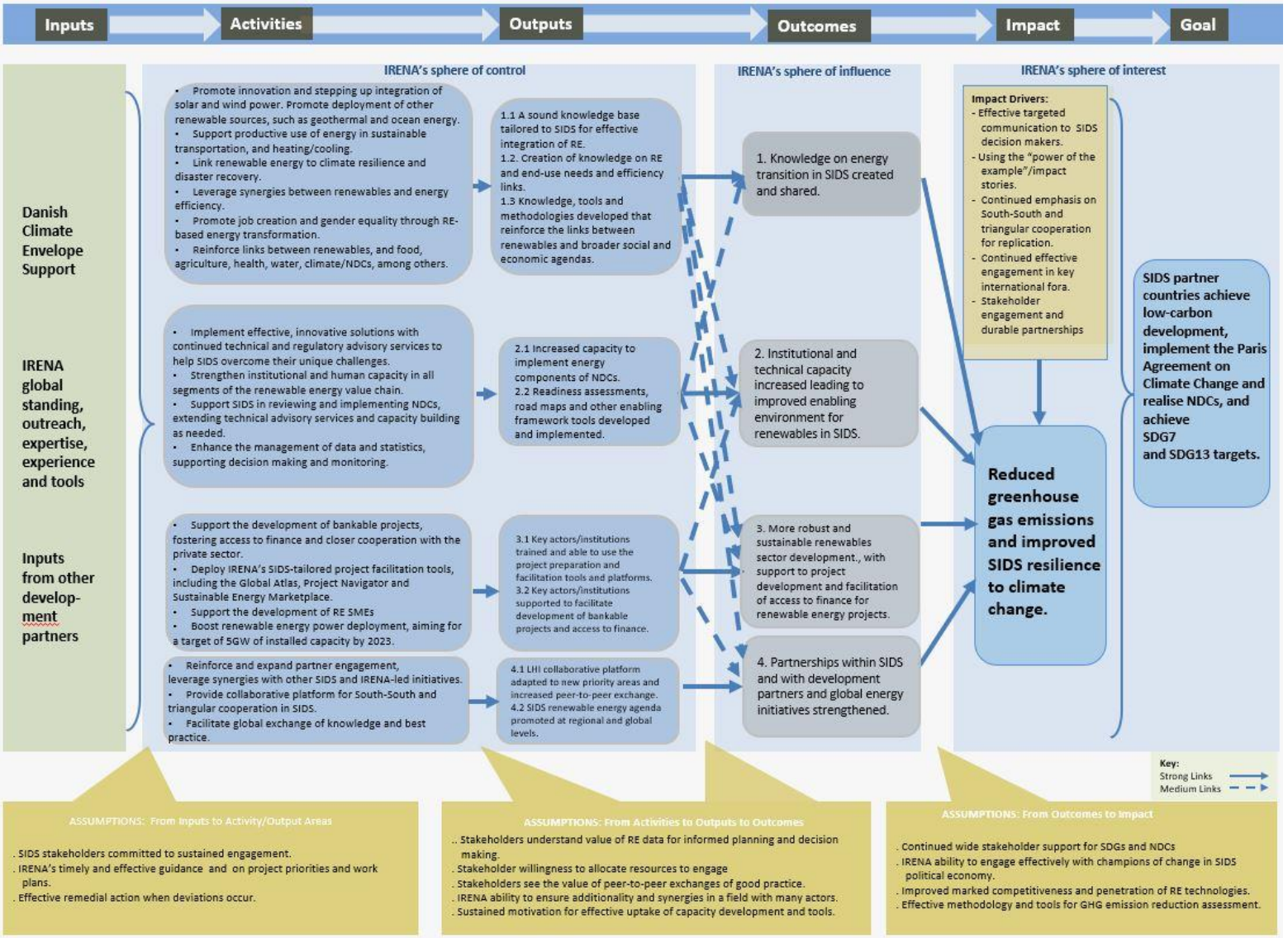
What are the conditions that must be realized before the goal is achieved?

- **Demand:** A request by government officials to IRENA to undertake project activities in their SIDS.
- **Impact:** Significant effect of the project output will be demonstrated in the selected SIDS, including in terms of mitigation at national and, by extension, regional and global levels.
- **Geographical location:** Focus on SIDS that currently participate in or will join the LHI 2.0.
- **Implementation:** Commitment of the selected SIDS is demonstrated, and likelihood of implementation is high.
- **Data:** Data and other necessary base information is available and of sufficient quality.

What is within and beyond the influence of IRENA? As illustrated in Figure 5.1 there are factors within the control/influence/interest of IRENA. The Agency inputs by IRENA and project activities and outputs are within its control. Outcomes are within the sphere of strong influence by IRENA during the project, but ultimately depend on uptake and actions by country and regional partners and beneficiaries, for instance the realisation of socio-economic benefits of RE deployment. The achievement of impacts and goals of achieving low-carbon development, realise SIDS NDCs and SDG 7 and 13 targets, are clearly within IRENA's sphere of interest but outside direct control.

How do outputs lead to outcomes that in turn lead to strategic objectives? The transformational change required to provide the outcomes and impact is dependent on ownership and commitment of the SIDS country-level (and regional partners). It is therefore important that IRENA can build upon its strong track record of outreach and cooperation with SIDS to promote best practice that can be exchanged among peers.

Figure 5.1 – Theory of Change



6. Project Objective and Summary of Results Framework

Overall, the objective of the support is that participating SIDS are assisted in the green energy transition that will mitigate greenhouse gas emissions, strengthen resilience in SIDS' adaptation to climate change and improve energy security, thus contribution to SIDS meeting their set NDC targets and contributing to the achievement of the SDGs.

The following are the areas of focus identified by IRENA based on its consultations with SIDS and other partners:

1. Support SIDS in reviewing and implementing NDCs, extending technical advisory services and capacity building where needed;
2. Expand from assessment and planning to implementing effective, innovative solutions with continued technical and regulatory advisory services to help SIDS overcome their unique challenges;
3. Promote other renewable sources, such as geothermal and ocean energy along with stepping up integration of solar and wind power;
4. Support the development of bankable projects, fostering access to finance and closer cooperation with the private sector;
5. Strengthen institutional and human capacity development in all segments of the renewable energy value chain;
6. Look beyond power generation, including transportation and other end-use sectors;
7. Leverage synergies between renewables and energy efficiency;
8. Reinforce links between renewables, food, agriculture, health, and water;
9. Link renewable energy to climate resilience and disaster recovery;
10. Enhance the management of data and statistics, supporting decision making and monitoring;
11. Reinforce and expand partner engagement, leverage synergies with other SIDS initiatives and IRENA coordinated initiatives;
12. Boost renewable energy power deployment, aiming for a target of 5 GW of installed capacity by 2023.

These 12 focus areas have been condensed into four outcome areas as shown in Annex 12. The project objectives and a summary of the results framework at impact and outcome level is shown in Table 6.1 below – the full results framework is found in Annex 3.

To factor-in the dynamic context the project operates in, the project will start with a 3-month Inception Phase, the outcomes of which will be summarised in the Inception Report, which will be approved by the project's Steering Committee comprising IRENA and MKL. While adhering to the agreed overall theory of change and results framework, the Inception Phase will where necessary further align the project to the broader strategy and programme of LHI 2.0 and adjust the timelines with disbursements of funds. The results framework is kept sufficiently flexible to ensure the project can adjust to the changing needs of a diverse group of SIDS. The

Inception Report will also define more concrete and tangible deliverables under each Outcome detailed below and in Annex 3.

Table 6.1 – Summary results framework

Project Title		**Voluntary contribution to IRENA for SIDS Lighthouses Initiative 2.0.**	
Project Objective		Participating SIDS are assisted in the green energy transition that will mitigate greenhouse gas emissions and strengthen resilience in SIDS' adaptation to climate change and improve energy security, thus contributing to SIDS meeting their set NDC targets and contributing to the achievement of the SDGs.	
Impact Indicator		Support the increased share of RE in SIDS energy mix through knowledge products, capacity development, technical advisory services, project facilitation tools and services, and coordination and facilitation of the SIDS Lighthouses initiative tailored to the new priority areas aiming to contribute to reach a total target of 5 GW of RE for LHI as a whole.	
Baseline	Year	2019	SIDS have limited institutional and technical capacity related to RE, limited access to project facilitation tools to develop bankable projects, limited access to finance, and much of the knowledge on RE is not tailored for SIDS. There is about 8% of RE in 2017 SIDS energy mix, but data is not sufficiently accurate.
Target	Year	2023	SIDS have increased institutional and technical capacity to deploy RE, access to project facilitation tools and services to develop bankable projects, enhanced visibility to connect with potential financiers and investors. Increased knowledge on RE supported the achievement of 5 GW target. LHI membership doubled the number of development partners, and adapted to climate and development priorities. Pipeline of bankable projects and greater access to finance.
Outcome 1		Knowledge on renewable energy in SIDS created and shared.	
Outcome indicator		The extent to which knowledge products on renewable energy in SIDS are up to-date and easy to access.	
Baseline	Year	2019	Much of the knowledge on RE is not tailored for SIDS and what is available is not easy to access or make use of.
Target	Year	2023	SIDS have access to up to-date and SIDS-tailored knowledge on RE.
Outcome 2		Institutional and technical capacity increased leading to improved enabling environment for renewables in SIDS.	
Outcome indicator		The extent to which the institutions/stakeholders in SIDS that received technical assistance and capacity building have been able to use that capacity to increase RE share in line with their NDC targets.	
Baseline	Year	2019	SIDS have limited institutional and technical capacity to implement the NDCs related to RE.
Target	Year	2023	Participating SIDS have improved institutional and technical capacity to increase the share of RE in line with NDC targets (on track for meeting the 5 GW RE target). 50% of SIDS have 100% renewable power roadmaps to 2030.
Outcome 3		More robust and sustainable renewables sector development., with support to project development[13] and facilitation of access to finance for renewable energy projects.	
Outcome indicator		The extent to which institutions/key actors supported through project facilitation tools and services have boosted investment in RE in SIDS.	
Baseline	Year	2019	Low level of support to facilitate investments (IRENA latest figures (donor funding only) are USD 183 million committed in 2016).
Target	Year	2023	SIDS have access to project development tools and access to finance to meet the 5 GW target for RE.
Outcome 4		Partnerships within SIDS and with development partners and global energy initiatives strengthened.	
Outcome indicator		The proportion of participating SIDS benefiting from the collaborative platform and other	

[13] The appraisal recommendation "to attempt to provide a significant share of TA and capacity building support to public and private RE projects that hold a good chance of being financed and implemented within the LHI 2.0 implementation period" will be kept under review at Steering Committee meetings in case adjustments may be required at a later stage.

		efforts aimed at increased awareness and synergies between SIDS RE initiatives at country and regional levels and with global level initiatives.	
Baseline	Year	2019	LHI provides a collaborative platform for SIDS peer to peer exchange, as well as engagement with development partners to facilitate sharing of information and experiences – but there is a need to consolidate the platform and increase inter-SIDS, South-South and triangular cooperation to raise awareness and harness synergies among RE initiatives.
Target	Year	2023	Over 60% of participating SIDS have benefitted from institutions and actors in their states that are making use of the collaborative platform and engage with other efforts that increase awareness and synergies.

7. Inputs/Budget

A budget not exceeding DKK 50.0 million will be made available through the Ministry of Foreign Affairs of Denmark (MFA) for the cooperation, sourced from the Danish Climate Envelope, which will offer partial financial support to the LHI 2.0. Except for a budget of DKK 250,000 for the mandatory Mid-term Review (MTR) (that will be managed directly by the MFA), the budget covers an earmarked voluntary grant contribution to IRENA, who will administer the funds under a Donor Agreement between IRENA and the MFA.

The SIDS LHI 2.0 has an aspirational annual budget of USD 5 million for five years. The LHI is part of the Work Programme approved by the Assembly and as such supported by a core budget comprising assessed contributions of IRENA Members. Core contributions are determined based on the UN scale of assessment, and ODA-eligible with 66% co-efficient. The majority of earmarked contributions have a specific requirement for 100% ODA compliance, and the Danish voluntary contribution to IRENA SIDS Lighthouses 2.0 must fulfil this specific requirement for ODA compliance. A process has been established that ensures full ODA eligibility[14].

IRENA follows UN rules and develops the budget at output level accordingly (The budget includes the costs of a secondment for four years of a Danish professional to IRENA, in accordance with the IRENA Secondment policy as adopted by the Assembly in decision A/2/DC/5 (see details in Annex 14). The budget at output level is found in Annex 4.

IRENA financial management will be in accordance with IRENA's Financial Regulations. IRENA's standard administrative charge Project Support Cost (PSC) is 7%. To counter the risk of currency exchange fluctuations and shortfalls on other budget lines, unallocated contingencies of DKK 10% are budgeted.

Concerning other major donor support to the SIDS Lighthouses Initiative, it is noted that the largest contributor to date has been Germany through the International Climate Initiative (EUR 3 million in 2016, expiring December 2019), along with ad-hoc support for different aspects of the Initiative. Norway has been funding the LHI since 2014, at present with multi-year core voluntary contribution for the Work Programme 2018/2019. France has offered

[14] At the time of fund allotment to project managers, and during the six-monthly progress reports when project managers have to report on respective activities. IRENA will on an annual basis submit to the MFA a financial report containing a list of all supported activities under the LHI 2.0 initiative. The report will include an overview of funds that support the LHI, in the breakdown of supported ODA-eligible countries and countries that not ODA-eligible. The report will show that contributions from Denmark and other donors with a requirement of 100% ODA compliance will be less than the total financial support to the LHI, if countries that are not eligible for ODA are supported by the LHI. The content of the financial report will be reflected in the annual narrative report submitted to the MFA.

earmarked support to the LHI for the work on the Global Atlas, geothermal and marine technologies. A number of countries provide ad-hoc support to the LHI, including the Netherlands, New Zealand, and Japan. This is complemented with the continuous support of the UAE that is available for SIDS. Germany and Norway confirmed that they will provide earmarked contributions for LHI 2.0 in the course of 2019 (planned for the last quarter of 2019) and discussions are underway on a possible contribution from the EU. If the annual aspirational resource requirement does not cover the estimated USD 5 million annual cost of the LHI 2.0. The project will be scaled to a level that can be delivered. This will not affect the outcomes of the Danish contribution, which will be delivered as per the project document and the deliverable schedule to be specified in the Inception Phase. IRENA's own inputs are provided in-kind. Changes and reallocations exceeding 10% should be discussed and approved by the MFA.

8. Institutional Arrangements, Progress Monitoring and Reporting

Within IRENA, the project is anchored in the IRENA Planning and Programme Support team, where the Director oversees the internal coordination and the strategic integration of extra-budgetary resources in IRENA's programmatic work; leads the reporting on programmatic matters to governing bodies and individual donors; and facilitates Agency-wide participation in global or thematic initiatives. Within the MFA, the process is anchored in the Department for Multilateral Cooperation and Climate Change (MKL). Within MEUC, the process is anchored in the International Department.

The cooperation is a single partner project with IRENA as the responsible implementing partner. The cooperation is anchored in the IRENAs Planning and Programme Support (PPS) unit in the office of the Director-General, which oversees the internal co-ordination and the strategic integration of extra-budgetary resources in IRENA's programmatic work; leads the reporting on programmatic matters to governing bodies and individual donors; coordinates IRENA's climate work and facilitates Agency-wide participation in global or thematic initiatives. The project will become subject to IRENA internal management, implementation and monitoring practices. Programmatic divisions, including Country Support and Partnership (CSP), IRENA Innovation and Technology Centre (IITC) and Knowledge, Policy and Finance Centre (KPFC) will be responsible for delivery of outputs. IRENA will also report on the project to the Council and the Assembly at the regular governing body meetings through its Progress and Annual Reports. Further information IRENA's organisational structure and how different units are involved in project delivery can be found in Annex 10.

Annual meeting on SIDS LHI will continue to be organized on the margins of the Assembly, where all SIDS and development partners exchange views on progress and priorities for the year ahead. The Assembly is an important forum for country engagement and provides key input to planning. It provides a forum to asses existing country efforts, ownership and political commitment to reach objectives of the project as well as the assessment of specific requests to IRENA for country support under the LHI 2.0. A reporting format that harmonises donor requirements should be presented by IRENA during the first 6 months. The responsible MFA Unit (MKL) will base the actual support on the agreed disbursement schedule and take into account the progress attained in the implementation of the project as described in the

documentation submitted to the donor. IRENA's approach to planning and monitoring is described in Annex 12.

IRENA will provide Progress Reports to the MFA annually. The indicators used for reporting will include those mentioned in Table 8.1. Key results and examples including impact stories will be specifically highlighted.

Table 8.1 – Indicators for Danida's reporting purposes

Impact/Outcomes/Outputs ref table 5.1 above and details in Annex 3	Reporting indicator
Impact	Increase of share of RE in SIDS energy mix and contributions to a total target of 5 GW of RE in the framework of LHI 2.0.
Outcome 1	The extent to which knowledge products on renewable energy in SIDS are up to-date and easy to access.
Output 1.1	Evidence that current levels of RE knowledge tailored to SIDS are regularly updated and easy to access.
Output 1.2	Evidence that new knowledge on RE in SIDS is generated through a robust knowledge management cycle.
Output 1.3	SIDS make use of knowledge, tools and methodologies for advancing social and economic issues such as jobs and gender equality and examples of adaptation solutions to strengthen resilience in selected SIDS.
Outcome 2	The extent to which the institutions/stakeholders in SIDS that received technical assistance and capacity building have been able to use that capacity to increase RE share in line with their NDC targets
Output 2.1	Progress in RE uptake and on technical assistance and capacity building to implement energy components of NDCs.
Output 2.2	Evidence that SIDS made use of readiness assessments, road maps and other enabling framework tools.
Outcome 3	The extent to which institutions/key actors supported through project facilitation[15] tools and services have boosted investment in RE in SIDS.
Output 3.1	# of key actors provided support through project facilitation tools and services towards the 5 GW RE installed capacity target.
Output 3.2	# key actors/institutions in SIDS that received support to facilitate access to finance for RE uptake.
Outcome 4	The proportion of participating SIDS benefiting from the users on collaborative platform and other efforts aimed at increased awareness and synergies between SIDS RE initiatives at country and regional levels and with global level initiatives.
Output 4.1	SIDS and other actors are making use of the collaborative platform to promote RE in SIDS and make use of the project's and IRENA's wider support to climate change adaptation and resilience.
Output 4.2	Evidence of increased awareness and harnessing of synergies between SIDS RE initiatives at country, regional and global levels.

According to MFA regulations, it is mandatory to undertake a TQS-led mid-term review (MTR)[16] of the project. The funds for the MTR are budgeted separately as these are managed by the MFA.

[15] The appraisal recommendation "to attempt to provide a significant share of TA and capacity building support to public and private RE projects that hold a good chance of being financed and implemented within the LHI 2.0 implementation period" will be kept under review at Steering Committee meetings in case adjustments may be required at a later stage.

