

INTERNATIONAL
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From the Ex-Officio Interim Director General, ISA



MR RAJEEV KAPOOR

Ex-officio Interim DG, ISA
Secretary, MNRE,
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2016 has been a remarkable year for the solar energy sector, with the largest global increase in capacity addition recorded over this past year. In other important developments in the sector, the Framework Agreement of the International Solar Alliance (ISA) was opened for signatures, less than a year after it was first announced on 30 November 2015, on the sidelines of the 22nd Conference of Parties to the United Nations Framework Conventions on Climate

Change (COP22), held at Marrakech, Morocco on 15 November 2016. The current number of signatories stands at 25, with growing interest from other countries.

We have certainly come a long way in the fourteen months since Hon'ble Prime Minister Modi and Hon'ble President Hollande first unveiled the concept of an international grouping of countries committed to accelerating the solar energy revolution. However, ISA's tasks ahead are many and far from simple. In light of the huge expectations pinned on ISA to reduce and eventually remove energy poverty, facilitate the flow of affordable finance for solar projects, and facilitate the development of solar applications for productive uses at scale, 2017 would be a defining year for ISA. Efforts are already underway in the setting of ISA's strategy in trailblazing the path towards realising the Sustainable Development Goals, as well as furthering the national objectives of member countries.

ISA is attempting to address various impediments faced by its member countries in scaling up the deployment of solar power through its work programmes. ISA has two ongoing work programmes, that were initiated last year, on scaling solar applications for agricultural use and mobilising affordable finance at scale.

As highlighted in all our previous communications, ISA is a platform to enable the solar energy potential of its member countries and as such, cooperation and active participation from all current and prospective member countries will be essential to ensure the success of ISA and its work programmes. With that in mind, we aim to facilitate as many opportunities this year for closer interaction amongst the member countries



The ISA Framework Agreement was opened for signature on the sidelines of COP22 in Marrakech, Morocco

ISA Framework Agreement signatory countries:

- | | |
|---------------------------------|----------------|
| 1. Bangladesh | 13. Liberia |
| 2. Brazil | 14. Madagascar |
| 3. Burkina Faso | 15. Mali |
| 4. Cambodia | 16. Nauru |
| 5. Democratic Republic of Congo | 17. Niger |
| 6. Dominican Republic | 18. Rwanda |
| 7. Ethiopia | 19. Senegal |
| 8. Fiji | 20. Seychelles |
| 9. France | 21. Sudan |
| 10. Republic of Guinea | 22. Tanzania |
| 11. Guinea Bissau | 23. Tonga |
| 12. India | 24. Tuvalu |
| | 25. Vanuatu |

to be able to gauge the expectations of each member country and assess the impacts of the work programmes in participating member countries. As always, the ISA Secretariat looks forward to your feedback and suggestions on realising ISA's potential.

Work Programme: Scaling Solar Applications for Agricultural Use

Participating Countries – Bangladesh, Ethiopia, France, India, Nigeria, Seychelles, Sri Lanka, and Uganda

AIM

To jointly address the three major obstacles to the deployment of solar applications for agricultural use at scale: (i) products not tailored to needs; (ii) poor quality leading to high operational costs; and (iii) lack of know-how dissemination, by bringing reliable, affordable and tailored-to-needs solar applications, within the reach of all farmers in their countries.

UPDATE

- Draft format for the Need Assessment Questionnaire for Solar Water Pumping Systems (SWPS) and Street Lighting Systems (SLS) developed and sent to the participant countries (Bangladesh, Ethiopia, France, India, Nigeria, Seychelles, Sri Lanka and Uganda) in October 2016. The questionnaire was circulated to 23 representatives from 18 prospective ISA member countries, who attended the Indian Technical & Economic Cooperation Programme (ITEC) organised by the Indian Ministry of External Affairs and the National Institute of Solar Energy, India with a purpose to develop a toolkit for the deployment of SPWS and SLS in ISA member countries.
- The ISA Secretariat is also working jointly with National Centre for Photovoltaic Research and Education (NCPRE) at the Indian Institute for Technology in Mumbai, for development of a comprehensive programme for the solar energy researchers in the field of solar PV and solar thermal of ISA member countries. The proposal is under development and named as Photovoltaics Users Mentorship Programme – ISA (PUMP-ISA) countries.

Global solar pump market is rapidly growing and is expected to reach

1.5million
units a year by
2022



Meanwhile in the world of solar...

