



SIDS DOCK
SMALL ISLAND DEVELOPING STATES
ISLAND ENERGY FOR ISLAND LIFE



**GLOBAL
OTEC**

A/6/11

**Sixth Session of the Assembly of SIDS DOCK
Via Telephone and Videoconferencing
28 September 2021/29 September 2021
400 p.m. to 6:00 p.m. EDT – Eastern Daylight Time
9:00 a.m. to 11:00 a.m. TOT – Tonga Time**

Memorandum of Agreement

Between

SIDS DOCK

**The Small Island Developing States (SIDS) Sustainable Energy and Climate Resilience
Organisation**

And

Global OTEC Resources Limited

**A Company Incorporated in the United Kingdom (UK)
Registered in the United Kingdom Under Company Number 09778525**

On

“Building Resilience To Climate Change In Islands Through The Energy Sector: North-South Cooperation For Sustainable Energy Development In Small Islands”

“SIDS DOCK Heads Of State & Government Ocean Thermal Energy Conversion (OTEC) Initiative 2023: Bring Dominique Home” - Partnership for Commercialising Floating Ocean Thermal Energy Conversion (OTEC) For Baseload Sustainable Power In Small Island Developing States (SIDS)”

April 2021



PREAMBLE

THIS MEMORANDUM OF UNDERSTANDING (“MoU”) is made between the Small Island Developing States Sustainable Energy and Climate Resilience Organization, (“SIDS DOCK”), located at C/O The Government of Belize, Ministry of Public Utilities and Logistics, Belmopan, Belize, Central America, and the Global OTEC Resources Ltd (“Global OTEC”), located at Swift House, Ground Floor, 18 Hoffmanns Way, Essex, CM1 1GU, United Kingdom, (herein after referred to as the “Parties”);

WHEREAS, SIDS DOCK was established as an Inter-governmental organisation of small islands and low lying coastal developing states, and a registered member of the United Nations (“UN”) as a cooperation mechanism for Small Island Developing States (“SIDS”) to finance climate change adaptation including building resilience of the coastal environment and development of ocean energy as an integral component of transforming the energy sectors of small island developing states to low-carbon economies;

WHEREAS, SIDS are experiencing increasingly significant negative social, economic and environmental damages from changes in climate related to increasing concentration of greenhouse gases (GHG) in the atmosphere, and that given the general high level of economic vulnerability of SIDS to global events, there is need to link renewable energy uptake to climate resilience and more effective disaster recovery, in order to protect their population;

WHEREAS, Global OTEC is a private company limited by shares established in 2017, to accelerate the commercialisation of a Floating Ocean Thermal Energy Conversion (OTEC) technology concept with aims to raise finance to build demonstration and commercial projects in new markets. Its overarching mission is to develop Zero-Carbon, baseload, clean energy sources that achieve maximum impact in empowering SIDS with energy security whilst



helping our planet reduce greenhouse gas emissions and eventually eliminate total dependence on fossil fuels;

WHEREAS, Heads of State and Government that are members of the SIDS DOCK Organization and the Alliance of Small Island States (“AOSIS”), mandated the SIDS DOCK Secretariat to achieve, in the shortest timeframe, the commercial-scale deployment of ocean-based energy technologies that are appropriate to the demands in Small Island Developing States for the development of a low carbon economy, with emphasis on generating sustainable blue-green gender-equity employment to replace those that will be lost due to the negative impacts of climate change. The rate of deployment has been significantly slower than anticipated by some investors and policymakers. Nineteen (19) per cent of energy across SIDS DOCK countries is generated by renewable means, whilst ambitious targets are in place to reach 100 per cent renewable energy between 2030 and 2050 (see Annex A);

EMPHASIZING, that the “SIDS DOCK Heads of State and Government OTEC Initiative 2023: Bring Dominique Home Strategy” is also in support of achieving the SIDS DOCK Goal of *25-50-25 by 2033: Island Energy for Island Life*; the Sustainable Development Goals (SDGs), and in particular, *SDG 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development*, as well as the commitments under the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement, which cites, “Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience...” as a priority for strengthening the global response to the threat of climate change;

KNOWING, that the SIDS DOCK assembly approved OTEC as a priority renewable energy technology and are awaiting a successful demonstration system to provide validation and a platform from which to advocate national and regional policies. OTEC Technology could provide a significant proportion of SIDS required renewable energy capacity addressing almost 10 gigawatts (“GW”) of installed fossil fuel capacity which remains in operation, and due to the presence of numerous onshore OTEC demonstrators around the world, it is envisaged that



the scaling-up of Floating OTEC Technology installed capacity amongst SIDS is possible over the next 10-15 years (see Annex B);

CONSIDERING therefore that it is within the Parties' common interest to enhance their cooperation;

NOW THEREFORE, desiring to establish a mutually beneficial cooperation, the Parties have reached the following understanding:

Article 1

Objectives of the Cooperation

1. The objective of this Memorandum of Understanding (MoU) is to establish a framework for close cooperation between the Parties with a view to develop and deploy Floating Ocean Thermal Energy Conversion (OTEC) Technology Concept based on Global OTEC Resources solutions, in a sustainable, effective and efficient manner in Small Island Developing States (SIDS).