[16] MTR is mandatory for projects with a budget exceeding DKK 39 million. More information on the purpose and mandate of MTR can be found in the MFA/Danida AMG, Guidelines for Programmes and Projects, page 40-41-42. An

The MFA will sign a Donor Agreement with IRENA and transfer funds to IRENA per request. The tentative disbursement schedule is shown in table 9.1. The MFA will oversee progress through progress reports as mentioned above and may participate in the dedicated SIDS LHI meetings during the Assembly and SIDS donor meetings organized by IRENA. MFA will also be invited to participate in any activities that are of strategic relevance or may influence future direction of the LHI for the duration of the support. The MFA shall have the right to carry out other technical missions that might be considered necessary to monitor the implementation of the project. IRENA will be informed and consulted on terms of reference for such missions. After the completion of the project, the MFA reserves the right to carry out evaluation of project activities.

IRENA will be responsible for ongoing quality assurance and monitoring according to its procedures, and IRENA may undertake reviews and evaluations of the project in accordance with IRENA evaluation policy. The plan for communicating results is provided in Annex 7.

9. Financial Management

The Danish support is earmarked to the activities outputs and outcomes specified in Annex 3. The funds shall be used exclusively to finance these activities. . All funds are in DKK and will be converted to USD at the official rate at the time of payment. The tentative payment schedule is:

Figure 9.1 – Tentative payment schedule

Year	Payment (DKK)
2019	12,500,000.00
2020	12,500,000.00
2021	12,250,000.00
2022	12,500,000.00

IRENA will record and report the financial contribution in its financial management system and report it under its general financial reporting on Voluntary Contributions. Project management and expenditures shall be governed by the IRENA Financial Regulations. Should an audit report contain observations relevant to activities funded under this project, such information, along with IRENA's comments thereon, must be submitted without delay to the MFA.

IRENA shall undertake all procurement under the project in accordance with IRENA's policies, rules and procedures for procurement and shall where relevant include an assessment of potential sources of supply in the partners recipient countries for the project.

MTR will typically assess political and strategic developments; progress against the results framework and theory of change including any changes to assumptions; risk management; achievements in documenting and communicating results; sustainability and exit strategies; project management, including work planning and budgeting, disbursements and expenditures; the relationship between results and financial progress, etc. TOR for the MTR will be prepared by MFA/MKL.

IRENA is committed to maintaining standards of conduct that govern the performance of its staff including the prohibition of corrupt practices in connection with award and administration of contracts, grants, or other benefits, as set out in the IRENA Staff Rules, including the Code of Conduct and IRENA Financial Regulations. Any staff recruited specifically for the project will be subject to IRENA Code of Conduct and Ethics Policy.

10. Risk Management

The detailed risk matrix according to Danida format is given in Annex 5. There are three risk categories: contextual risks, programmatic risks, and institutional risks. Risk mitigation measures are mentioned, and the residual risks summarised. It is important to stress that the risk matrix must be closely monitored. The Mid-term Review will also assess risk management. Lack of long-term political and societal support has been deemed as the most potential and influential contextual risks. This is addressed by focusing on partner engagement, co-ownership and awareness raising. Partner capacity/expertise and the difficulty of attracting financing for small RE projects in SIDS are deemed as the most problematic contextual risks and are directly addressed by the project components. Lastly, potential donor earmarking and unrealistic result expectations are identified as the main institutional risks inherent in a dynamic project with a wide variety of donors. This will be mitigated through close collaboration between the MFA, IRENA and other donors throughout the project.

Annex 1: Context Analysis

1. Overall development challenges, opportunities and risks
General development challenges: *"SIDS are on the front-lines of climate change, facing the most impact from its effects while doing the least to cause it," said Adnan Z. Amin, Director-General of IRENA in opening remarks at the SIDS Energy Day at COP 23 in Bonn. "In the energy sector, SIDS are hindered by a high dependence on imported fossil fuels, and the associated high costs in transitioning to sustainable energy and low carbon development," according to Dolf Gielen, Director of the IRENA Innovation and Technology Centre. "Financing is still the number one challenge for renewable energy development on islands."* Overall, SIDS have limited institutional and technical capacity related to RE, limited access to project facilitation tools to develop bankable projects and much of the knowledge on RE is not tailored for SIDS. Although data is not accurate, IRENA estimates that in 2017 RE constitutes about 8% of the energy mix in SIDS.
Key economic indicators: GDP, economic growth: Of the 36 SIDS currently participating in the LHI, 6 are LDCs, 28 are DACable, 7 are fragile states, and their ranking on the UNDP human development index is from place #54 to #152 (of a total of 189 countries).
Status and progress in relation to SDGs: For SDG7 (affordable and clean energy) the May 2018 joint tracking report (to which IRENA has contributed along with other key custodian agencies) provides the most comprehensive look available at the world's progress towards global energy targets. As of 2015, the world obtained 17.5% of its total final energy consumption from renewable sources, of which 9.6% represents modern forms of renewable energy such as geothermal, hydropower, solar and wind. The remainder is traditional uses of biomass (such as fuelwood and charcoal). Based on current policies, the renewable share is expected to reach just 21% by 2030, with modern renewables growing to 15%, falling short of the substantial increase demanded by the SDG7 target. Rapidly falling costs have allowed solar and wind to compete with conventional power generation sources in multiple regions, driving the growth in the share of renewables in electricity to 22.8% in 2015. But electricity accounted for only 20% of total final energy consumption that year, highlighting the need to accelerate progress in transport and heating. The share of renewable energy in transport is rising quite rapidly, but from a very low base, amounting to only 2.8% in 2015. The use of renewable energy for heating purposes has barely increased in recent years and stood at 24.8% in 2015, of which one third was from modern uses. For SDG13 (climate action) and the Paris Agreement on Climate Change: IRENA's Global Energy Transformation Report (April 2018) shows that actual carbon dioxide (CO2) emission trends are not yet on track. Under current and planned policies, (including Nationally Determined Contributions under the Paris Agreement), the world would exhaust its energy-related carbon budget in less than 20 years. Even then, fossil fuels such as oil, natural gas and coal would continue to dominate the global energy mix for decades to come. Keeping the global temperature rise below 2 °C is technically feasible and would also be more economically, socially and environmentally beneficial than the path resulting from current plans and policies, known as the Reference Case. However, the global energy system must undergo a profound transformation, replacing the present system that is largely based on fossil-fuels. The total share of renewable energy must rise from around 18% of total final energy consumption (in 2015) to around two-thirds by 2050. Over the same period, the share of renewables in the power sector would increase from around one-quarter to 85%, mostly through growth in solar and wind power generation. The energy intensity (i.e. reflecting progress in energy efficiency) of the global economy will have to fall by about two-thirds, lowering energy demand in 2050 to slightly less than 2015 levels. This is achievable, despite significant population and economic growth, by substantially improving energy efficiency. As low-carbon electricity becomes the main energy carrier, the share of electricity consumed in the end-use sectors (buildings, heat and transport) would need to double, from approximately 20% in 2015 to 40% in 2050. Renewables must also expand significantly as a source for direct uses, including transport fuels and direct heat. The global energy transformation makes economic sense. Yet it calls for more investment in low-carbon technologies without delay. Understanding its socioeconomic footprint, meanwhile, is essential. The shift to renewables should create more energy jobs than those lost in fossil-fuel industries, IRENA's analysis shows. It would also boost global GDP by 1% in 2050 and significantly improve overall welfare.
Political economy: The project will engage with the key political economy drivers of change (at political decision-making level and among practitioners) and build upon ownership and commitment in partner countries. Generally, most SIDS have very weak institutional structures, but they are collectively vocal on the international arena.
Key documentation and sources used for the analysis: IRENA Global Energy Transformation report – a Roadmap to 2050 (April 2018): http://www.irena.org/publications/2018/Apr/Global-Energy-Transition-A-Roadmap-to-2050 Energy Progress Report - tracking SDG7 progress (May 2018): http://www.irena.org/publications/2018/May/Tracking-SDG7-The-Energy-Progress-Report

IRENA press release on renewable energy jobs in low-carbon economic growth: http://www.irena.org/newsroom/pressreleases/2018/May/Renewable-Energy-Jobs-Reach-10-Million-Worldwide-in-2017
SDG7: https://sustainabledevelopment.un.org/sdg7
SDG13: https://sustainabledevelopment.un.org/sdg13
IRENA Discussion Paper on SIDS LHI 2.0, August 2018.
IRENA Preliminary Project Outline, Danish Voluntary Contribution to IRENA for SIDS LHI 2.0 (dated 29 November 2018).

Are additional studies / analytic work needed? How and when will it be done?
No additional studies/analytic work is needed, but IRENA – and the proposed project – operate in an extremely dynamic context where new information is constantly made available from a wide range of sources. As the global knowledge centre on RE IRENA is actively engaged in analytic work undertaking studies of trends and issues and IRENA works closely with other major development partners in the development of landmark publications and in key international fora (such as a custodian agency for the global Energy Progress Report - tracking SDG7 progress (latest report, May 2018)), the July 2018 high-level political forum on sustainable development at the UN in New York, energy lead in the UNFCCC climate action space, etc.

2. Fragility, conflict, migration and resilience

The target countries for this project are small island developing states, and as mentioned above 7 of the 36 participating SIDS are classified as fragile states. Climate migrants from SIDS are an increasing issue. Building resilience to climate change includes more robust sustainable energy systems that can better guarantee energy security and support sustainable and resilient communities where water and food security are also improved through sustainable energy.

Socio-economic benefits of RE deployment is also a relevant factor in strengthening resilience and mitigating against conflicts over energy poverty and access, unemployment - and potentially it could also have a positive contribution toward stemming migration.

Are additional studies / analytic work needed? How and when will it be done?
No additional studies or analytical work required.

3. Human rights situation (HRBA) and gender

IRENA places strong emphasis on the gender aspect as evidenced for example in the January 2019 report "Renewable Energy: A Gender Perspective". In connection with the IRENA 9th Assembly in January 2019 an IRENA Statement on Gender and Renewable Energy was made, which included the following commitment:
"We believe in the importance of strengthening international cooperation to advance gender equality in the energy transformation and commit to undertake the following: 1. Raise awareness about the centrality of gender equality and the increased participation of women to achieve an inclusive and fair energy transformation at the local, national, regional and international levels; 2. Share experiences and best practices related to policies, programs and initiatives that encourage and promote women's participation, leadership and decision-making in the renewable energy sector; 3. Foster women's economic empowerment by increasing access to investments and capacity building in entrepreneurship and employment in the renewable energy sector; 4. Support further analysis and collection of gender-disaggregated data in the renewable energy sector, including, among others, the use of indicators, monitoring and evaluation methodologies, and the analysis of gender-focused statistics; 5. Strengthen collaboration at all levels to overcome barriers facing women's participation in the renewable energy sector".

As stated in para 51 of its work programme for 2018-2019, IRENA will continue its work on socio-economic benefits and in order to better understand the potential benefits of the renewables-based energy future, IRENA will continue to analyse and forecast socio-economic impact by undertaking quantitative and qualitative assessments. Through the collection of country and project-level data, as well as own estimates, IRENA will provide annual reviews on jobs in the sector, with continuous refinements of the analysis to add new perspectives, such as on gender and access. To strengthen the link to SDGs, IRENA will continue to analyse the socio-economic impact of renewable energy projects on communities, through primary data, providing best-practice examples with a special focus on gender and skills development.

While access to affordable, reliable, sustainable and modern energy for all is a Sustainable Development Goal (#7), access to renewable energy is not a human right in itself. But given the role of sustainable energy as a broader enabler of human and economic development, it is strongly interconnected with basic rights such as the right to life, food, health, shelter, education, etc. The contribution to be made by the project in terms of capacity development and tools for more well-informed and transparent decision making in the energy transition, including better understanding of the socio-economic benefits also in end-use sectors, will enable the *duty bearers* (i.e. the political decision-makers and public authorities) to be

mindful of the needs and priorities of end-users and ultimate beneficiaries at the household and enterprise level (*the rights holders in human rights terminology)*. The human rights principles of participation, accountability, non-discrimination, and transparency will thus be supported - and this could be an example to be highlighted under project achievements. Regarding the cross-cutting concern about *youth* the project's emphasis on RE deployment in the energy transition is directly relevant to employment generation.

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

No additional studies or analytical work required. But as mentioned above IRENA continues to analyse the socio-economic impact of renewable energy projects on communities, through primary data, providing best-practice examples with a special focus on gender and skills development. Output 1.3 of the proposed project is *"Knowledge, tools and methodologies developed that reinforce the links between renewables and broader social and economic agendas"*.

4. Inclusive sustainable growth, climate change and environment

This project has a strong focus on sustainable growth and climate change mitigation. The inclusiveness is considered in the support of more well-informed energy planning and a holistic approach to the energy transition and its social-economic benefits, as well as partnership among different stakeholder groups including the private sector. With IRENA's mandate as a global leader on renewable energy and the project's focus on RE deployment, the environmental concern is paramount.

EIAs will be done as required by national legislation in SIDS partner countries for RE investments that will take place as spin-offs form this project, but the grant support is not intended for investment.

The planned emphasis on the nexus between energy water and food security have clear implications for the environment and natural resources.

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

No additional studies or analytical work required.

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

Capacity of the public sector for policy making, enforcement and service delivery:

The project has a strong focus on capacity development of the public sector to strengthen the enabling environment for sustainable energy solutions and undertake more effective energy planning that is well-informed about the costs of the energy transition and its wider socio-economic benefits including its impact on job creation and energy end-use.

Corruption situation:

The participating SIDS' places on the Transparency International Index is shown in the overview table on SIDS information given at the end of this annex. The project's adherence to IRENA's robust Financial Regulations will guard against risks of corruption.

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

No additional studies or analytical work required.

6. Matching with Danish strengths and interests, engaging Danish actors, seeking synergy

The Danish Energy Agency has strong competences based upon the Danish energy model. The foundation of the low-carbon transition in Denmark has been threefold: energy efficiency, renewable energy and system integration including electrification. Focusing on broader interactions and systems and the enabling environment, as opposed to individual components and concepts, is an important aspect of the Danish energy model [17], which is characterized by a holistic view of energy planning, with emphasis on integration of for instance heat and power production and establishing synergies between taxation schemes and policy support frameworks for renewable energy. Denmark has itself championed sustainable energy solutions in islands (e.g. Samsø, Bornholm) that have been more ambitious than national plans.

The Danish development and demonstration programme for energy technology (EUDP) supports new energy technology that can contribute to Denmark's goals in energy and climate change. The EUDP strategy 2017-2019 [18] identifies Danish strongholds and business potentials in energy technology and energy-related related research and development. The following are highlighted: Denmark as a world leader in wind technology; Denmark as relatively well positioned within energy efficiency in lighting, low-energy buildings, building materials and processes, as well as reduction of energy consumption in existing buildings; a Danish stronghold position in the biomass area; a strength in smart grids and system integration; and finally areas in which there are no major export revenues but where Denmark is also

[17] The World Bank Regulatory Indicators for Sustainable Energy (RISE) in 2017 found that Denmark has the best framework conditions in the world when it comes to access to energy, energy efficiency and renewable energy. On a scale from 1-100, Denmark scored 100 in "energy access", 86 in "energy efficiency" and 94 in "renewable energy" – with a total of 94 points, Denmark received a world first place.

[18] https://ens.dk/sites/ens.dk/files/Forskning_og_udvikling/uk_total_final_eudp_strategi.pdf

relatively strongly positioned in terms of publications and demonstration projects, for example within heat pumps, fuel cells, etc. Similarly, the State of Green highlights areas of Danish comparative strength in clean energy sources and elated areas such as energy efficiency, etc. and the Danish public and private actors who have particular expertise and experience in these areas. It is assessed that the outputs and outcomes of this proposed project will be of interest to Danish actors, subject of course to relevant procurement procedures in partner country institutions and international development partners, since solid and valid energy scenarios in general are key to showing the long-term benefits of investing in the Danish technologies, which are often not the most inexpensive from the outset, but rather the most cost-effective seen over a longer time period.

The Danish secondment to IRENA of a renewable energy expert for 4 years is included in the project design and could help maximise synergies and complementarities with Danish international energy cooperation.

- where we have the most at stake – interests and values, - where we can (have) influence through strategic use of positions of strength, expertise and experience, and - where we see that Denmark can play a role through active partnerships for a common aim/agenda or see the need for Denmark to take lead in pushing an agenda forward.	- Denmark is a global leader in many aspects of the green energy transition, including RE and EE. Denmark's interests and values are strong in this space and the project with IRENA will give excellent opportunities for influence, using positions of strength in the substantive cooperation with IRENA. Denmark as a Member also has a voice in the IRENA Assembly and Council to influence IRENA directions and priorities. The visibility of Danish interests/values/expertise will also be increased through IRENA's reporting to the Council and Assembly on this cooperation.
- Brief mapping of areas where there is potential for increased commercial engagement, trade relations and investment as well as involvement of Danish local and central authorities, civil society organisations and academia.	- In the general area of the energy transition and climate change mitigation there are many opportunities for commercial engagement for the Danish resource base. The business opportunities are announced through the IRENA procurement website (see below) and through national procurement systems in target partner countries. Areas of particular Danish strength in this space were mentioned in Section 3 (The EUDP strategy 2017-2019 identifies Danish strongholds and business potentials in energy technology and energy-related related research and development).
- Donor landscape and coordination, and opportunities for Denmark to deliver results through partners including through multilaterals.	- There are many donors supporting IRENA and the SIDS LHI; procurement through IRENA follows its policies and procedures; IRENA is a knowledge and technical assistance organisation that does not implement "hardware" projects on the ground. Opportunities for consultancy work through IRENA can be found here: http://www.irena.org/procurement

Key documentation and sources used for the analysis:
State of Green
EUDP report

Are additional studies / analytic work needed? How and when will it be done?
No additional studies or analytical work required.

7. Stakeholder analysis

The key partners and stakeholders in the project are briefly described in Annex 2 Partners.

Are additional studies / analytic work needed? How and when will it be done?
The LHI 2.0 will build upon IRENA's knowledge of participating SIDS partners developed during the ongoing LHI, and IRENA's prior knowledge and contacts in these countries is extensive and as such no major new analytical work is foreseen unless and until new SIDS partners get involved.

Overview of current IRENA Lighthouses Initiative SIDS partner countries

#	SIDS partner in LHI	LDC[19]	ODA eligibility	Fragile[20]	IRENA LHI Quickscan[21] RE readiness %	National Energy Roadmap w/ IRENA	ESMAP RISE	HDI[22] rank#	Transparency International Corruption Perceptions Index 2017[23] score
1.	Antigua and Barbuda				46			70	
2.	Aruba		No		54				
3.	Bahamas		No		27			54	65
4.	Barbados		No			Yes		58	68
5.	Belize							106	
6.	British Virgin Islands		No						
7.	Cabo Verde							125	55
8.	Comoros	LDC		Fragile				165	27
9.	Cook Islands				73				
10.	Cuba							73	47
11.	Dominican Republic					Yes	Yes	94	29
12.	(Federated states of) Micronesia			Fragile	24			131	
13.	Fiji				44			92	
14.	Grenada							75	52
15.	Guyana							125	38
16.	Kiribati	LDC		Fragile	49	Yes		134	
17.	Maldives				32		Yes	101	33
18.	Marshall Islands			Fragile	32			106	
19.	Mauritius				59			65	50

[19] According to OECD DAC list of ODA Recipients, effective for reporting 2018/2019/2020 flows.
[20] According to WB FY19 harmonized list of fragile situations: http://pubdocs.worldbank.org/en/892921532529834051/FCSList-FY19-Final.pdf
[21] 100% ready indicates complete readiness to plan, finance, deploy and operate the large-scale renewable energy projects needed for a reliance on renewable energy. In progress scores indicate that a small island developing state is active but could use assistance. A high percentage of not ready scores indicates that the small island developing state has need for a more detailed look at the underlying barriers to renewables. http://irena.org/publications/2017/Nov/SIDS-Lighthouses-quickscan-Interim-report
[22] UNDP Human Development Index 2018 http://hdr.undp.org/en/2018-update - rank # out of 189 countries – high rank best.
[23] https://www.transparency.org/news/feature/corruption_perceptions_index_2017#table – high score best.

20.	Montserrat								
21.	Nauru				22				
22.	New Caledonia		No						
23.	Niue				22				
24.	Palau				46			60	
25.	Papua New Guinea			Fragile				153	29
26.	Saint Lucia							90	55
27.	Saint Vincent and the Grenadines							99	58
28.	Samoa				54			104	
29.	Sao Tome and Principe	LDC						143	46
30.	Seychelles		No		27			62	60
31.	Solomon Islands	LDC		Fragile	22		Yes	152	39
32.	Tonga				49			98	
33.	Trinidad and Tobago		No		27			69	41
34.	Turks and Caicos		No						
35.	Tuvalu	LDC		Fragile	34				
36.	Vanuatu	LDC			37		Yes		43
	Total LDCs	6							
	Total fragile			7					
	Total not DACable		8						

List of all Small Island Developing States (SIDS)[24]	Partner in SIDS Lighthouses Initiative[25]: Yes/no
UN MEMBERS (38)	
Atlantic, Indian Ocean, Mediterranean and South China Sea (AIMS) (9)	
Bahrain	No
Cabo Verde	Yes
Comoros	Yes
Guinea-Bissau	No
Maldives	Yes
Mauritius	Yes
Sao Tomé and Principe	Yes
Seychelles	Yes
Singapore	No
Caribbean (16)	
Antigua and Barbuda	Yes
Bahamas	Yes
Barbados	Yes
Belize	Yes
Cuba	Yes
Dominica	No
Dominican Republic	Yes
Grenada	Yes
Guyana	Yes
Haiti	No
Jamaica	No
Saint Kitts and Nevis	No
Saint Lucia	Yes
Saint Vincent and the Grenadines	Yes
Suriname	No
Trinidad and Tobago	Yes
Pacific (13)	
Fiji	Yes
Kiribati	Yes
Marshall Islands	Yes
Micronesia (Federated States of)	Yes
Nauru	Yes
Palau	Yes
Papua New Guinea	Yes

[24] Source: https://sustainabledevelopment.un.org/topics/sids/list
[25] Source: https://islands.irena.org/

Samoa	Yes
Solomon Islands	Yes
Timor-Leste	No
Tonga	Yes
Tuvalu	Yes
Vanuatu	Yes
NON-UN MEMBERS/ASSOCIATE MEMBERS OF REGIONAL COMMISSIONS (20)	
American Samoa	No
Anguilla	No
Aruba	Yes
Bermuda	No
British Virgin Islands	Yes
Cayman Islands	No
Commonwealth of Northern Marianas	No
Cook Islands	Yes
Curacao	No
French Polynesia	No
Guadeloupe	No
Guam	No
Martinique	No
Montserrat	Yes
New Caledonia	Yes
Niue	Yes
Puerto Rico	No
Sint Maarten	No
Turks and Caicos Islands	Yes
U.S. Virgin Islands	No

Annex 2: Partners

The key partners are presented in the table below:

Partner name	Core business	Importance	Partner's influence on the project	Partner's main contribution	Partner's capacity	Exit strategy[26] for the partnership
The International Renewable Energy Agency (IRENA)	The key intergovernmental agency with a global mandate on renewable energy supporting the global energy transformation. Denmark is a ratifying member of IRENA.	Low-medium. IRENA has a core budget of USD 64.15 million for the 2018-2019 biennium or roughly USD 32 million/year and the proposed Danish VC is equivalent to USD 7.5 million over 4 years or about USD 1.9 million per year.	High.	Contribution in-kind of IRENA political influence in the ASEAN, staff expertise and experience, tools, influence and credibility based on global position and centre of excellence, wide global membership and outreach.	IRENA has adequate capacity to engage in this cooperation, which is closely aligned to its MTS and work programme priorities.	No special requirements after end of project – IRENA will continue to pursue objectives related to the project as part of its MTS and building on project results and impact.
National Governments in SIDS partner countries	National authorities responsible for the energy transition and climate goals in partner countries to be determined.	High – criteria for selection will include ownership and commitment to engage in reaching project objectives, actual or planned IRENA membership, demonstrated political commitment to RE and EE, specific requests to IRENA for support, quality of available data and information, etc. The existing country efforts also play a role in the country selection, as well as the outcome	Medium (for the interventions in the respective countries).	Political commitment, identification and appointment of key persons for sustained collaboration, time inputs in-kind, data, information.	The capacity of partner country government authorities will vary and in many cases be limited. The project's capacity development activities will address capacity and skill gaps that are critical for achievement of project objectives.	The exit strategies for the project in each partner country will need careful attention in the planning of activities and engagement with partners, in order to ensure uptake of knowledge products and tools, sustained commitment to implement long-term planning approaches and accelerated country level action on RE uptake and energy transition for a low-carbon development path,

[26] Country level exit strategies will be prepared in due time before completion, with a view to ensuring the sustainability of outputs and outcomes.

		of close consultations with key regional and national stakeholders.				realising country NDCs, achieving national targets for SDG 7 and 13, and achieving socio-economic benefits of RE deployment.
National governments in non-SIDS partner countries[27]	National authorities responsible for the energy transition and climate goals in non-SIDS partner countries and support development initiatives in SIDS.	High	High	Financial commitment, knowledge input and political support.	The capacity of non-SIDS partner country government authorities will vary.	N/A
Other partners of SIDS LHI[28]	Initiatives; regional organisations, international organisations, private sector.	Medium – Non-SIDS partners provide important support, knowledge and input to the realisation and success of the LHI 2.0.	Medium	Knowledge input, convening power	The capacity of partners to contribute will vary and be based on resources and political commitment to SIDS.	Exit strategies will vary depending on the partner involvement.

[27] Non-SIDS partner countries are listed at the SIDS LHI website: https://islands.irena.org/ and they are: France, Japan, Germany, Italy, New Zealand, Norway, United Arab Emirates, United States of America (and now Denmark)

[28] Other partners of SIDS LHI are listed at the SIDS LHI website: https://islands.irena.org/ and they are (se also the internet links): Association of the Overseas Countries and Territories of the European Union (OCTA); Clean Energy Solutions Center; Clinton Climate Initiative; ENEL; European Union; Indian Ocean Commission; International Renewable Energy Agency (IRENA); Organisation of Eastern Caribbean States (OECS); Pacific Islands Development Forum; Rocky Mountain Institute - Carbon War Room; Solar Head of State; Sustainable Energy for All; United Nations Development Programme (UNDP); World Bank.

Annex 3: Results Framework[29]

Project Title		**Voluntary contribution to IRENA for SIDS Lighthouses Initiative 2.0.**	
Project Objective		Participating SIDS are assisted in the green energy transition that will mitigate greenhouse gas emissions and strengthen resilience in SIDS' adaptation to climate change and improve energy security, thus contributing to SIDS meeting their set NDC targets and contributing to the achievement of the SDGs.	
Impact Indicator		Support the increased share of RE in SIDS energy mix through knowledge products, capacity development, technical advisory services, project facilitation tools and services, and coordination and facilitation of the SIDS Lighthouses initiative tailored to the new priority areas aiming to contribute to reach a total target of 5 GW of RE for LHI as a whole.	
Baseline	Year	2019	SIDS have limited institutional and technical capacity related to RE, limited access to project facilitation tools to develop bankable projects, limited access to finance, and much of the knowledge on RE is not tailored for SIDS. There is about 8% of RE in 2017 SIDS energy mix, but data is not sufficiently accurate.
Target	Year	2023	SIDS have increased institutional and technical capacity to deploy RE, access to project facilitation tools and services to develop bankable projects, enhanced visibility to connect with potential financiers and investors. Increased knowledge on RE supported the achievement of 5 GW target LHI membership doubled the number of development partners and adapted to climate and development priorities. Pipeline of bankable projects and greater access to finance.

Output 0		Inception Report approved.	
Output indicator		Inception Report approved by LHI 2.0 management in liaison with Denmark.	
Baseline	Year	2019	Inception phase has not started
Target	Year	2019	After 3 months, a project Inception Report has been approved

Outcome 1		Knowledge on renewable energy in SIDS created and shared.	
Outcome indicator		The extent to which knowledge products on renewable energy in SIDS are up to-date and easy to access.	
Baseline	Year	2019	Much of the knowledge on RE is not tailored for SIDS and what is available is not easy to access or make use of.
Target	Year	2023	SIDS have access to up to-date and SIDS tailored knowledge on RE.
Output 1.1		A sound knowledge base tailored to SIDS for effective integration of RE.	
Output indicator		Current levels of RE knowledge tailored to SIDS are regularly updated and easy to access.	
Baseline	Year	2019	Knowledge on RE is not tailored for SIDS, is highly fragmented and what is available is not easy to access or make use of.
Target	Year 1	2020	A sound knowledge base on RE for SIDS is made available (electronically).
Target	Year 2	2021	The knowledge base on RE for SIDS is updated, extended and improved annually taking into account new knowledge on technologies and case studies of good practice.

[29] The targets set at outcome and output level are targets that are expected to be reached through this project by means of a combination of efforts across all the relevant SIDS participating in LHI 2.0, led by IRENA and with external support from Denmark and other donors. The targets are consistent with and reflect the strategies and goals of the SIDS and IRENA. The main contribution to the targets will come from the individual SIDS themselves with IRENA providing technical, institutional and policy support.

Target	Year 3	2022	The knowledge base on RE for SIDS is updated, extended and improved annually taking into account new knowledge on technologies and case studies of good practice.
Target	Year 4	2023	The knowledge base on RE for SIDS is updated, extended and improved annually taking into account new knowledge on technologies and case studies of good practice.
Output 1.2		Creation of knowledge on RE and end-use needs and efficiency links.	
Output indicator		New knowledge on RE in SIDS is generated through a robust knowledge management cycle.	
Baseline	Year	2019	There are many gaps in the knowledge of RE in SIDS especially on end-use needs and efficiency; an operational knowledge management cycle for RE in SIDS is missing.
Target	Year 1	2020	Knowledge gaps are identified and a rolling action plan for knowledge generation approved.
Target	Year 2	2021	New knowledge is created in accordance with an annual updated and rolling gap analysis and knowledge generation action plan.
Target	Year 3	2022	New knowledge is created in accordance with an annual updated and rolling gap analysis and knowledge generation action plan.
Target	Year 4	2023	New knowledge is created in accordance with an annual updated and rolling gap analysis and knowledge generation action plan.
Output 1.3		Knowledge, tools and methodologies developed that reinforce the links between renewables and broader social and economic agendas.	
Output indicator		SIDS make use of knowledge, tools and methodologies for advancing social and economic issues such as jobs and gender equality and examples of adaptation solutions to strengthen resilience in selected SIDS.	
Baseline	Year	2019	The case for RE and tools for harnessing RE to advance social and economic agenda on issues such as jobs and gender equality in SIDS are inadequate
Target	Year 1	2020	Evidence[30] that the SIDS rate the knowledge, tools and methodologies as improving; and can increasingly point to evidence that they are making use of them.
Target	Year 2	2021	Evidence that the SIDS rate the knowledge, tools and methodologies as improving; and can increasingly point to evidence that they are making use of them.
Target	Year 3	2022	Evidence that the SIDS rate the knowledge, tools and methodologies as improving; and can increasingly point to evidence that they are making use of them.
Target	Year 4	2023	Evidence that the SIDS rate the knowledge, tools and methodologies as improving; and can increasingly point to evidence that they are making use of them.

Outcome 2		Institutional and technical capacity increased leading to improved enabling environment for renewables in SIDS.	
Outcome indicator		The extent to which the institutions/stakeholders in SIDS that received technical assistance and capacity building have been able to use that capacity to increase RE share in line with their NDC targets.	
Baseline	Year	2019	SIDS have limited institutional and technical capacity to implement the NDCs related to RE.
Target	Year	2023	Participating SIDS have improved institutional and technical capacity to increase the share of RE in line with NDC targets (on track for meeting

[30] Evidence for this and other targets in the project will need to be gathered by IRENA either through surveys or using other transparent and reliable instruments.

			the 5 GW RE target). 50% of SIDS have 100% renewable power roadmaps to 2030.
Output 2.1		Increased capacity to implement energy components of NDCs.	
Output indicator		Gap analysis and capacity action plan for selected SIDS/topics is implemented.	
Baseline	Year	2019	Most SIDS have a limited institutional and technical capacity to achieve RE targets.
Target	Year 1	2020	Assessments and action plan developed identifying key capacity needs for selected SIDS RE/topics. Technical advisory services and capacity building implemented based on action plan.
Target	Year 2	2021	Continue implementation of technical advisory services and capacity building and report on results in terms of uptake and follow-up action.
Target	Year 3	2022	Continue implementation of technical advisory services and capacity building and report on results in terms of uptake and follow-up action.
Target	Year 4	2023	Continue implementation of technical advisory services and capacity building and report on results in terms of uptake.
Output 2.2		Readiness assessments, road maps and other enabling framework tools developed and implemented.	
Output indicator		Eligible SIDS have available and have made use of readiness assessments, road maps and other enabling framework tools.	
Baseline	Year	2019	SIDS do not have adequate support to develop or implement readiness assessments, road maps and / or other enabling framework tools.
Target	Year 1	2020	Evidence that the SIDS are increasingly satisfied with and make use of readiness assessments, road maps and other enabling framework tools.
Target	Year 2	2021	Evidence that the SIDS are increasingly satisfied with and make use of readiness assessments, road maps and other enabling framework tools.
Target	Year 3	2022	Evidence that the SIDS are increasingly satisfied with and make use of readiness assessments, road maps and other enabling framework tools.
Target	Year 4	2023	Evidence that the SIDS are increasingly satisfied with and make use of readiness assessments, road maps and other enabling framework tools.

Outcome 3		More robust and sustainable renewables sector development, with support to project development[31] and facilitation of access to finance for renewable energy projects.	
Outcome indicator		The extent to which institutions/key actors supported through project facilitation tools and services have boosted investment in RE in SIDS.	
Baseline	Year	2019	Low level of support to facilitate investments (IRENA latest figures (donor funding only) are USD 183 million committed in 2016).
Target	Year	2023	SIDS have access to project development tools and access to finance to meet the 5 GW target for RE.
Output 3.1		Key actors/institutions trained and able to use project preparation and facilitation tools and platforms.	
Output indicator		#key stakeholders/institutions using project facilitation tools and tailored solutions to increase project pipeline to meet the 5 GW RE installed capacity target.	
Baseline	Year	2019	Key actors in SIDS partners have limited capacity and access to project facilitation tools.
Target	Year 1	2020	Project facilitation tools, tailored solutions and services to support RE uptake are applied in SIDS to support building a solid pipeline of projects and facilitate their access to finance.
Target	Year 2	2021	Project facilitation tools, tailored solutions and services to support RE uptake continue to be applied in SIDS to support building a solid pipeline

[31] The appraisal recommendation "to attempt to provide a significant share of TA and capacity building support to public and private RE projects that hold a good chance of being financed and implemented within the LHI 2.0 implementation period" will be kept under review at Steering Committee meetings in case adjustments may be required at a later stage.

			of projects and facilitate their access to finance.
Target	Year 3	2022	Project facilitation tools, and tailored solutions and services to support RE uptake continue to be applied in SIDS to support building a solid pipeline of projects and facilitate their access to finance.
Target	Year 4	2023	Project facilitation tools, and tailored solutions and services have contributed to RE uptake in SIDS by supporting a solid pipeline of projects and facilitating their access to finance.
Output 3.2		Key actors/institutions supported to facilitate development of bankable projects and access to finance.	
Output indicator		Key stakeholders/institutions supported to facilitate development of bankable projects and access to finance for RE uptake in SIDS to meet the 5 GW target for RE.	
Baseline	Year	2019	Limited access to affordable finance.
Target	Year 1	2020	Support to facilitate access to financing is provided and on track to meet the 5 GW target for RE.
Target	Year 2	2021	Support to facilitate access to financing is provided and on track to meet the 5 GW target for RE.
Target	Year 3	2022	Support to facilitate access to financing is provided and on track to meet the 5 GW target for RE.
Target	Year 4	2023	Key actors/institutions in SIDS received support in accessing finance for RE uptake with the results that the 5 GW target on RE was met.

Outcome 4		Partnerships within SIDS and with development partners and global energy initiatives strengthened.	
Outcome indicator		The proportion of participating SIDS benefiting from the collaborative platform and other efforts aimed at increased awareness and synergies between SIDS RE initiatives at country and regional levels and with global level initiatives.	
Baseline	Year	2019	LHI provides a collaborative platform for SIDS peer to peer exchange, as well as engagement with development partners to facilitate sharing of information and experiences – but there is a need to consolidate the platform and increase inter-SIDS, South-South and triangular cooperation to raise awareness and harness synergies among RE initiatives.
Target	Year	2023	Over 60% of participating SIDS have benefitted from institutions and actors in their states that are making use of the collaborative platform and engage with other efforts that increase awareness and synergies.
Output 4.1		LHI collaborative platform adapted to new priority areas and increased peer-to-peer exchange.	
Output indicator		SIDS and other actors are making use of the collaborative platform to promote RE in SIDS and make use of the project's and IRENA's wider support to climate change adaptation and resilience.	
Baseline	Year	2019	A collaborative platform exists but there is a need to further strengthen and adapt it to new LHI priority areas.
Target	Year 1	2020	LHI platform is adapted to take into account the new LHI priority areas.
Target	Year 2	2021	Evidence that the SIDS are increasingly satisfied with and making use of the collaborative platform and can point to evidence of benefits.
Target	Year 3	2022	LHI platform continues to be updated to meet changing needs in SIDS.
Target	Year 4	2023	Evidence that the SIDS are increasingly satisfied with and making use of the collaborative platform and can point to evidence of benefits.
Output 4.2		SIDS renewable energy agenda promoted at regional and global levels.	
Output indicator		Awareness and harnessing synergies between SIDS RE initiatives at country, regional and global levels are increased.	
Baseline	Year	2019	Inadequate level of awareness and harnessing of synergies between SIDS RE initiatives at country, regional and global level.