Article 2

Areas of Cooperation

1. The Parties will work together in good faith, through joint and concerted cooperation in accordance with the provisions of this MoU. The areas of cooperation are described below:
 - a. **Establishment and Launch of a Floating Ocean Thermal Energy Conversion (OTEC) Team of Experts:** The possibility of using ocean energy offers one of the most promising opportunities for development of a competitive sustainable energy sector in island states, and the establishment of a Floating OTEC Team of Experts is seen as a critically important mechanism that can help accomplish the mandate



from the SIDS DOCK Member States. The Team of Experts would represent parties interested and committed to the further development and deployment of the Floating OTEC Technology, for vested interest, environmental justice and concerns for the future of SIDS population.

The proposed Team of Experts would comprise and be led by island nation governments and Global OTEC Resources, and include development partners, multilateral development banks, technology companies, scientific and technology institutions, energy and climate organizations. The Team of Experts group shall define its working procedure and schedule as well as the timing and location of its meetings.

Specific projects will be envisaged. The Team of Experts shall elaborate and submit to the Parties a proposal (hereinafter referred to as the “Proposal”) for each opportunity identified, which shall establish the conditions of the intended cooperation between the Parties to be laid down in and pursued under a subsequent agreement, should such Proposal meet the Parties’ requirements. The Proposal shall define and be specific on the following matters:

- i. Scope of the cooperation;
- ii. Technical concepts including work-sharing;
- iii. Time schedule;
- iv. Exchange, transfer and use of proprietary and confidential information and data, technical and commercial;
- v. Draft of the basic terms and conditions of a subsequent agreement.



As a first opportunity to be explored in common, the Parties wish to continue cooperation for the development of a funding proposal for the construction, installation and operation of a Floating OTEC Power Plant in partnership with the Government of the Democratic Republic of Sao Tome and Principe.

- b. **Resource Mobilization Strategy (human, financial, material, media and others):** The Parties agree to cooperate to develop funding proposals to enable preparation of prefeasibility studies and bankable proposals towards the deployment and implementation of Floating OTEC Projects for relevant SIDS. SIDS DOCK uses two primary means for mobilising financial and technical resources in support of member governments, in two inter-related focal areas: *Sustainable Energy and Building Climate Resilience*. Partnerships with research organizations, academia, private sector and consultants represent the primary means through which the Parties can provide technical and other assistance to member countries to develop national resource mobilization strategies to identify potential funding sources.
- c. **Energy Policies and Roadmaps.** The Parties will cooperate closely on the provision of support in the development, review and implementation of national and regional energy policies and roadmaps towards development of a policy framework for Floating OTEC Technology for integration into national and regional energy policies for achieving renewable energy targets and support the development and uptake of renewables and energy efficiency in SIDS.
- d. **Collaboration with the SIDS DOCK Island Women Open Network (IWON):** The Parties shall collaborate to strengthen the SIDS DOCK Island Women Open Network (IWON) and its SIDS DOCK Children's Programme, including women and children of SIDS to participate in the transition of the SIDS energy sector and economy and to become major beneficiaries due to the deployment of a Floating OTEC Power Plant that can support new livelihood activities, e.g., mariculture and



help decrease poverty. The Parties shall cooperate in producing Equality Diversity and Inclusion Assessments as part of each project and work with the IWON to engage the relevant stakeholders from the design phase to the operational phase, ensuring their participation throughout the project cycle.

Article 3

Implementation

1. Specific projects in the areas of cooperation will be negotiated and, when agreed in writing, will be incorporated as annexes attached to this MoU. These annexes shall form an integral part of this MoU and, unless expressly provided otherwise in writing, a reference to this MoU constitutes a reference to the MoU and attached annexes.
2. Each Annex may contain one or more projects. As applicable, each project shall contain the terms and conditions for its implementation, including, but not limited to, clear deliverables, time frames and funding arrangements.
3. Each of the Parties shall designate a project manager for the implementation of each project.
4. Annexes may be modified at any time by written agreement of the Parties through their MoU Focal Points (see Article 5).

Article 4

Exchange of Information and Documents

1. The Parties agree to facilitate an exchange of knowledge and information on deployment of Floating OTEC Technology in SIDS, as well as to provide, as appropriate, guidance and training materials and share methodologies and case studies.



2. The Parties will keep each other fully informed concerning all relevant activities and events of interest by either Party.
3. Nothing in this Memorandum of Understanding is construed as requiring either Party to furnish the other Party with confidential information. If Parties exchange information of a confidential nature under this MoU, they will consult with a view to put in place safeguards for the protection and the use of such information.

Article 5

Modalities of Cooperation between the Parties

1. This Memorandum of Understanding does not in any way commit either Party to financial or human resource obligations. All activities in pursuance of the areas of cooperation established herein are subject to the availability of funding and human resources.
2. Implementation of specific activities, projects and programmes pursuant to this Memorandum of Understanding, including those involving the transfer of funds between the Parties or giving rise to legal or financial obligations, will necessitate the execution of appropriate legal instruments between the Parties. Such instruments will, where applicable, specify the objectives, timelines, deliverables, funding arrangements, and responsibilities of the Parties.
3. The primary contact person for each Party will be:
 - (a) For SIDS DOCK: Secretary-General, SIDS DOCK Secretariat
 - (b) Global OTEC Resources: Dan Grech, Director



(c) Or such other person that either Party may, by notice in writing to the other Party, designate.

Article 6

Intellectual Property & Use of Name and Emblem

1. Nothing in this Memorandum of Understanding will be construed as granting or implying rights to, or interest in, intellectual property of the Parties, except as otherwise provided in Article 4.
2. In the event that the Parties foresee that intellectual property that can be protected will be created in relation to a particular activity, project or programme to be carried out under this Memorandum of Understanding, the Parties will negotiate and agree on terms of its ownership and use in the relevant legal instrument concluded pursuant to Article 5.
3. Unless expressly authorized by each Party in writing, the Parties will not, in any manner whatsoever, use the name, emblem or official seal of the other Party, or any abbreviation thereof in connection with their business or otherwise.
4. All press releases or public statements relative to this Memorandum of Understanding or its implementation must be approved by both Parties, in writing, prior to release or disclosure.

Article 7

General Provisions

1. **Legal Status of the Parties:** Each Party is recognized to be a separate and independent organization and neither Party has the authority to bid or act on behalf of the other. As



such, each Party retains its own identity and each party is responsible for establishing its own regulations, rules, and policies.

2. **Privileges and immunities:** Nothing in this Memorandum of Understanding shall be deemed to be a waiver, express or implied, of the Recipient's privileges and immunities under international and domestic law.

3. **Settlement of disputes:**

(a) **Amicable settlement.** The Parties will use their best efforts to promptly settle, through direct negotiations between them, any dispute, controversy or claim arising out of, or in connection with this Memorandum of Understanding or any breach thereof. Any such dispute that is not settled within 60 days from the date either Party has notified the other Party of the nature of the dispute, controversy or claim and of the measures which should be taken to rectify it, will be finally resolved through consultation between the executive heads of the Parties. Where, in the course of such negotiations or consultations, the Parties wish to seek an amicable settlement of such dispute, controversy or claim by conciliation, the conciliation will take place in accordance with the UN Commission on International Trade Law (UNCITRAL) Conciliation Rules then prevailing.

(b) **Arbitration.** All disputes, controversies or claims arising out of, or in accordance with this Memorandum of Understanding, or any breach thereof, will, unless resolved in the manner stated above, be settled in accordance with the UNCITRAL Arbitration Rules then prevailing. The arbitral tribunal will have no authority to award punitive damages.

(c) **Amendment.** This Memorandum of Understanding may be amended only by written agreement of both Parties.



- (d) **Entry into force and duration.** This Memorandum of Understanding shall enter into force upon signature by both Parties and will remain in effect for a period of five (5) years. It may be renewed by mutual agreement of the Parties in writing.
- (e) **Termination.** This Memorandum of Understanding may be terminated by mutual agreement of the Parties or by either Party providing ninety (90) days written notice to the other. In any such event, the Parties shall take all necessary action as required to promptly and orderly terminate any work plan, programme or project carried out under this Memorandum of Understanding in a cost-effective manner.
4. The undersigned representative of each Party represents, and the other Party relies upon such representation, that he or she has the authority to sign this Memorandum of Understanding on behalf of that Party.

Article 8

Notices

1. Any notices required by this Memorandum of Understanding shall be given in writing and delivered to the following addresses:

1.1. **When Addressed to SIDS DOCK:**

SIDS DOCK Secretariat
Attention: Secretary-General
C/O Ministry of Public Utilities and Logistics
Government of Belize
Second Floor, North Wing West Block
Sir Edney Cain Building
Belmopan, Cayo District



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Belize

Tel: 1-301-873-4522

Fax: +(501)-822-0020

E-mail: secretariat@sidsdock.org

1.2. When Addressed to Global OTEC Resources:

Global OTEC Resources, Ltd.