Target	Year 1	2020	SIDS, regional and global actors are increasingly aware and harnessing synergies between SIDS RE initiatives at country, regional and global level initiatives.
Target	Year 2	2021	SIDS, regional and global actors are increasingly aware and harnessing synergies between SIDS RE initiatives at country, regional and global level initiatives.
Target	Year 3	2022	SIDS, regional and global actors are increasingly aware and harnessing synergies between SIDS RE initiatives at country, regional and global level initiatives.
Target	Year 4	2023	Evidence finds that SIDS, regional and global actors are increasingly aware and harnessing synergies between SIDS RE initiatives at country, regional and global level initiatives.

Annex 4: Budget Details

The tables below provide the detailed budget at output level. The budget allocation between outputs has been determined by IRENA as the coordinator and facilitator of LHI 2.0. The allocation reflects the current funding alignments of the LHI also considering what is currently available, planned and pledged in terms of other contributions. IRENA will consult the MFA in advance on any needs for adjustments in the output level budget and potential issues in this regard.

Budget at output level (DKK)	2020	2021	2022	2023	TOTAL DKK
Output 1.1. A sound knowledge base tailored to SIDS for effective integration of RE	326,842	1,764,944	1,764,944	467,394	4,324,124
Output 1.2. Creation of knowledge on RE and end-use needs and efficiency links	457,578	1,438,103	326,842	980,525	3,203,047
Output 1.3. Knowledge, tools and methodologies developed that reinforce the links between renewables broader social and economic agenda	130,737	1,568,839	1,699,576	1,568,839	4,967,991
Output 2.1. Increased capacity to implement energy components of NDCs	32,684	745,199	745,199	712,514	2,235,596
Output 2.2. Readiness assessments, road maps and other enabling framework tools developed and implemented	1,296,894	2,810,837	2,810,837	1,961,049	8,879,617
Output 3.1. Local staff trained and able to use the project preparation tools including Global Atlas and Project Navigator, and PPA support tools	490,262	3,758,677	2,483,995	2,222,522	8,955,457

Output 3.2. Bankable projects and financing instruments identified in selected SIDS	0	719,051	719,051	719,051	2,157,154
Output 4.1. Peer-to-peer collaborative platform consolidated	392,210	1,274,682	1,274,682	1,241,998	4,183,571
Output 4.2. SIDS renewable energy agenda promoted at regional and global levels	522,946	620,999	620,999	620,999	2,385,943
Programmatic sub-total	**3,650,153**	**14,701,331**	**12,446,124**	**10,494,891**	**41,292,499**
Contingencies to safeguard against currency fluctuation risk 10%	1,250,000	1,250,000	1,225,000	1,250,000	4,975,000
IRENA Administration 7%	875,000	875,000	857,500	875,000	3,482,500
MFA Mid-term Review	0	0	250,000	0	250,000

Total	***5,775,153***	***16,826,331***	***14,778,624***	***12,619,891***	***49,999,999***

Output 1.1. A sound knowledge base tailored to SIDS for effective integration of RE					
Object of Expenditure (DKK)	**2020**	**2021**	**2022**	**2023**	**Total**
Consultants, interns, project and seconded personnel for 4 years project	326,842	1,307,366	1,307,366	369,341	3,310,915
Programme and expert meetings	0	0	0	0	0
Travel of staff	0	130,737	130,737	98,052	359,526
Contractual services	0	326,842	326,842	0	653,683
Total	**326,842**	**1,764,944**	**1,764,944**	**467,394**	**4,324,124**

Output 1.2. Creation of knowledge on RE and end-use needs and efficiency links					
Object of Expenditure (DKK)	**2020**	**2021**	**2022**	**2023**	**Total**
Consultants, interns, project and seconded personnel for 4 years project	326,842	653,683	196,105	196,105	1,372,734
Programme and expert meetings	0	326,842	0	326,842	653,683
Travel of staff	130,737	130,737	130,737	130,737	522,946
Contractual services	0	326,842	0	326,842	653,683
Total	**457,578**	**1,438,103**	**326,842**	**980,525**	**3,203,047**

Output 1.3. Knowledge, tools and methodologies developed that reinforce the links between renewables broader social and economic agenda					
Object of Expenditure (DKK)	**2020**	**2021**	**2022**	**2023**	**Total**
Consultants, interns, project and seconded personnel for 4 years project	130,737	1,176,629	1,176,629	1,176,629	3,660,625
Programme and expert meetings	0	65,368	65,368	65,368	196,105

Travel of staff	0	130,737	130,737	130,737	392,210
Contractual services	0	196,105	326,842	196,105	719,051
Total	**130,737**	**1,568,839**	**1,699,576**	**1,568,839**	**4,967,991**

Output 2.1. Increased capacity to implement energy components of NDCs					
Object of Expenditure (DKK)	**2020**	**2021**	**2022**	**2023**	**Total**
Consultants, interns, project and seconded personnel for 4 years project	0	98,052	98,052	98,052	294,157
Programme and expert meetings	0	294,157	294,157	261,473	849,788
Travel of staff	32,684	294,157	294,157	294,157	915,156
Contractual services	0	58,831	58,831	58,831	176,494
Total	**32,684**	**745,199**	**745,199**	**712,514**	**2,235,596**

Output 2.2. Readiness assessments, road maps and other enabling framework tools developed and implemented					
Object of Expenditure (DKK)	**2020**	**2021**	**2022**	**2023**	**Total**
Consultants, interns, project and seconded personnel for 4 years project	653,683	1,634,208	1,634,208	817,104	4,739,202
Programme and expert meetings	54,896	326,842	326,842	326,842	1,035,421
Travel of staff	130,737	163,421	163,421	163,421	620,999
Contractual services	457,578	686,367	686,367	653,683	2,483,995
Total	**1,296,894**	**2,810,837**	**2,810,837**	**1,961,049**	**8,879,617**

Output 3.1. Local staff trained and able to use the project preparation tools including Global Atlas and Project Navigator, and PPA support tools					
Object of Expenditure (DKK)	**2020**	**2021**	**2022**	**2023**	**Total**
Consultants, interns, project and seconded personnel for 4 years project	65,368	1,045,893	1,209,314	1,209,314	3,529,888
Programme and expert meetings	32,684	849,788	751,735	653,683	2,287,891
Travel of staff	65,368	424,894	424,894	261,473	1,176,629

Contractual services	326,842	1,438,103	98,052	98,052	1,961,049
Total	**490,262**	**3,758,677**	**2,483,995**	**2,222,522**	**8,955,457**

Output 3.2. Bankable projects and financing instruments identified in selected SIDS					
Object of Expenditure (DKK)	**2020**	**2021**	**2022**	**2023**	**Total**
Consultants, interns, project and seconded personnel for 4 years project	0	653,683	653,683	653,683	1,961,049
Programme and expert meetings	0	0	0	0	0
Travel of staff	0	65,368	65,368	65,368	196,105
Contractual services	0	0	0	0	0
Total	**0**	**719,051**	**719,051**	**719,051**	**2,157,154**

Output 4.1. Peer-to-peer collaborative platform consolidated					
Object of Expenditure (DKK)	**2020**	**2021**	**2022**	**2023**	**Total**
Consultants, interns, project and seconded personnel for 4 years project	326,842	980,525	980,525	980,525	3,268,415
Programme and expert meetings	0	163,421	163,421	130,737	457,578
Travel of staff	65,368	130,737	130,737	130,737	457,578
Contractual services	0	0	0	0	0
Total	**392,210**	**1,274,682**	**1,274,682**	**1,241,998**	**4,183,571**

Output 4.2. SIDS renewable energy agenda promoted at regional and global levels					
Object of Expenditure (DKK)	**2020**	**2021**	**2022**	**2023**	**Total**
Consultants, interns, project and seconded personnel for 4 years project	326,842	326,842	326,842	326,842	1,307,366
Programme and expert meetings	130,737	130,737	130,737	130,737	522,946
Travel of staff	65,368	163,421	163,421	163,421	555,631

Contractual services	0	0	0	0	0
Total	**522,946**	**620,999**	**620,999**	**620,999**	**2,385,943**

TOTAL PER YEAR IN DKK	***3,650,153***	***14,701,331***	***12,446,124***	***10,494,891***	***41,292,499***
7% PSC IN DKK	***870,625***	***870,625***	***870,625***	***870,625***	***3,482,500***
GRAND TOTAL IN DKK	***4,520,778***	***15,571,956***	***13,316,749***	***11,365,516***	***44,774,999***

Total of Object of Expenditure for 9 Outputs (USD)					
Object of Expenditure (DKK)	**2020**	**2021**	**2022**	**2023**	**Total**
Consultants, interns, project and seconded personnel	2,157,154	7,876,880	7,582,723	5,827,595	23,444,351
Programme and expert meetings	218,317	2,157,154	1,732,260	1,895,681	6,003,412
Travel of staff	490,262	1,634,208	1,634,208	1,438,103	5,196,780
Contractual services	784,420	3,033,089	1,496,934	1,333,513	6,647,956
Total	**3,650,153**	**14,701,331**	**12,446,124**	**10,494,891**	**41,292,499**

Total of Object of Expenditure for 9 Outputs (DKK)

Object of Expenditure (DKK)	2020	2021	2022	2023	Total
Consultants, interns, project and seconded personnel	2,157,154	7,876,880	7,582,723	5,827,595	23,444,351
Programme and expert meetings	218,317	2,157,154	1,732,260	1,895,681	6,003,412
Travel of staff	490,262	1,634,208	1,634,208	1,438,103	5,196,780
Contractual services	784,420	3,033,089	1,496,934	1,333,513	6,647,956
Programmatic sub-total	**3,650,153**	**14,701,331**	**12,446,124**	**10,494,891**	**41,292,499**
7% PSC	*875,000*	*875,000*	*857,500*	*875,000*	*3,482,500*
MFA Mid-term Review	*0*	*0*	*250,000*	*0*	*250,000*
Contingencies to safeguard against currency fluctuation risk 10%	*1,250,000*	*1,250,000*	*1,225,000*	*1,250,000*	*4,975,000*
Grand Total	***5,775,153***	***16,826,331***	***14,778,624***	***12,619,891***	***49,999,999***

CHECK:	DKK
TOTAL VC AMOUNT	**50,000,000**
TOTAL BUDGETED AMOUNT	**49,999,999**
OVER/UNDER-BUDGETED AMOUNT	**-1**

Note: includes DKK 1 rounding error.

Budget Notes

1. Assumptions

The calculations use the following assumptions:

- Total amount of voluntary contribution: DKK 50,000,000;
- Term of voluntary contribution agreement: 4 years;
- Budget at output level has been prepared by IRENA in USD consistent with IRENA's normal budgeting practice and then converted to DKK at the exchange rate of: USD/DKK 6.53683.
- DKK 250,000 is factored in for MFA-administered Mid-term Review scheduled for 2021, which amount is not factored in the calculation of unallocated contingencies for currency fluctuation (10%) and in the calculation of programme support costs (7%). The amount will be administered separately in DKK by MEUC, therefore currency risk and IRENA administration cost (programme support cost) do not apply with regard to this budget line.

2. Cost estimates

IRENA uses UNGA-approved rates for staff costs and UN guidelines on consultants' remuneration. Travel of participants is guided by the provisions of the Assembly- decision A/2/DC/11 on the Fund for Developing Country Representatives. Programme and expert meeting costs are estimated based on IRENA's budgeting formulae, developed and refined with the experience to date, which are used for all budgeting of core and non-core resources. These formulae are aligned with financial policies and procedures that require efficiency, cost effectiveness and value for money, in accordance with procurement rules. Staff travel is guided by the provisions of IRENA Staff Regulations and Rules.

The Danish secondment to IRENA for the 4-year duration of the project of a renewable Energy Expert will be funded through this Voluntary Contribution, in line with the Secondment policy as adopted by the Assembly in decision A/2/DC/5. Please see Annex 16 for the draft job description. The cost of the secondment at P3 level is included in the above-cited tables (see also Annex 16).

3. Other notes:

- Rounding error DKK 1 is shown in a separate table.
- Consultants = individual consultants.
- Contractual services = consultancy company contracts.

Annex 5: Risk Management Matrix

Contextual risks[32]:					
Risk Factor	**Likeli-hood**	**Impact**	**Risk response**	**Residual risk**	**Background to assessment**
Vested interests and fossil fuels subsidy regimes hamper efforts to increase the level of ambition in the energy transition including uptake of RE and EE.	Likely	High	Through awareness-raising and capacity development, support the momentum toward the green energy transition demonstrating the socio-economic benefits of RE deployment, the avoidance of fossil fuel-based stranded assets, etc.	Medium	The price of fossil-fuels based energy is an important factor in in promoting and uptake of RE and EE. There is growing recognition of the negative consequences of fossil fuels subsidies, but this is controversial and changes in subsidy schemes have led to social unrest in many countries and there are strong vested interests.
Project affected by political instability or unrest, leading to lack of engagement and commitment with stakeholders and potential danger to project participants.	Unlikely	Medium	The careful selection of partners, is key, building on expressed commitment and demand by participating SIDS. Capacity development and peer pressures through regional focus, platforms for exchanges, exposure in international workshops/fora for showcasing of results and impact stories will reinforce this.	Low	Target countries are committed at senior levels to cooperation with IRENA.
Social acceptance of RE deployment.	Likely	Medium	Increased information and awareness of socio-economic benefits of RE deployment are outputs of this project and will help mitigate against the risk in some countries of social biases against RE.	Medium	It is important to consider the social factors that can influence acceptance of RE/climate-friendly technologies. In this connection important factors can include the local context; the level of awareness of climate change; trust in the decision-making process, inclusiveness/fairness of the decision-making process; the transparent evaluation of benefits, risks and costs.
Political commitments to a green energy transition in SIDS partner countries are undermined due to	Unlikely	High	Alignment to robust international frameworks including the relevant SDGs and the Paris Agreement on Climate Change. Awareness-raising and capacity development, and demonstration of benefits of the energy transition. Emphasis on peer-to-peer exchanges with other SIDS	Low	There is always the possibility of a change of government and related shift in policy priorities. But target countries are committed at senior levels to cooperation with IRENA, and there is a

[32] This category covers the range of potential adverse outcomes that may arise in a particular context, including the risk of harm beyond the immediate context or the country's borders and may include governance failure (e.g. the failure of effective public financial management or law enforcement); competition for resources; natural hazards; and pre-existing socio-political tensions. (Danida Guideline to Risk Matrix 2018).

changes of government and/or political priorities.			countries with comparable framework conditions.		strong emphasis on engaging practitioners who would not change with a change of government.
NDCs and national sectoral policies and strategies with which the project will align, prove to be vague and unambitious or are not enacted.	Possible	High	The project emphasises alignment to national policies and strategies in the efforts to influence these as part of the green energy transition. Many NDCs are insufficiently clear or ambitious. All Parties to the Paris Agreement agreed to either communicate their current NDCs or submit new or updated NDCs by 2020, and to do so every five years thereafter. This gives opportunities for the project to work with partners and provide inputs to raising the level of ambition in NDCs by 2020.	Medium	A key focus of this project is to help SIDS partner countries implement/raise their level of ambitions in their green energy transition, as reflected in policies and strategies such as the NDCs. There is also a need to more closely link NDCs with SDGs as a way to leverage and accelerate country action.
Programmatic risks[33]:					
Risk Factor	**Likeli-hood**	**Impact**	**Risk response**	**Residual risk**	**Background to assessment**
LHI 2.0 might not fully benefit from results and lessons of LHI 1 if these are not sufficiently well documented.	Possible	Medium	External evaluation on the SIDS LHI 1.0 will be undertaken during the second part of 2019. The outcome of the evaluation will feed into shaping the LHI 2.0 to ensure the continued relevance of the initiative.	Low	LHI 1 results and achievements have been found difficult to assess for the appraisal.
SIDS Government entities do not engage as expected.	Likely	High	The participating SIDS are, as based on IRENA previous experience and engagement, highly committed to engaging and in the event of non-engagement, it would first be important to identify reasons for nonengagement and respond accordingly through high-level consultations, provision of information and enhanced capacity development if demanded. Engaging the SIDS concerned in exchanges with other SIDS through structures cooperation (involving regional associations as relevant) can also help overcome issues of non-engagement.	Low	The risk of non-engagement is significantly reduced through continued cooperation with SIDS participating in LHI's first phase where continued contact with relevant actors at senior, personal level is active. Peer-to-peer exchanges to be facilitated by the project will further reinforce this. It is also important to underline that IRENA/ MEUC/ MFA are not risk-averse and that opportunities for impact also come with taking informed risk.
Limited capacity of local partners impedes implementation progress	Likely	High	As above, selection of committed and engaged partners who know IRENA and see value of engagement. Capacity development/technical assistance through the	Medium	Developing the capacity of political decisionmaker and practitioners in long-term energy planning as an important

[33] This category covers include two kinds of risk: (1) the potential for a programme to fail to achieve its objectives; and (2) the potential for the programme to cause harm in the external environment. With regard to (1), the risk factors for programme failure include many of the contextual risks outlined above, as well as institutional and political factors. But there are many other reasons for potential programme failure, including inadequate understanding of the context or flawed assessment of what needs to be done; management and operational failures; and failures of planning and co-ordination. Risk is also associated with new or innovative programme approaches (although there may also be risk in failing to innovate). (Danida Guideline to Risk Matrix 2018). The categorisation of likelihood, impacts, and residual risk is also consistent with Danida guidelines.

and results.			project.		part of this project.
Small RE projects in SIDS make it more difficult to attract investors and finance.	Likely	High	Use experience form the IRENA SIDS marketplace from the ongoing first phase of LHI. Consider bundling of many small RE projects to achieve economies of scale and better financial terms for investments.	Medium	SIDS are small and geographically scattered and in many cases have weak institutions. This can make it more difficult to attract investors and finance.
The project could fail to recognise interfaces and synergies with other initiatives.	Likely	Medium	IRENA's MTS-mandated function as a centre of excellence for energy transformation will empower effective policy and decision-making by providing authoritative knowledge and analysis on renewables-based energy transformation in SIDS. Also, the role as global voice of renewables helps shape the global discourse on energy transformation by providing relevant timely, high-quality information and access to data on renewable energy. And IRENA's role as a global network hub provides an inclusive platform for all stakeholders to foster action, convergence of efforts and knowledge sharing for impact on the ground. For the SIDS LHI there are established mechanisms with a total of 20 development partners, and during the detailed project formulation, further efforts will be made to ensure additionality and avoid any risk of duplication.	Low	The project will operate in a dynamic field with many development partners, and the incentives for coordination and synergy may not always be effective. There is no comprehensive overview of initiatives in the wide field of energy transition in SIDS, but IRENA's global mandate and membership provide good opportunities for synergy and avoidance of overlap.
Institutional risks[34]:					
Risk Factor	**Likeli-hood**	**Impact**	**Risk response**	**Residual risk**	**Background to assessment**
Earmarking could skew project focus and results.	Possible	Low	The LHI is part of the Work Programme approved by the Assembly and as such supported by core budget comprising assessed contributions of IRENA Members, which counterbalances earmarked VC donor contributions. Furthermore, Assembly and Council meetings will foster donor coordination	Low	Earmarking of voluntary contributions inherently could result in skewed focus and results.
Unrealistic expectations to project impact in terms of CO2 emission reductions and financial leverage.	Likely	High	The Danish Climate Envelope has emission reductions as a core indicator for mitigation projects, but it will be important to realistically set targets and manage expectations in this regard. Similarly, given that IRENA is a knowledge organisation and not an implementer of hardware projects on the ground, the financial leverage must be assessed with the relevant caveats. Furthermore,	Medium	As the project is funded from the Climate Envelope, there are expectations regarding emission reductions and financial leverage.