Attention: Dan Grech

Swift House, Ground Floor

18 Hoffmanns Way

Essex, CM1 1GU

United Kingdom

Telephone: +447872180411

Email: dan.grech@globalOTEC.co

- 1.3 Addresses other than the above may be given as appropriate in accordance with the terms of this notice provision.



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IN WITNESS WHEREOF, the Parties have signed this Memorandum of Understanding in two (2) originals in the English language, on the day set forth below.

For SIDS DOCK:

For GLOBAL OTEC RESOURCES:

His Excellency Mr. Ronald J. Jumeau
Chair, Executive Council of SIDS
DOCK

Mr. Dan Grech
Director
Global OTEC Resources

Date:

Date:



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ANNEX A

Current Energy Situation & Ambitions: SIDS DOCK Countries¹

SIDS DOCK Countries	Current Energy Situation			Ambitions			
	Installed Capacity (MW)	Fossil fuel generation (%)	Annual Generation (GWh)	Target RE Capacity (%)	by (Year)	Delta target - current (%)	New Capacity Required (MW)
Bahamas	438	100	1,641	30	2030	30	131
Trinidad and Tobago (Republic of)	2,114	100	9,234	10	2021	10	201
Saint Lucia	88	99	399	35	2020	34	30
Marshall Islands (Republic of the)	30	97	80	100	2050	97	29
Micronesia (Federated States of)	22	97	68	30	2030	27	6
Palau (Republic of)	33	96	85	45	2025	41	14
Guinea-Bissau	29	96	40	30	2030	26	8
Maldives (Republic of the)	287	95	702	100	2050	95	273
Solomon Islands	67	95	102	100	2030	95	64
Grenada	51	95	229	100	2030	95	48
Saint Kitts and Nevis	66	95	235	50	2030	45	30
Nauru (Republic of)	18	95	51	50	2020	45	8
Barbados	287	95	5	100	2030	95	271
Antigua and Barbuda	124	93	362	15	2030	8	10
Seychelles (Republic of)	126	92	429	15	2030	7	9
Sao Tome and Principe (Democratic Republic of)	35	91	102	47	2030	38	13
Tonga (Kingdom of)	25	90	68	70	2030	60	15
Jamaica	1,071	89	4,356	20	2030	9	96
Saint Vincent and the Grenadines	52	81	136	60	2020	41	21
Cape Verde (Republic of)	176	80	430	60	2030	40	70
Mauritius (Republic of)	877	79	2,828	35	2025	14	123
Dominican Republic	4,870	76	17,411	25	2025	1	34
Cook Islands	25	74	42	100	2020	74	19
Vanuatu (Republic of)	33	70	78	100	2050	70	23
Kiribati (Republic of)	9	70	29	100	2050	70	6
Niue	3	69	3	80	2025	49	1

¹ **Green Shading** highlights nations which are SIDS DOCK priority members with above average existing energy costs, and greater than 90% fossil fuel shares.



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Dominica (Commonwealth of)	27	63	0	90	2029	53	14
Tuvalu	5	59	9	100	2050	59	3
Suriname (Republic of)	503	54	329	52	2030	6	30
Samoa (Independent State)	60	53	154	100	2050	53	32
Fiji (Republic of)	357	41	1,066	100	2050	41	146
Belize	120	39	651	85	2030	24	29
Total	12,028	82	41,353	64	2032	45	1807
	MW	%	GWh	%		%	MW



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ANNEX B

OTEC Potential Across SIDS DOCK Countries

Based on the average renewable energy target, 1.8 GW of new installations must replace existing fossil fuel capacity by 2032.

If all nations adopt a 100% renewable energy target for 2050, 9.8 GW of new installations will be required to replace existing fossil fuel capacity.

Table: Renewable Energy Target (2032 and 2050)

Target Year	Target Renewable Energy	
	Capacity to be added 2019 baseline (MW)	Annual Generation Required 2019 baseline (GWh)
2032	1,807	6,213
2050	9,836	33,817

The yearly value of the total annual generation needed to meet the targets is shown in Table 2, with low, medium and high unit costs per kWh of energy produced.

Table 2: Yearly Volume of Total Generation Needed to Meet Targets (2032 and 2050)

Target Year	Annual Market Size Based On US\$ per kWh rates		
	\$0.10	\$0.20	\$0.30
2032	\$621,254,877	\$1,242,509,754	\$1,863,764,631
2050	\$3,381,745,076	\$6,763,490,151	\$10,145,235,227

A single first generation OTEC barge is expected to produce 12.5 GWh per annum. Low, medium and high scenarios for OTEC deployments are shown in Table 3.

Table 3: Low, Medium and High Scenarios for OTEC Deployments (2032 and 2050)

Target year	Floating OTEC Penetration	OTEC Barges Installed	Annual Generation (GWh)
2032	10%	50	621
	25%	124	1,553
	50%	249	3,106
2050	10%	271	3,382
	25%	676	8,454
	50%	1,353	16,909