[34] This category includes "internal" risk from the perspective of the donor or its implementing partners. It includes the range of ways in which an organisation and its staff or stakeholders may be adversely affected by interventions, e.g. damage to a donor's reputation if it fails to achieve its objectives, or from financial/fiduciary failure (Danida Guideline to Risk Matrix, 2018).

			IRENA and the MFA will coordinate regularly through the Inception Phase and the Steering Committee.		
Failure to elicit and disseminate project results and impact stories.	Possible	Low	The plan for communication of results in Annex 7 has been designed to ensure effective dissemination of results and impact stories. Furthermore, IRENA will provide Progress Reports to the MFA every 12 months using indicators specified in Table 7.1. The reports will be analytical and issues-oriented, facilitating the easy assessment of progress and key issues - supported as relevant by facts and figures. Key results and examples including impact stories will be specifically highlighted.	Low	Communication is key to ensuring continued support to the project and IRENA's engagement with developing countries, which have a high degree of trust in IRENA.

Annex 6: List of Supplementary Material

Documents and sources of information	Source/internet link
IRENA component write-ups I, II, III, IV (1 February 2019)	IRENA
SIDS Lighthouses Initiative Progress and Way Forward (January 2019)	IRENA
Annual Report of the Director-General on the Implementation of the Work Programme and Budget for 2018-2019, January 2019.	IRENA
IRENA Preliminary Project Outline (29 November 2018)	IRENA
Transcripts of statements made at the SIDS LHI 2.0 Ministerial meeting on 10 January 2019.	IRENA
Renewable Energy: A Gender Perspective January 2019	IRENA
IRENA Statement on Gender and Renewable Energy January 2019	IRENA
IRENA ppt presentation to the Identification Mission on 26 November 2018 summarising the agreed focus areas for LHI 2.0	IRENA
Annual Report of the Director-General on the Implementation of the Work Programme and Budget for 2018-2019 (C/16/2), 21 October 2018.	IRENA
UN USG Remarks at High-Level Roundtable: "SIDS Lighthouses Initiative 2.0: Increasing Ambition to accelerate Energy Transition in Small Island Developing States".	UN
IRENA DG Speech SIDS LHI 2.0.	IRENA
IRENA SIDS LHI 2.0 UNGA Brochure.	IRENA
IRENA Press Release 28.09.2018.	IRENA
High Level Roundtable on SIDS Lighthouses 20 Agenda.	IRENA
SIDS Lighthouses - Intervention by the Prime Minister of Samoa.	IRENA
Write-up on SIDS LHI with annex on the key programmatic steps towards a greater share of RE in SIDS.	IRENA
IRENA National Energy Roadmaps for Islands 2017.	IRENA
IRENA SIDS Lighthouses Quickscan 2017.	IRENA
Accelerating the Energy Transition on Islands (2018)	IRENA
IRENA organogram with indication of units involved in LHI.	IRENA
IRENA Discussion Paper, "SIDS Lighthouses Initiative: State of play and way forward" (October 2018) – this is the key document reflecting IRENA thinking on LHI 2.0.	IRENA
Other key publications under LHI: https://islands.irena.org/	IRENA

Annex 7: Plan for Communication of Results

What? (the message)	**When?** (the timing)	**How?** (the mechanism)	**Audience(s)**	**Responsible**
Support from Denmark to SIDS Lighthouses 2.0 approved. Renewable energy deployment is key to socio-economic development in SIDS. Financial resources mobilised for RE deployment in SIDS. Impact stories based on SIDS country examples.	When donor agreement signed. As soon as the project has generated new information.	IRENA website and newsletter. IRENA social media content and innovative campaigns, IRENA facilitating global and local coverage in SIDS. SIDS Lighthouses Initiative website. IRENA governing body documents.	IRENA Members and partners. Political decision makers and practitioners. General public.	IRENA
Denmark contributes to IRENA SIDS Lighthouses Initiative 2.0. Energy transition in SIDS strengthens productive end use of sustainable energy, triggering job creation, prosperity and human welfare not least for the most disadvantaged population groups. Enhancing resource mobilisation for RE and EE and capacity development in SIDS supports the achievement of SIDS NDCs and thus the UNSG 2019 Climate Summit.	From the approval of the project and throughout the project duration and beyond.	MEUC website and State of Green.	Danish resource base and Danish tax payers. International development partners.	MEUC
Impact stories for both country examples and public awareness.	During implementation as soon as available.	MFA public diplomacy Denmark Daily newsletters, World's Best News campaign.	The Danish resource base and tax payers.	MFA/MKL
Impact stories, replicable examples of good practice.	During implementation as soon as available.	Websites, newsletters, seminars.	Decision makers and the professional community in public and private sectors and academia.	Beneficiary institutions in SIDS partner countries and sub-regional institutions in SIDS sub-regions.

Annex 8: Process Action Plan

Action/product	Dates/Deadlines	Responsible/ involved unit	Comment/status
Formulation:			
Formulation of project document for Danish support to IRENA LHI 2.0.	20 March	MKL in liaison with IRENA.	With assistance by external consultant
Appraisal:			
Final Appraisal Report with recommendations	24 May	MKL	With external appraisal consultant
Approval:			
Final draft Project Document adjusted on the basis of responses to appraisal recommendations	24 June	Formulation consultant with MKL	
Final Project Document for submission to the Council for Development Policy (UPR).	13 September at the latest	MKL in liaison with IRENA and MEUC.	Deadline for final Project Document to UPR secretariat is 13 September.
Presentation to UPR for approval.	1 October	MKL	
Approval by Danish Minister for Development Cooperation.	Immediately after UPR meeting	Minister for Development Cooperation.	
Document for Finance Committee of Danish Parliament.	23 October	MKL	
Approval of the grant at the meeting of the Finance Committee of Danish Parliament.	31 October	MKL	
Signing of legally binding agreement with IRENA.	Soonest after the Finance Committee approval	MKL	
Commitment booked in the MFA financial system.	Soonest after the Finance Committee approval	MKL	
First disbursement/start of project	November	IRENA with MKL	Disbursement on request from IRENA
Inception Phase	November 2019-January 2020	IRENA	
Implementation period	November 2019 – October 2023	IRENA	
Mid-term Review by MFA	2021	MKL with TQS	

Annex 9: Table of follow-up Actions taken on Appraisal Recommendations

Title of Project	**Voluntary Contribution to IRENA for SIDS Lighthouses Initiative 2.0**
File number/F2 reference	**2019-15444**
Appraisal report date	**24 May 2019**
Council for Development Policy meeting date	**1 October 2019**
Summary of possible recommendations not followed	
Overall conclusion of the appraisal The conclusion of the appraisal is that proposed Voluntary Contribution to IRENA is recommended for presentation to the Council for Development Policy after taking into consideration the recommendations of the appraisal. The AT finds that for the participating SIDS, the LHI 2.0 project has a good potential to contribute towards their national, regional and global priorities on the development of a low-carbon economy, increasing the share of renewable energy in the energy balance, and in stimulating economic and social development, including job creation. The four components outlined in the project document are generally relevant to the needs and priorities of the SIDS. They are worded in a rather generic way that provides the flexibility to adjust to the priorities and options for the individual SIDS. On the other side, to strengthen impact and sustainability of the projects, some focusing of interventions may be needed e.g. towards capacity building, and facilitation of financing and development of bankable projects. The AT found that LHI 2.0 is well aligned to IRENAs and Denmark's objectives and strategies. For IRENA, the Danish support will contribute to its mid-term strategy 2018-2022 and its current work programme 2018-2019. It will build on and enhance the first phase of IRENAs LHI collaboration with the SIDS. However, the experiences from the first phase, and how they have informed the design pf phase 2, should be further elaborated in the Project Document LHI 2.0 is well aligned to the Danish development policies, including 'The World 2030' and the 'Guiding Principles for the Danish Climate Envelope', with the priority given to renewable energy and to the aim of working in areas where the Danish resource base has something to offer. Given that Denmark has earlier provided support to SIDS, e.g. through ESMAP and SIDS DOCK it would be useful to have a more elaborate explanation around the comparative advantage and added value of the LHI 2.0 support.	
Recommendations by the appraisal team	**Follow up by the responsible unit**

Given that Denmark has earlier provided support to SIDS through the ESMAP and SIDS DOCK it would be useful to have a more elaborate explanation around the comparative advantage and added value of the LHI 2.0 support, compared to earlier support. ***Recommendation 1:*** *Include a brief explanation in the PD on the comparative advantage and added value of the envisaged Danish support to LHI 2.0 compared to other modalities of support, e.g. via ESMAP and SIDS DOCK.*	As explained in Annex 12, SIDS-DOCK is an initiative among Member countries of the Alliance of Small Island States (AOSIS) to provide SIDS with a collective institutional mechanism to assist them transform their national energy sectors into a catalyst for sustainable economic development and help generate financial resources to address adaptation to climate change – and IRENA will leverage synergies with SIDS-DOCK as an important partner initiative for the LHI 2.0. Institutionally, the World Bank and UNDP have supported SIDS DOCK with Danish and Japanese funding, of which only the latter is still active. The following wording has been included in Section 3 to address the recommendation: "LHI 2.0 is considered the most effective and efficient way for Denmark of supporting the green energy transition in SIDS, given IRENA's outreach and active partnership with SIDS that has been well-established in LHI and the demand-led, multi-partner nature of the LHI 2.0 initiative including its synergies and collaboration with other initiatives, as further explained in Annex 12. Denmark has previously supported SIDS-DOCK through the World Bank, but this funding has been expended. SIDS-DOCK remains one of the initiatives with which IRENA seeks to leverage active synergies".

The LHI 2.0 builds on the experience from LHI phase 1. There is however limited information in the PD on the positive and negative experience from phase 1, and how they have informed the design of phase 2. ***Recommendation 2:*** *The PD should include a brief summary on the experiences from LHI phase 1 incl. how these have been applied in the design of phase 2.*	Based mainly on IRENA text, the following is inserted in Section 1: "The main thrust is to continue the success of LHI 1. A main lesson is the absolute importance of ownership. The main change has been to move from general advocacy on RE to more detailed diagnosis of barriers and solutions (e.g. consider bundling of many small RE projects to achieve economies of scale and better financial terms for investments). The direction of the LHI 2.0 project is therefore shaped by an in-depth consultation process, which commenced at the margins of the COP23 Climate Conference in November 2017. IRENA at that time shared with all LHI partners the status of implementation and informed them that the targets had been met three years in advance. Based on responses from SIDS and other partners, a virtual consultation was undertaken. All partners received a Discussion Paper to provide feedback, highlight main challenges and other input. Responses from consultations were consolidated during a six-month process and presented at the High-Level Roundtable in September 2018. Further feedback was given at the SIDS Ministerial at the 9th IRENA Assembly in January 2019. Specifically, SIDS recommended the adoption of a holistic approach within the LHI, the extension of the focus beyond the power sector (e.g. transport, e-mobility), the inclusion of energy efficiency considerations, the expansion of the focus of the work from assessment and planning to the implementation of effective and innovative solutions, the continued provision of technical and regulatory advisory services, the support of access to finance and bankability considerations, the increase of efforts on capacity building and the need to enhance the collection and dissemination of data and statistics to aid informed decision-making and allow for impact monitoring." Moreover, IRENA has added the following in section 3: "External evaluation on the SIDS LHI 1.0 will be undertaken during the second part of 2019. The outcome of the evaluation will feed into shaping the LHI 2.0 to ensure the continued relevance of the initiative."
The PD only contains limited information on how and to what extent national level consultations have taken place as part of the preparation process, e.g. through bilateral meetings or communication with the participating SIDS ***Recommendation 3****: Add text in the PD that provides more details on the extent and nature of national level consultations in the preparation of LHI 2.0.*	The response is covered in the response above to Recommendation 2.

The process for selection of countries and specific interventions, as well as the specific criteria applied for prioritization and monitoring of interventions, are not sufficiently clear in the Project Document. ***Recommendation 4:*** *The process and criteria for country identification should be clarified in the PD, and further developed in the Inception Phase. The Inception Phase should develop clear guidelines for country selection, and for monitoring country level interventions under LHI 2.0.*	IRENA and consultant texts have been added in Section 5 as follows: "To factor-in the dynamic context the project operates in, the project will start with a 3-month Inception Phase, the outcomes of which will be summarised in the Inception Report, which will be approved by the project's Steering Committee. While adhering to the agreed overall theory of change and results framework, the Inception Phase will where necessary further align the project to the broader strategy and programme of LHI 2.0, adjust the timelines with actual disbursements of funds. The Inception Report will also describe the guidelines for country selection, how the country level consultations on planning, implementation and monitoring of specific country level interventions will be undertaken so as to enhance country ownership and focus of LHI 2.0 support, and thus also allow for a definition of more concrete and tangible deliverables under each Outcome detailed below and in Annex 3".
The suggested setup to fulfil the specific requirement for 100% ODA compliance of the Danish voluntary contribution is not sufficiently clear. The AT has suggested text in this regard. ***Recommendation 5:*** *Revise the PD include text, which ensures 100% ODA compliance of the Danish voluntary contribution.*	Based on text provided by MKL, part of Section 6 has been reworded and a footnote included: "At the time of fund allotment to project managers, and during the six-monthly progress reports when project managers have to report on respective activities. IRENA will on an annual basis submit to the MFA a financial report containing a list of all supported activities under the LHI 2.0 initiative. The report will include an overview of funds that support the LHI, in the breakdown of supported ODA-eligible countries and countries that not ODA-eligible. The report will show that contributions from Denmark and other donors with a requirement of 100% ODA compliance will be less than the total financial support to the LHI, if countries that are not eligible for ODA are supported by the LHI. The content of the financial report will be reflected in the annual narrative report submitted to the MFA".
The PD is not very clear on how LHI 2.0 interventions are to be tailored to individual country needs, demands, capacity and priorities, including on how the individual SIDS specifically are involved in the planning process and implementation of the programme. ***Recommendation 6:*** *Indicate in the PD how IRENA envisages the country level consultations on planning and implementation of specific interventions, to enhance country ownership and focus of the LHI 2.0 support. Further details should be included in the Inception Report.*	IRENA inserted the following text in Section 1: "and academic institutions. One of the key strategies for the long-term sustainability of the work undertaken by IRENA is to find local institutions and partners who can ensure continued progress and train-the-trainers for capacity building purposes. In the past, such an approach was successfully undertaken in the Pacific through partnerships with the regional entities and universities". The above-cited response to Recommendation 4 is also a response to Recommendation 6. Moreover, IRENA has in sections 7 inserted the following: "The Assembly is an important forum for country engagement and provides key input to work planning, including country selection. It provides fora to asses existing country efforts, ownership and political commitment to reach objectives of the project as well as the assessment of specific requests to IRENA for country support under the LHI 2.0."

AT believes that it will be important for the SIDS that LHI 2.0 focuses on activities that facilitate and promote delivery on the ground. In the dialogue with the SIDS and their regional/global organizations, the AT believes that IRENA should attempt to focus the interventions on a few SIDS priority areas where IRENA can add value and promote delivery. ***Recommendation 7:*** *In the discussions with the individual SIDS partners on possible LHI interventions, IRENA should attempt to provide a significant share of the LHI 2.0 TA and capacity building support around public and private RE projects (or PPPs) that holds a good chance for being financed and implemented within the LHI 2.0 implementation period.*	As agreed between IRENA and MKL, the budget of the draft Project Document will be kept as is, given that this project is part of a larger undertaking and additional streams of funding. IRENA has noted this recommendation and will suggest keeping the matter under review at Steering Committee meetings in case adjustments are required at the later stage. The following footnote has therefore been added in Table 5.1, Table 7.1, Annex 3 and 4 by the consultant: "The appraisal recommendation "to attempt to provide a significant share of TA and capacity building support to public and private RE projects that hold a good chance of being financed and implemented within the LHI 2.0 implementation period" will be kept under review at Steering Committee meetings in case adjustments may be required at a later stage".
The AT finds that there is a good potential for engaging the Danish resource base in LHI 2.0 when it comes to TA and technology transfer, subject to IRENA's procurement rules. The AT suggests that, if acceptable to IRENA, that the Danish expert to be attached to the projects should be able to identify areas where Danish experience and competencies can contribute to LHI 2.0. ***Recommendation 8:*** *In addition to the existing qualifications, if possible and appropriate for IRENA, include in the job description for the Danish expert that she/he should have knowledge about how relevant Danish experiences with renewable energy can contribute to LHI 2.0.*	In Annex 13 the following part of the job description has been slightly adjusted to: "Facilitate linkages to relevant Danish-funded projects, programmes, initiatives and fora and be responsible for maximizing synergies and complementary activities to the Danish bilateral work on SIDS as well as to ensure synergies with other Danish supported international initiatives and programmes, such as the bilateral energy partnerships under the Danish Energy Agency's Global Cooperation, the International Energy Agency (IEA), the World Bank energy programme ESMAP, the Copenhagen Centre on Energy Efficiency (CCEE) and the UNEP DTU Partnership (UDP)". And the following has been added to the qualification requirements: "Knowledge about how relevant Danish experiences with renewable energy can contribute to LHI 2.0 and knowledge on relevant Danish-funded projects and initiatives on renewable energy and their potential contribution to SIDS contexts."
The LHI 2.0 is a partnership between i) IRENA, ii) national governments in SIDS partner countries, and iii) a range of international organizations and developments partners. The third category of partners are not mentioned in PD Annex 2 on key partners, and their role is not described. ***Recommendation 9:*** *Annex 2 should be updated to include LHI 2.0 partners other than IRENA and SIDS.*	Annex 2 has been updated with groups of i) Non-SIDS partner countries; ii) Other partners of SIDS LHI - and internet links have been inserted for easy access to websites of other partners.

The project will commence with a 3-month inception phase, which will result in an Inception Report. The Inception Report will be approved by the LHI management in liaison with Denmark. The specific content of the inception and how the SIDS and other partners will be involved in this process is not described in the PD. ***Recommendation 10:*** *Include in the PD more details on the envisaged contents and process of the 3-months inception phase and how the Inception Report will be discussed and agreed with donors and partners.*	See the response to Recommendation 4 above.
Some countries (France, Germany and Norway) have offered to provide earmarked contributions to LHI 2.0 and others (the Netherlands, New Zealand and Japan) will provide ad-hoc support. It is not clear how the expected additional funding will complement the Danish contribution and how this will affect project implementation. ***Recommendation 11****: Include further details in the PD on the expected total budget for the LHI 2.0, the expected contribution from other donors and how the project will be affected in case of less funding is received compared to what was expected.*	IRENA has inserted the following additional texts in section 6: "The SIDS LHI 2.0 has an aspirational annual budget of USD 5 million for five years." "If the annual aspirational resource requirement does not cover the estimated USD 5 million annual cost of the LHI 2.0, the project will be scaled to a level that can be delivered. This will not affect the outcomes of the Danish contribution, which will be delivered as per the project document and the deliverable schedule to be concretised at the Inception Phase".
The justification of the budget allocation between the four components and nine outputs is not well described in the document This includes e.g. the findings from the Quickscan Interim Report, which found that out of the 20 SIDS participating, 56% are not ready to deploy renewable energy in the power sector due to lack of financing. ***Recommendation 12:*** *The rationale for the budget allocation between the outputs should be explained further. Given the lack of financing for RE investments, it should be considered to reallocate some of the budget in order to increase the share for output 3.2. on facilitating the development of bankable projects and access to finance.*	The following text has been added in Section 6 and Annex 4: "The budget allocation between outputs has been determined by IRENA as the coordinator and facilitator of LHI 2.0, in the light of the consultations with SIDS reflected in Section 1 above and given that this project is part of a larger undertaking and additional streams of funding. The allocation reflects the current funding alignments of the LHI also considering what is currently available, planned and pledged in terms of other contributions. IRENA will consult the MFA in advance on any needs for adjustments in the output level budget and potential issues in this regard". The response to Recommendation 7 above answers the second part of Recommendation 12.
The PD does not explain the justification of the 5GW target for LHI 2.0 and how progress towards meeting this target can be attributed to the investment made under the project. ***Recommendation 13:*** *Include an explanation on how the 5 GW target was set in the PD and explain to what extent this can be attributed to LHI 2.0.*	The following text has been inserted in Section 4: "Ultimately a target of 5 GW of additional renewables across the SIDS is aimed for, as an aspirational target defined by IRENA based on an ambitious interpretation of LHI participating SIDS' own targets. The LHI 2.0 will catalyse and facilitate the realisation of this target. The indicators of the Danish climate envelope are encapsulated by this 5GW target (as this is demand led and directly entails corresponding CO2 emission reductions and also finance raising)". The project will thus contribute to reaching a total target of 5 GW of RE for LHI as a whole, but it will not be possible to directly attribute results to LHI".

There is no detailed description on how investment in renewable energy through the LHI 2.0 specifically will strengthen resilience in SIDS' adaptation to climate change in a cost-efficient way and which results indicators that will be applied to assess this. An appropriate indicator for assessing the projects contribution toward increased climate change adaptation should be included in the results framework ***Recommendation 14:*** *Include an indicator for resilience in table 7.1 on pg. 17/18 and the results framework (Annex 3) and monitor this in progress reports to MFA and other reporting. The AT suggest that this linkage could be captured under the existing output indicator 1.3 by broaden the scope of this to include adaptation or by developing a new output indicator similar to 1.3 but with an exclusive focus on links between renewables and adaptation.*	In Table 7.1 and Annex 3: i) the output 1.3 indicator is modified to "SIDS make use of knowledge, tools and methodologies for advancing social and economic issues such as jobs and gender equality and examples of adaptation solutions to strengthen resilience in selected SIDS"; and ii) the output 4.1 indicator is modified to the following: "SIDS and other actors are making use of the collaborative platform to promote RE in SIDS and make use of the project's and IRENA's wider support to climate change adaptation and resilience"
The PD notes that a reporting format, harmonizing donor requirements, will be developed in the first 6 months, and that IRENA will provide progress reports to the MFA. It is however not clear when and how IRENA will provide these progress reports. ***Recommendation 15:*** *The PD should clarify how often progress reports will be submitted to the MFA.*	In Section 6 the following text has been added: "IRENA will on an annual basis submit to the MFA a financial report containing a list of all supported activities under the LHI 2.0 initiative." And in Section 7 text is modified to: "IRENA will provide Progress Reports to the MFA every 12 months. The indicators used for reporting will include those mentioned in Table 7.1."

In the risk management matrix, all risks are assessed as having a low to medium residual risk. Some of the risks needed to be reworded. ***Recommendation 16:*** *Revisit the risk management matrix in Annex 5 in light of the AT's comments.*	The risk response re work planning has been modified to: "The results framework will guide the dynamic work planning. While adhering to the agreed overall theory of change and results framework, the Inception Phase will where necessary further align the project to the broader strategy and programme of LHI 2.0, adjust the timelines with actual disbursements of funds. The Inception Report will also describe the guidelines for country selection, how the country level consultations on planning, implementation and monitoring of specific country level interventions will be undertaken so as to enhance country ownership and focus of LHI 2.0 support, and thus also allow for a definition of more concrete and tangible deliverables under each Outcome and Output." The rating of the risk of failure to elicit and communicate results has been changed to "possible" and the risk response has been changed to: "The plan for communication of results in Annex 7 has been designed to ensure effective dissemination of results and impact stories. Furthermore, IRENA will provide Progress Reports to the MFA every 12 months using indicators specified in Table 7.1. The reports will be analytical and issues-oriented, facilitating the easy assessment of progress and key issues - supported as relevant by facts and figures. Key results and examples including impact stories will be specifically highlighted". The risk response re political instability has been changed to:" The careful selection of partners, is key, building on expressed commitment and demand by participating SIDS. Capacity development and peer pressures through regional focus, platforms for exchanges, exposure in international workshops/fora for showcasing of results and impact stories will reinforce this." The risk on donor coordination and earmarking has been refocused only on earmarking and the rating made "possible". The response is "The LHI is part of the Work Programme approved by the Assembly and as such supported by core budget comprising assessed contributions of IRENA Members, which counterbalances earmarked VC donor contributions." A new risk factor has been introduced with a rating of "possible", as follows: "LHI 2.0 might not fully benefit from results and lessons of LHI 1 if these are not sufficiently well documented.". The response is: "External evaluation on the SIDS LHI 1.0 will be undertaken during the second part of 2019. The outcome of the evaluation will feed into shaping the LHI 2.0 to ensure the continued relevance of the initiative." This makes the residual risk "low".

The AT believes that, apart from building capacity in Government, the LHI 2.0 should include capacity building activities to research or technical institutions, public and private financing institutions, manufacturers and important end-use sectors, e.g. industry. ***Recommendation 17:*** *To enhance sustainability, the LHI 2.0 should ensure broad participation in capacity building activities, including by SIDS academic and technical institutions, private sector equipment and service providers, and key energy end-user groups.*	See responses to Recommendations 4 and 6 above.
There is no reference to the project's exit strategy in the main PD. The AT believes it is important for IRENA to develop the exit strategy in the light of the sustainability discussion, e.g. to ensure continued engagement by research and technical institutions. ***Recommendation 18:*** *Prepare country level exit strategies in due time before completion, with a view to ensure the sustainability of outputs and outcomes.*	The subject of exit strategies was/is addressed in Annex 2 where the following footnote has been added: "Country level exit strategies will be prepared in due time before completion, with a view to ensuring the sustainability of outputs and outcomes". The same footnote has also been added in Section 3.

I hereby confirm that the above-mentioned issues have been addressed properly as part of the appraisal and that the appraisal team has provided the recommendations stated above.

Signed in…… on the …..…….…….….

Appraisal Team leader/TQS representative

I hereby confirm that the responsible unit has undertaken the follow-up activities stated above. In cases where recommendations have not been accepted, reasons for this are given either in the table or in the notes enclosed.

Signed in…….….on the……..…..……..…

Head of Unit/Mission

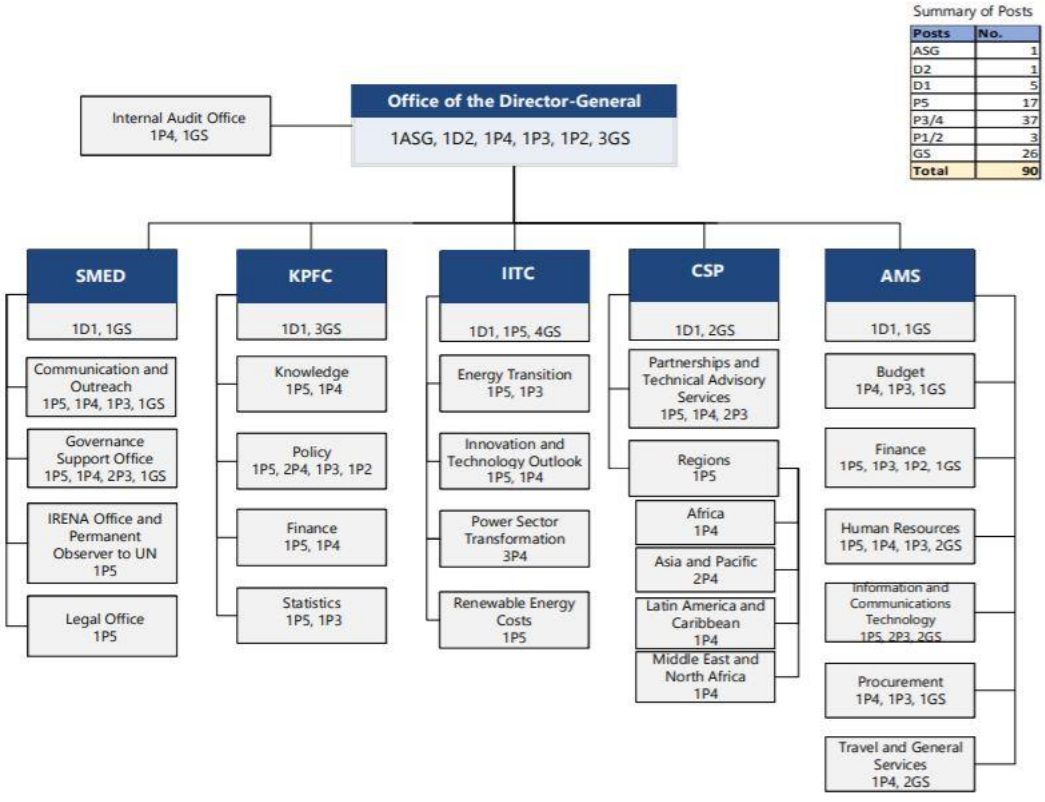
Annex 10: IRENA Organisation and Staffing & Organisation of Project Delivery

IRENA Organisation and Staffing

IRENA has 90 core staff posts. IRENA's staff salaries are in conformity with the United Nations (UN) common system standards.

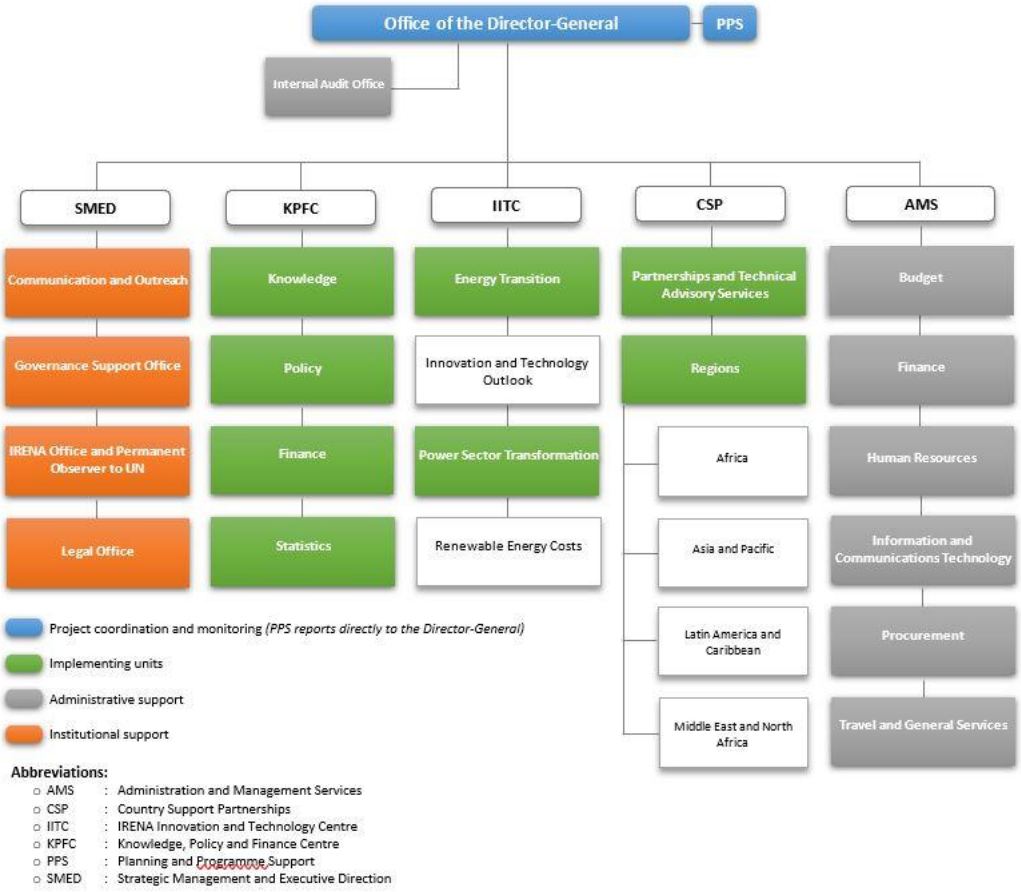
In the approved budget for the 2018-2021 biennium staff costs are USD 34.826 million out of a total core budget of USD 64.150 million or 54%, while the staff travel budget amounts to 3,0 %; and consultants, interns, and project & seconded personnel account for 25.1%.

The IRENA organisational structure as of May 2018 is shown below:



Abbreviations: SMED: Strategic Management and Executive Direction; KPFC: Knowledge, Policy and Finance Centre; IITC: IRENA Innovation and Technology Centre in Bonn; CSP: Country Support and Partnerships; AMS: Administration and Management Services.

Organisation of Project Delivery:



Abbreviations:

- AMS : Administration and Management Services
- CSP : Country Support Partnerships
- IITC : IRENA Innovation and Technology Centre
- KPFC : Knowledge, Policy and Finance Centre
- PPS : Planning and Programme Support
- SMED : Strategic Management and Executive Direction

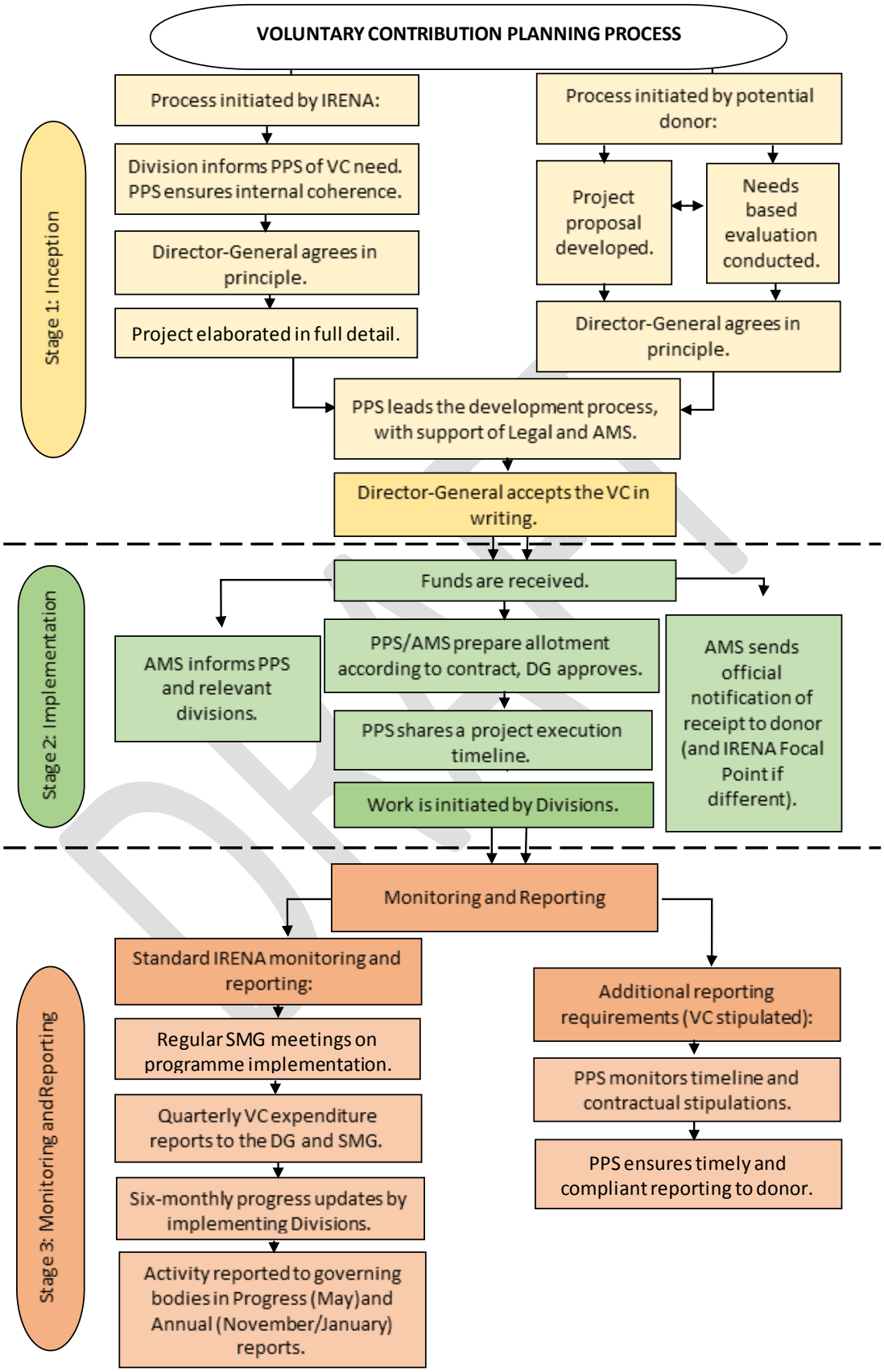
Annex 11: IRENA Work Planning, Monitoring and Reporting

Effectiveness and impact are key underpinnings of all IRENA programmatic activities. The new structure for Work Programme and related reporting was developed in 2018 to align the programmatic cycles with the Medium-Term Strategy, thus clarify the focus and direction of IRENA's overall work and allow for systematic measurement of progress and evaluation of impact.

The Agency's resources comprise core assessed resources, core non-assessed and other voluntary contributions. To retain strategic coherence, management of all streams of funding is aligned and brought under the unified system; programmatically, managerially and administratively. The implementation of all activities is guided by the Director-General (DG) and the Senior Management Group (SMG). SMG holds annual retreats, normally after the Assembly session, to plan for the upcoming year. SMG also meets regularly in the course of the year, for routine review of the programme implementation as well as on specific topics as needed. Divisional directors hold monthly coordination meetings, and separate monthly voluntary contributions related meetings. Given the increase in voluntary contributions (VCs), the Planning and Programme Support (PPS) unit was established in 2016. The PPS Director reports directly to the Director-General and ensures substantive coherence of VCs and their alignment with the MTS and biennial work programmes. PPS provides weekly updates on VCs to Directors and quarterly updates to the DG and SMG.

Resources for implementation of programmatic activities (Work Programme and VC-related) are allotted to responsible divisions by the Director-General. Divisions are responsible for "projectising" of resources allotted to them and accountable for achievement of set goals and priorities at the divisional level. The DG and Divisions are provided with monthly overviews of their expenditures to monitor progress and alert of any issues that may arise.

Below flow chart maps out institutional processes in relation to voluntary contributions.


VOLUNTARY CONTRIBUTION PLANNING PROCESS
Stage 1: Inception
Process initiated by IRENA:
Division informs PPS of VC need. PPS ensures internal coherence.
Director-General agrees in principle.
Project elaborated in full detail.
Process initiated by potential donor:
Project proposal developed.
Needs based evaluation conducted.
Director-General agrees in principle.
PPS leads the development process, with support of Legal and AMS.
Director-General accepts the VC in writing.
Stage 2: Implementation
Funds are received.
AMS informs PPS and relevant divisions.
PPS/AMS prepare allotment according to contract, DG approves.
PPS shares a project execution timeline.
Work is initiated by Divisions.
AMS sends official notification of receipt to donor (and IRENA Focal Point if different).
Stage 3: Monitoring and Reporting
Monitoring and Reporting
Standard IRENA monitoring and reporting:
Regular SMG meetings on programme implementation.
Quarterly VC expenditure reports to the DG and SMG.
Six-monthly progress updates by implementing Divisions.
Activity reported to governing bodies in Progress (May) and Annual (November/January) reports.
Additional reporting requirements (VC stipulated):
PPS monitors timeline and contractual stipulations.
PPS ensures timely and compliant reporting to donor.

Annex 12: IRENA descriptions of Project Components

Component I: Knowledge creation and sharing

Relevance, rationale and scope of the component

The objective of the component is to provide a sound knowledge base tailored to the specific circumstances of SIDS. The project will consider transformation of the energy system in SIDS, including the growing importance of end use sectors, specifically transport, heating, and cooling. Reinforcement of links between renewables and non-energy sectors (agriculture, food, health, water) to foster broad socio-economic development as well as raising of awareness about job creation, gender equality and women's empowerment through renewable energy development will be part of the component.

Activities (as per ToC):

- Promote innovation and stepping up integration of solar and wind power. Promote deployment of other renewable sources, such as geothermal and ocean energy.
- Support productive use of energy in sustainable transportation, and heating/cooling.
- Link renewable energy to climate resilience and disaster recovery.
- Leverage synergies between renewables and energy efficiency.
- Promote job creation and gender equality through RE-based energy transformation.
- Reinforce links between renewables, and food, agriculture, health, water, climate/NDCs, among others.

The transformation of the energy system in SIDS will require the promotion of innovation and stepping up integration of renewable all sources, including solar, wind, biomass, geothermal, hydro, and ocean energy. As solar and wind can be complemented by other renewables and significantly facilitate reaching 100% renewable capacity, it is imperative for SIDS to understand the innovation and integration of these sources. To this end, IRENA will provide sound knowledge base. The studies will examine cost-effective renewables technologies, as well as the role and value of auxiliary aspects such as energy storage for the cost-effective operation of local power systems. This knowledge base will support SIDS in the development of renewable energy systems that are resilient to harsh climate conditions in island territories and adapted to changing weather patterns.

Technology and innovative approaches to the energy transition are available, but island countries may not have access to innovative technologies or models that fit their specific needs. Building on IRENA's expertise in innovation and renewables integration, focus will be placed on increasing the understanding of technologies and policies suitable for SIDS, and how they can help with the integration of renewables into their energy systems. To this end, IRENA will work with stakeholders at regional and country levels to provide guidelines for development and implementation of technical standards and quality control measures for innovative clean energy technologies in SIDS with a particular focus on increased resiliency of energy systems. For SIDS to best utilise the innovative opportunities available in the energy transformation, it is important to share best practices and knowledge. IRENA will offer networking activities and specialised workshops with the participation of stakeholders from SIDS and international entrepreneurs, industry, academia and policy-makers. Exchange of information and experiences will be promoted among SIDS in different regions to accelerate the implementation of best practices for renewable energy systems tailored to island conditions.

For SIDS to best utilise RE deployment in innovative ways, it is important that they be cost-effective. Building on IRENA's expertise in costing, this component will provide SIDS with cost reduction potentials. Data on the costs and performance of renewable technology solutions in SIDS are not currently readily available as markets are small and data is scarce. Although costs of renewables are rapidly falling around the world (solar PV costs fell 73% between 2010 and 2017), the mainland cost data is not an appropriate benchmark for SIDS, as they face unique logistical and development challenges. To provide this important information to SIDS, IRENA will use island-specific data by region to identify current project costs and estimated costs in the absence of projects. The Agency will also provide a tool that will allow regular updates of solar PV and onshore wind costs in SIDS.

In SIDS, power only represents 20-30% of energy use; therefore, electrification of transport and decarbonisation of other end-use sectors are paramount. Building on IRENA expertise, the focus will be placed on support for the productive use of energy in sustainable end-use sectors, including transport, heating and cooling. To this end, IRENA will provide studies on the impact of increased electrification, particularly on transport, sustainable biofuels and hydrogen from renewable power. These studies will be modelled in terms of implications for power sector investments and operations, as well as compared to alternative sources such as biofuels and imported hydrogen.

SIDS are among the most vulnerable countries to climate change impacts. Thus, building resilient energy systems has become an urgent priority, especially in SIDS that increasingly suffer from severe and frequent natural disasters. SIDS' governments are undertaking efforts towards improved resilience in terms of disaster preparedness, response and recovery. Based on IRENA's analytical work, the Agency will contribute to such efforts by sharing best practices in the design and development of more robust renewable energy infrastructure that is adapted to severe climate conditions, while ensuring an integrated cross-sectoral approach to other sectors such as, food, agriculture, and water. This will also include the analyses on access, with the particular focus on inclusion and gender.

The remoteness of most SIDS indicates complicated and expensive transport of resources, particularly fossil fuels. Therefore, it is essential for SIDS to understand how to leverage synergies between renewables and energy efficiency by using resources already available to them. For example, many SIDS have substantial sugarcane fields, which could turn from low-value sugar production to high-value energy products, such as ethanol, heat and power, thereby boosting island livelihoods. To assist SIDS utilise synergies between renewables and energy efficiency, IRENA will conduct a scoping study to examine the potential of bioenergy production from existing sugarcane fields as well as expanded fields with suitable climate and soil conditions. The Agency will also evaluate the costs of such bioenergy in relation to fossil fuels, notably for transport applications.

IRENA's analysis show that countries can leverage their domestic capacities to provide input into the renewable energy supply chain. While many SIDS may not be able to manufacture equipment, the deployment of renewable technologies offers local employment and industrial development opportunities across other segments of the value chain, especially in installation, operation and maintenance. Building on IRENA's expertise in leveraging local capability and job creation, the Agency will support SIDS to identify and develop opportunities through appropriate policies and measures.

Realising local potential and fostering socioeconomic benefits will not only help create jobs and increase welfare, it will also help reduce climate impacts and contribute to a number of Sustainable Development Goals (SDGs), including SDG 2 zero hunger, SDG 5 gender equality, SDG 6 clean water and SDG 7 clean and affordable energy. Based on IRENA's work on the energy-food-water nexus, the Agency will build on the lessons learned to help countries assess the potential for decentralised renewable energy solutions to support the development of their local agri-food chains.

IRENA results and strengths in this space

IRENA possesses extensive experience in developing knowledge products for SIDS, developed over the years in close partnership with and at the request of SIDS. This work greatly benefits from IRENA's global expertise and reach, which enables the application of the latest knowledge to the context of SIDS.

IRENA has experience in islands-related innovation work, such as mini-grid technologies, digitilisation for energy systems in developing countries, clean cooking technologies and renewables-based transport system. The Agency is currently undertaking a study, with the support of the Ministry of Environment, Trade and Industry of Japan, which focuses on standards for harsh environmental conditions, which will provide the basis for the islands work. Similarly, a G20 generation cost comparison and reduction potentials analysis and unique datasets for costs of solar energy projects in Africa, as well as the existing costing data collection network, will be applied to generate datasets for SIDS. IRENA's islands-related bioenergy work would build upon the South-South cooperation already in place, with particular focus on technology transfer for converting sugarcane to biofuels, which is of high relevance for many SIDS.

IRENA publications on leveraging local capacity examine the requirements along the whole value chain, particularly in terms of human resources and skills, to produce, install and operate plants or facilities based on a specific renewable energy technology. This involves assessing the materials and equipment needed in each segment, with a focus on identifying potential for local value creation. National decision-makers can use these to improve their understanding of economic opportunities emerging along the value chain and IRENA will tailor these to the needs of SIDS. The Agency has a proven track record in developing guidance on the assessment of the energy-food-water nexus, including the following publications: *Renewable Energy in the Water, Energy and Food Nexus*; *Renewable Energy Benefits – Decentralised solutions in the agri-food chain; Solar Pumping for Irrigation – Improving livelihoods and sustainability*. In the context of health, IRENA is shaping the work in the context of the IOREC platform (off-grid) and one-day discussion, on the subject supported by WHO, was recently completed in Singapore. IRENA is engaging with WHO as well as other partners to take this work forward, and SIDS will benefit from this global effort.

IRENA is the first entity to estimate global renewables employment. Beginning in 2013, the Agency has published annual reviews of renewable energy and jobs. IRENA continues to expand its jobs database and work to improve knowledge on different countries and regions. Since 2013, this work includes information on gender, including in off-grid settings. Most recently, IRENA has completed a global analysis of renewables and gender, which will guide its work in the future.

Expected outputs and outcomes (as per ToC)

Outputs:

1.1 A sound knowledge base tailored to SIDS for effective integration of RE.

1.2 Creation of knowledge on RE and end- use needs and efficiency links.

1.3 Knowledge, tools and methodologies developed that reinforce the links between renewables broader social and economic agenda.

Outcome:

1. Knowledge on energy transition in SIDS created and shared.

Component II: Technical assistance and capacity development

Relevance, rationale and scope of the component

IRENA will continue to provide country and regional level technical assistance and capacity building to SIDS. This will include the development of roadmaps, assessment of readiness, training on planning, and data collection, and other areas supporting the creation of enabling frameworks for renewables deployment in the SIDS context. An important new aspect will be the support with the implementation of energy components of NDCs, which will be expanded to focus increasingly on resilience and adaptation. IRENA will help SIDS overcome their unique challenges by providing tailored advisory and analysis of technology, infrastructure, and business innovation. Networking events and specialised workshops will be organised for SIDS stakeholders. Additionally, the strengthening of institutional and human capacity development in all segments of the renewable energy value chain will form part of this component.

Activities (as per ToC):

- Implementing effective, innovative solutions with continued technical and regulatory advisory services to help SIDS overcome their unique challenges.
- Strengthen institutional and human capacity in all segments of the renewable energy value chain.
- Support SIDS in reviewing and implementing NDCs, extending technical advisory services and capacity building as needed.
- Enhance the management of data and statistics, supporting decision making and monitoring.

Under this component, IRENA will provide specific support to SIDS in strengthening their enabling frameworks for the deployment of renewable energy solutions. Through the country-led, multi-stakeholder process of Renewables Readiness Assessments (RRA), the suitability of the existing conditions for sustained renewable energy investments will be assessed and key actions to accelerate deployment will be identified. The focus of the assessment will be tailored to the specific needs and priority areas of SIDS through a modular approach. A modular approach will include possible sub-components introduced into the assessment method, e.g. transport and/or other end-use sectors, the nexus between renewables and food, water and health sectors, energy efficiency, etc. Implementation of RRA recommendations will help create favourable investment conditions in SIDS that are conducive to the deployment of renewables.

Most SIDS have ambitious policies and targets for transitioning to a renewable energy future and IRENA will support them to achieve the implementation of NDCs and the SDGs. A key factor for the success of these policies will be to monitor progress and evaluate what is or is not working so that corrections can be made. More certainty about trends and developments in renewables deployment will also enable countries to take more ownership of their international reporting of SDGs and NDC implementation and have the additional benefit of reducing investment risks in the sector. At present, most SIDS have a limited understanding of how to measure renewable energy and its potential, collect and process energy data and analyse the results for policy monitoring and development. Furthermore, very few have the statistical systems in place to perform these activities in a way that will support their ambitions. Therefore, IRENA will support those SIDS that are interested in developing their capacity in renewable energy statistics and analyses, through targeted interventions focused on assessing data availability, filling gaps in information and developing robust national reporting systems that can provide accurate and timely renewable energy statistics for policy monitoring and development.

IRENA will also provide country and regional level technical assistance and capacity building to support SIDS with the implementation of the renewable energy components of NDCs. As a number of SIDS included renewables in both mitigation and adaptation aspects of their NDCs, this work will also cover aspects of resilience and adaptation. IRENA will identify specific areas where the Agency's SIDS-specific work can support the implementation of the renewable energy component of NDCs as well as national/regional renewable energy deployment targets and strategies in SIDS. The Agency will facilitate dialogue with ministries, relevant public institutions and other key national and international stakeholders in both environment/climate change and energy spheres. This will contribute to maximising the impact of IRENA's initiatives of meeting and raising climate ambition and renewable energy deployment goals of SIDS. Additionally, it will support the efforts to achieve more ambitious renewable energy targets in the NDC revision processes. Cooperation will be strengthened with global and regional partnership structures and organisations in the areas of climate change and NDCs towards achieving higher effectiveness.

Responding to existing and forthcoming requests from SIDS, the Agency will also provide technical assistance through tailored advice and capacity building to facilitate decision-making at the regional and national levels and to strengthen locally available skillsets. When relevant, technical assistance will promote the practical application of the advanced tools developed by the Agency, also in the context of post-RRA activities.

IRENA also provides expertise to Members in the conduct of static and dynamic grid studies, with collaboration from academia and industry. This work aims to evaluate the grid topology for possible technical bottlenecks such as voltage, frequency and transient stability, transmission congestion and behaviour of a system with high shares of variable renewable energy (VRE), during and post contingency. Such information is helpful to assess the VRE integration potential of existing grids and can be used to identify investment opportunities to overcome existing grid constraints. This workstream will include the completion of approximately five island grid studies, the identification of gaps between ground reality and targets for VRE integration, decision making support with respect to investment on VRE, the reinforcement of technical knowledge on system operation with VRE and the preparation of grid operators to ensure continuous connectivity of their power systems.

As part of this component, IRENA will also support sharing of experiences and capacity building in the area of renewable energy applications in the agri-food and health sectors. This is intended to help SIDS to scale-up sustainable food production, processing and conservation as well as renewable-based electrification of healthcare centres in SIDS. Training of local workforce with the aim of enhancing livelihoods of local communities and creating opportunities for local socio-economic development will be included in this work.

This component will be enhanced with organisation of networking events and specialised workshops in support of each activity detailed above.

IRENA results and strengths in the area

IRENA coordinated the undertaking of more than 30 RRAs to date, including in SIDS context (Antigua & Barbuda, Grenada, Fiji, Kiribati, Marshall Islands and Vanuatu) as well as numerous roadmaps for energy transition and RE deployment. IRENA has also provided a range of tailored technical advice and several training courses in the past few years. Country requests from SIDS in this area have been dramatically increasing.

IRENA published a report entitled *Untapped potential for climate action: Renewable energy in Nationally Determined Contributions,* in which the Agency analysed NDCs in relation to national energy plans and actual deployment plans. The report found that upgraded NDCs built on recent growth rates, targets from national energy plans and more closely reflect cost-effective potential for renewables would strengthen the effectiveness of the Paris Agreement and help limit the global temperature rise.

The Agency has produced comprehensive renewable energy statistics and has provided broad training in renewable energy statistics to over 70 countries. The agency provided detailed, tailored advice and assistance for the improvement of national RE statistical systems were provided to several countries (Botswana, China, Nigeria), and manuals on measuring specific renewable energy sources (e.g. biogas, off-grid energy). This experience will be adapted and applied to the SIDS work. IRENA is also a co-custodian of SDG7 in the global tracking system, so this work will also assist in more focused support to SIDS.

The Agency's extensive knowledge products, tools and methodologies provide a sound basis for tailored advice to countries and IRENA's engagement on the ground. In addition to its own knowledge products, the Agency has access to the vast expertise within its membership, which gives it a unique comparative advantage that is proactively accessed and leveraged. It also fulfils a role as an unbiased, neutral communicator and coordinator of technical and financial efforts across Members to best match resources with needs.

IRENA has also worked on the crucial nexus[35] between renewable energy and food, water and healthcare services. Building on the knowledge products as well as on the outcomes of the International Conference on Renewable Energy Solutions for Healthcare Facilities, the Agency is well positioned to contribute to the deployment of renewable energy solutions for the electrification of healthcare facilities and to support food and water security in SIDS.

IRENA's islands-related grid integration work includes in-depth studies for Antigua and Barbuda, Cook Islands, Dominican Republic, Fiji, Palau and Vanuatu, amongst others. Recently, the following 12 Caribbean and Pacific islands have shown interest in requesting IRENA's support on grid stability studies and capacity building for grid operators: American Samoa; Chuuk Islands (Federated State of Micronesia); Kingdom of Tonga; Kiribati Islands; Kosrae Island (Federated State of Micronesia); Nauru Island; Papua New Guinea; Pohnpei Island (Federated State of Micronesia); Republic of Palau; Saipan Island (USA); Solomon Islands; and St Vincent & The Grenadines. Two of the above islands have started the preparation process of formalising their request to IRENA and the receipt of other official requests are also expected.

Expected outputs and outcomes (as per ToC)

Outputs:

2.1. Increased capacity to implement energy components of NDCs.

2.2. Readiness assessments, road maps and other enabling framework tools developed and implemented.

Outcome:

2. Institutional and technical capacity increased leading to improved enabling environment for renewables in SIDS.

[35] Renewable Energy in the Water, Energy & Food Nexus: https://irena.org/publications/2015/Jan/Renewable-Energy-in-the-Water-Energy--Food-Nexus

Component III: Project facilitation

Relevance, rationale and scope of the component

Availability of bankable projects and access to finance are major obstacles for the accelerated deployment of renewable energy in SIDS. This is exacerbated by the size of their markets and the ability to attract private finance, as well as the lack of capacity in project development. The development of a pipeline of bankable projects and ability to access finance, including climate finance, is the essential part of the SIDS climate and development strategy. This project component will thus focus on the support of the development of bankable projects, foster access to finance and closer co-operation with the private sector.

Activities (as per ToC):

- Support the development of bankable projects, fostering access to finance and closer cooperation with the private sector.
- Deploy IRENA's SIDS-tailored project facilitation tools, including the Global Atlas, Project Navigator and Sustainable Energy Marketplace.
- Support the development of RE SMEs.
- Boost renewable energy power deployment, aiming for a target of 5 GW of installed capacity by 2023.

The facilitation of renewable project development will continue through the Agency's existing tools, including the Global Atlas, Project Navigator and the Sustainable Energy Marketplace. Specifically, this will include the application of and training on the use of these tools; support for project developers to develop bankable project proposals and identify financing instruments relevant for SIDS; and the development of SIDS guidelines focusing on resilience and end-use applications. Through IRENA's Global Atlas Site Appraisal Service, financial feasibility of projects will be assessed. Access to finance for renewable energy projects will be facilitated through IRENA's Sustainable Energy Marketplace. This will include matchmaking events for project developers and financiers, preparation of appraisal guidelines and technical checklists for domestic banks to finance renewable projects. Training of bank officers on appraisal and financing of renewable projects will also form part of the component. Special effort will be made to facilitate access to climate finance, given the special circumstances of SIDS.

IRENA and the Terrawatt Initiative (TWI) have launched a joint initiative to provide a standardised and open-source contractual documentation solution for solar PV projects. This includes templates that are designed to be universally applicable for Power Purchase Agreements (PPAs), Implementation Agreements, Supply Agreements, Installation Agreements, O&M Agreements and Finance Facility Term Sheets, with alternative schedules to account for project-specific and jurisdiction-specific matters. These templates will be adjusted for the proposed support to SIDS.

Building on IRENA's global experience on renewable energy regulation and policy as well as previous technical support on renewable energy PPA design in Africa and Latin America, the regulatory support will be provided to SIDS. The purpose is to ensure that key stakeholders (ministries, regulators and utilities) are better equipped to negotiate bankable PPAs that facilitate private sector investment in renewable energy and secure good value for power consumers. This activity will facilitate projects in SIDS, through ensuring that appropriate regulatory frameworks and tools are established for a robust and sustainable development of renewable energy projects.

The component will also include support to classify geothermal resources in SIDS, following the specifications for the application of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009) to Geothermal Energy Resources. The specifications are the current internationally endorsed standard for reporting on the geothermal resources and promote a better understanding of the true potential and value of geothermal prospects worldwide. This activity will build on a pilot initiative developed by IRENA and partners and will contribute to the improvement of enabling frameworks to facilitate investments in geothermal in SIDS.

In 2016-17, IRENA introduced site assessments, an innovative and cost-effective approach to screen sites earmarked for solar and wind development in countries. This service efficiently expedites the development process and increases the likelihood of success of finding economically viable sites for further investments. The Agency has already conducted site assessments for over 60 solar and wind sites, with 15 of these sites located in SIDS. As part of this, IRENA will provide training on site assessments for local project developers in SIDS and provide this service to selected, ODA-eligible island countries on request.

Local financial institutions (FI) are at the forefront of capital provision for a wide range of sectors within their established local networks. However, limited capacity in these financial institutions poses a barrier to renewable energy capacity growth in SIDS. The limited institutional knowledge on renewable energy typically results in: high transaction costs, particularly for small-scale projects, and higher-than-actual risk perceptions. Therefore, it is proposed to continue working with local financial institutions in all SIDS to improve their institutional knowledge base on sustainable energy and the skills of staff responsible for loan appraisals. Activities connected to the Project Navigator will be directed toward closing key gaps associated with the development of decentralised and resilient renewable energy projects. IRENA will catalyse the usage of the Project Navigator platform in renewable energy development in SIDS, both to support local project developers and to provide guidance on SIDS-specific aspects of project development.

Limited awareness of the investment opportunities in renewable energy constrains the availability of private financial flows and poses a significant barrier to renewable energy development in SIDS. The Agency will use its Sustainable Energy Marketplace to improve the visibility of RE projects in SIDS and help catalyse financing for projects by connecting them with suitable investors and creditors through matchmaking forums. These events will give project developers a chance to present their business cases to a targeted audience of potential financiers.

Building on the experience of the Entrepreneurship Support Facility in West Africa and the ongoing work on a similar facility for southern African states, IRENA will partner with regional centres in SIDS that promote the deployment of renewable energy and energy efficiency solutions in support of SMEs. The establishment of Renewable Energy Entrepreneurship Facilities in SIDS would enable technical advisory and mentorship support to small- and medium-sized renewable energy entrepreneurs, along with local financial institutions, to develop the necessary skills on technical and financial issues, business management and operations and project development.

IRENA results and strengths in this space

IRENA possesses significant knowledge and experience on regulatory instruments. The Agency is a global point of reference on its work on RE auctions and has worked with countries and regions to strengthen capacity regarding PPAs. For example, IRENA has organised two series of training sessions in 2018 for representatives of ministries, utilities and regulatory bodies of the 14 WAPP (West African Power Pool) countries to equip them with knowledge and tools on PPAs. These series of training sessions were instrumental in strengthening local capacity on renewable energy PPAs and identifying the areas that require further support.

IRENA co-ordinates the Global Geothermal Alliance initiative giving the possibility to draw on the expertise within members of the Alliance and facilitating the dissemination of results. IRENA is currently supporting pilot countries in the application of international guidelines for geothermal resource classification with the International Association and the World Bank/ESMAP.

IRENA has a long track record in the work on project development. The Global Atlas is a unique and freely available tool that gives visibility to resource potentials, including in SIDS, and accessibility of the results to investors and practitioners around the globe. Information contained in the Atlas comes from over 100 expert institutions and partner countries, and it is widely used by public and private companies. For instance, Vestas uses the Global Atlas as the first step in consideration of new projects.

Over the last few years, the Project Navigator has become a trusted source of advice and support in the global energy transformation in small islands nations. With the support of the Government of Germany, a SIDS module was published with a series of guidelines and tools promoting best practices for the development and financing of island-specific renewable energy projects including resilience safeguards integrated from the very early development stages with the view to reduce the impact of climate change risks and vulnerabilities. Two regional workshops on renewable energy project development and financing were organised where Pacific,

Caribbean and AIMS islands stakeholders were trained on the use of the Project Navigator. Project developers used the platform and its guidelines to develop, review and evaluate projects and proposals associated with renewable energy systems in several SIDS. Moving forward, this work will be linked to the Sustainable Energy Marketplace to enable project developers to access funding sources and expertise to advance their projects. The Agency also has been successfully running the Sustainable Energy Marketplace, which is a well-established online matchmaking platform that includes SIDS. Additionally, the Agency possesses a strong network of investors and financiers looking to invest in RE projects.

Regarding the work with SMEs, IRENA has experience in supporting entrepreneurs to scale up renewable energy enterprises through its Renewable Energy Entrepreneurship Support Facilities in the Economic Community of West African States (ECOWAS) and the Southern Africa Development Community (SADC) regions. To date, the ECOWAS facility has provided assistance to over 80 entrepreneurs that have accessed over USD 1 million in debt financing for their projects. SADC Facility has been recently established, and it is in the initial phase of its activities.

Expected outputs and outcomes (As per ToC)

Outputs:

3.1 Key actors/institutions trained and able to use of project preparation tools including Global Atlas and Project Navigator, and PPA support tools.

3.2 Key actors/institutions supported to facilitate development of bankable projects and access to finance.

Outcome:

3. More robust and sustainable renewables sector development, with support to project development and facilitation of access to finance for renewable energy projects.

Component IV: Strengthening partnerships and collaboration

Relevance, rationale and scope of the component

The LHI 2.0 implementation will include reinforced and expanding engagement of partners; leveraging synergies with other SIDS and sectoral initiatives to facilitate common action and amplify impact; and monitoring and reporting the activities related to the LHI. Importantly, LHI will continue to provide a collaborative platform for SIDS peer to peer exchange, as well as engagement with development partners to facilitate sharing of information and experiences. IRENA will use its considerable convening power to maintain continuous dialogues and engage a wide range of stakeholders who can continue to the advancement of the SIDS agenda. The Agency will also continue to serve as a repository of best practice and knowledge and seek to improve accessibility to information and dissemination globally. Additionally, strong interlinkages will be established between the LHI and other IRENA led initiatives, including the Global Geothermal Alliance (GGA), the International Off-Grid Renewable Energy Conference Platform (IOREC) and the Coalition for Action.

Activities (as per ToC):

- Reinforce and expand partner engagement, leverage synergies with other SIDS and IRENA-led initiatives.
- Provide collaborative platform for South-South and triangular cooperation in SIDS.
- Facilitate global exchange of knowledge and best practice.

LHI 2.0 emphasises reinforced and expanded partner engagement through leveraging synergies with other SIDS and sectoral initiatives. To this end, IRENA will facilitate inter-SIDS and South-South triangular cooperation through peer-to-peer learning, enhanced dialogue and insight sharing. Furthermore, the Agency will work to reinforce collaboration with training and capacity building institutions active in the field, and leverage synergies with existing SIDS initiatives, including Renewable Island Energy (IRIE) and SIDS-DOCK. IRIE seeks to catalyse new partnerships and action around renewable energy and energy efficiency in SIDS. SIDS-DOCK is an

initiative among Member countries of the Alliance of Small Island States (AOSIS) to provide SIDS with a collective institutional mechanism to assist them transform their national energy sectors into a catalyst for sustainable economic development and help generate financial resources to address adaptation to climate change. Therefore, implementation of IRIE and SIDS-DOCK are critical to IRENA's support to SIDS on the implementation of their NDCs.

To further support partner engagement, IRENA will provide enhanced regional presence for effective region-specific action and coordination. To achieve this, two Regional Focal Points based in the Caribbean and Pacific will help improve regional presence, build closer collaboration with regional partners and undertake more effective follow up of regional work. A Pacific Regional Focal Point has been placed, embedded in the regional organisation, Pacific Regional Environment Programme (SPREP). The Pacific Regional Focal Point supports IRENA's work in the region, including representing IRENA at meetings and conferences, attending training events, collecting data and providing programme and project support. Based on the positive experience with this approach in the Pacific, a similar role is envisaged for the Caribbean region. The Caribbean Regional Focal Point is expected to work closely with Caribbean Community (CARICOM) Secretariat, Organisation of Eastern Caribbean States (OECS) and Caribbean Electric Utility Services Corporation (CARILEC), key partners in the region.

One of the priority areas of LHI 2.0 is to provide a collaborative platform for SIDS peer-to-peer exchange and to support engagement with development partners to facilitate sharing of information and experiences. IRENA will continue with LHI coordination and facilitation. To this end, IRENA will manage and further develop the LHI website, undertake facilitation of knowledge and information exchange, monitor renewable energy progress in SIDS, conduct external outreach for an expanded LHI constituency and partnership base and organise meetings and participation in relevant international platforms. Building on IRENA's convening power to bring countries, development partners and the private sector together, the Agency will seek to leverage events in the SIDS regions as a means to enhance dialogue and cooperation on energy transition actions in SIDS.

IRENA will continue to serve as repository of knowledge and best practice by linking LHI 2.0 with other IRENA initiatives, such as the Global Geothermal Alliance (GGA), International Off Grid Renewable Energy Conference (IOREC) and Coalition for Action. GGA is a platform for dialogue, cooperation and coordinated action between the geothermal industry, policy-makers and stakeholders worldwide. IOREC is the global platform for sharing experience and best practices on design and implementation of enabling policies, tailored financing schemes, innovative business models and technology applications for stand-alone and mini-grid systems. Coalition for Action is a key international network to discuss industry trends, determine actions, share knowledge and exchange best practices with the vision to drive the global energy transition in line with SDGs. These initiatives are very useful in providing knowledge and best practice to SIDS to assist in strengthening partnerships and collaboration.

IRENA results and strengths in this space

IRENA is uniquely positioned to serve as a coordinator and facilitator of the SIDS Lighthouses Initiative and to support South-South cooperation given its near-universal membership and its role of principal platform for international cooperation. The Agency's access to the vast expertise contained within its membership gives it a unique comparative advantage that IRENA will proactively access and leverage. It will also fulfil a role as an unbiased, neutral communicator and coordinator of technical and financial efforts across Members to match resources with needs.

IRENA has been coordinating and facilitating the SIDS LHI since its inception. Furthermore, following the achievement of the initial targets, IRENA led the consultation process to identify new priority areas. This process, which paved the way for the launch of LHI 2.0 in September 2018, included extensive interactions with partners, including technical and high-level meetings as well as a discussion paper prepared by IRENA.

The Agency has extensive expertise with collaborating with regional organisations in this context. IRENA has been collaborating with Pacific Community, Pacific Power Association, CARICOM, Organisation of Eastern Caribbean States, etc. IRENA has also collaborated with SIDS-related initiatives, such as IRIE and SIDS-DOCK. IRENA coordinates global initiatives, such as GGA and Coalition for Action, which aim to facilitate and enhance dialogue, cooperation and coordinated action between governments, industry, development partners and other key stakeholders.

Expected outputs and outcomes (As per ToC)

Outputs:

4.1 Peer-to-peer collaborative platform consolidated.

4.2 SIDS renewable energy agenda promoted at regional and global levels.

Outcome:

4. Partnerships within SIDS and with development partners and global energy initiatives strengthened.

Annex 13: Secondment of Danish Expert, Budget Details and Draft Job Description

IRENA would like to have the services of a Danish renewable energy expert for 4 years, funded through this Voluntary Contribution, in line with the Secondment policy as adopted by the Assembly in decision A/2/DC/5.

This expert will partly provide the technical expertise in programme management of the SIDS Lighthouses Initiative including technical assistance and capacity building activities in SIDS. The expert will also support the engagement with SIDS Lighthouses partners as well as with other institutions with relevant programmes. This will include supporting the organisation of SIDS ministerial meetings, technical workshops and other SIDS-related events as well as outreach and communications activities related to the Initiative. The expert will also support the development of the Lighthouses knowledge sharing platform, including the dedicated website of the Initiative.
The expert will have a proven track record and a minimum of five years of experience in the field of renewable energy and sustainable development with at least two years' experience related to international cooperation and/or programmes, while experience with technical assistance programmes in SIDS would be considered an asset. The expert is expected to have overall familiarity with the tools or similar tools as those being deployed in the project. Furthermore, the expert will have solid knowledge of impact reporting, including the design and conduct of surveys. The expert will also contribute to the activities of the project as a whole to ensure consistency and synergies among the different components.

The post will be advertised by the Ministry of Foreign Affairs of Denmark (MFA) on its website under vacancies in international organisations: http://um.dk/da/om-os/Stillinger/ledige-stillinger. The MFA together with MEUC undertake pre-screening of candidates and make a short list that will be endorsed by the Steering Committee. The final selection will be made by the IRENA Director-General. Prior to posting at IRENA, the expert will be thoroughly briefed on Danish bilateral and multilateral cooperation on sustainable energy and climate change mitigation and adaptation.

Estimated budget[36]

Table A13.1: Estimated budget for secondment

	2020	2021	2022	2023	TOTAL DKK
Salary	765,960	780,262	794,578	808,861	3,149,660
Post adjustment	257,499	263,755	270,010	276,253	1,067,517
Assignment and repatriation	213,127	0	0	117,663	330,790
Unforeseen expenses	70,781	263,349	242,778	104,589	681,497
Total (DKK)	1,307,366	1,307,366	1,307,366	1,307,366	5,229,464

[36] Estimated based on UN Salary scale and associated costs as at August 2019.

Draft Job Description
Expert (P3)
Duty station (Abu Dhabi)

To contribute to the project on SIDS LHI 2.0 the expert will:

- Support IRENA technical assistance and capacity building activities on SIDS;
- Support the programme management of the Lighthouses Initiative including reporting, surveys requirements of this project;
- Facilitate linkages to relevant Danish-funded projects, programmes, initiatives and fora and be responsible for maximizing synergies and complementary activities to the Danish bilateral work on SIDS as well as to ensure synergies with other Danish supported international initiatives and programmes, such as the bilateral energy partnerships under the Danish Energy Agency's Global Cooperation, the International Energy Agency (IEA), the World Bank energy programme ESMAP, the Copenhagen Centre on Energy Efficiency (CCEE) and the UNEP DTU Partnership (UDP).
- Support the engagement with SIDS Lighthouses partners as well as with other institutions with relevant programmes; the development of the LHI knowledge sharing platform, including through the Lighthouses Initiative website;
- Support the organisation of SIDS ministerial meetings, technical workshops, and other SIDS related events; and support outreach and communication activities related to Lighthouses Initiative;
- Performs other duties as required.

Competencies:

Professionalism: Shows pride in work and in achievements; demonstrates professional competence and mastery of subject matter; is conscientious and efficient in meeting commitments, observing deadlines and achieving results; shows persistence when faced with difficult problems or challenges; remains calm in stressful situations.

Communication: Speaks and writes clearly and effectively; listens to others, correctly interprets messages from others and responds appropriately; asks questions to clarify and exhibits interest in having two-way communication; tailors language, tone, style and format to match audience; demonstrates openness in sharing information and keeping people informed.

Teamwork: Works collaboratively with colleagues to achieve organizational goals; solicits input by genuinely valuing others' ideas and expertise; is willing to learn from others; places team agenda before personal agenda; supports and acts in accordance with final group decision, even when such decisions may not entirely reflect own position; shares credit for team accomplishments and accepts joint responsibility for team shortcomings.

Accountability: Stands accountable for the accuracy and completeness of information under his/her control and handling of the information in a discreet and confidential manner; takes ownership for all responsibilities and honour commitments; delivers outputs for which one has responsibility within prescribed time, cost and quality standards; supports subordinates, provides oversight and takes ownership of delegated responsibilities and authorities; takes

personal responsibility for his/her own shortcomings and those of the work unit, where applicable; operates in compliance with organizational regulations and rules.
Planning and Organising: Develops clear goals that are consistent with agreed strategies; identifies priority activities and assignments; adjusts priorities as required; allocates appropriate amount of time and resources for completing work; foresees risks and allows for contingencies when planning; monitors and adjusts plans and actions as necessary; uses time efficiently.
Partner/client Orientation: Considers all those to whom services are provided to be "partners/clients" and seeks to see things from clients' point of view; establishes and maintains productive partnerships with clients by gaining their trust and respect; identifies clients' needs and matches them to appropriate solutions; monitors on going developments inside and outside the clients' environment to keep informed and anticipate problems; keeps clients informed.

Qualifications:
Education: Advanced University degree (Master's degree or equivalent) in economics, engineering, environment or natural science, or other relevant field. A first-level university degree in combination with qualifying experience may be accepted in lieu of the advanced university degree.
Experience: Proven track record and a minimum of five years of experience in renewable energy and sustainable development; at least two years of experience related to international cooperation/programmes; experience with technical assistance programmes in SIDS is an asset. Knowledge about how relevant Danish experiences with renewable energy can contribute to LHI 2.0 and knowledge on relevant Danish-funded projects and initiatives on renewable energy and their potential contribution to SIDS contexts.
Language: Excellent command of written and spoken English is required. Knowledge of other languages is desirable.

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