- On 23 December 2016, France inaugurated the world's first solar road, which stretches for a length of 1 km in the district of Normandy. The approximate electrical output for the road is 280,000 kWh per year with an average of 800 kWh per day.
- India's first Smart Grid Village, Chhotkei, in Orissa, has a 30kWp solar-powered Smart Nanogrid, that meets the energy demands of 140 households, 20 streetlights, a temple and three community centres. This has been implemented by SunMoksha, with financial support from Wartsila India, under the aegis of Odisha Renewable Energy Development Agency.
- Two Chinese companies have announced plans to build a one gigawatt solar photovoltaic plant in the exclusion zone surrounding the Chernobyl nuclear reactor, reviving the site after the worst nuclear power plant disaster in history. It is expected to be started in 2017.



World's first solar highway in the village of Tourouvre au Perche in Normandy, France



India's first Smart Grid Village

Member Country Spotlight: Bangladesh

- The renewable energy capacity (including off-grid systems) in Bangladesh currently stands at 433 MW, with production of 1865 GWh annually. Of this capacity, 230 MW is from hydropower, 2.9 MW is from wind power, 200 MW is from solar energy, 0.4 MW from Biomass and 0.69 MW from Bio-gas. The investment in the renewable energy sector in Bangladesh for the year 2014 stood at USD 78 million; which was a significant drop from the USD 116 million and USD 155 million that were invested in the sector in 2013 and 2012 respectively.
- Early last year, the Government of Bangladesh announced its intention to increase its solar power capacity to 2,000 MW by 2021. Bangladesh, being located between latitude 23°42'36" north and longitude 90°24'26" east, has an average of 4.5 kWh/m²/day of solar radiation falling over 365 days per annum.
- However, as is the case in many developing countries, grid access is extremely limited in some areas of Bangladesh, and renewable energy has been a cost effective, pragmatic solution for providing off-grid electricity in these areas. It is therefore in off-grid, rural renewable energy development that Bangladesh has made some of the most significant progress. The primary application being deployed is solar home systems with battery back up, which the government aims to install for nearly 6 million households by 2021. The original iteration (in 2003) aimed to bring these solar home systems to 50,000 houses. Since then, it has reached more than 4.5 million rural households and shops, with nearly 65,000 additional systems being installed every month.
- In 2002, only 30% of the 162 million people of Bangladesh had access to electricity, which has increased to 76% of the population as of 2016. The vision of the Government is to provide universal electricity access by 2021.

"Government of Bangladesh's increased emphasis on large-scale solar projects like solar parks and solar mini-grids to achieve its target of producing 2000 MW of electricity from renewables would need significant financial support."

- Mr. Siddique Zobair, Member (Energy Efficiency & Conservation), Sustainable and Renewable Energy Development Authority, Bangladesh



The Bangladesh Government aims to install solar home systems in

6 million

households by 2021

Solar Energy Powering Bangladesh's Development



Solar Powered Floating School



Solar Home System



Solar Mini-grid at Swandip Island, Chittagong



Solar Irrigation System



Solar Street Lighting System in Dhaka



Solar Drinking Water System in the Coastal Area

First Signatories to the Framework Agreement of ISA

- India is the first country to sign the ISA Framework Agreement. The cabinet approved ratification of ISA Framework Agreement on 28 December 2016.
- Membership is open to those solar resource rich States which lie fully or partially between the Tropic of Cancer and the Tropic of Capricorn, and which are members of the United Nations. Partner country status may be granted to countries with no territory between the tropics with approval of the Assembly.
- The governance structure of ISA will consist of two tiers, in the form of an Assembly and a Secretariat.

Next steps for signatory countries:

- Ratifying the Framework Agreement in accordance with their constitutional provisions
- Framework Agreement shall enter into force on the thirtieth day after the date of deposit of the fifteenth instrument of ratification, acceptance or approval
- The Government of India is the Depositary of the Framework Agreement
- Member countries to designate a National Focal Point for ISA

Work Programme: Affordable Finance at Scale

Participating Countries – Bangladesh, Ethiopia, France, India, Nigeria, Seychelles, Sri Lanka, and Uganda

AIM

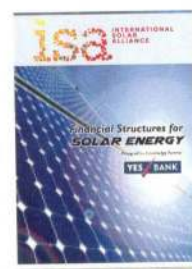
To make joint efforts to mobilise more than one trillion USD of investment by 2030, for the massive deployment of affordable solar energy worldwide and to reduce the cost of finance for immediate deployment of competitive solar generation.

UPDATE

- A consultation meeting was held in August 2016 with relevant financial institutions to discuss this programme and to deliberate on standard operating procedures for solar financing, risk management in solar projects and to increase the flow of finance to the solar sector.
- Under the aegis of this program, a 'Compendium of Global Success Stories in Solar Energy' report was brought out by Yes Bank, which is a collation of case studies from different geographies that discusses challenges and solutions with respect to project implementation. Similarly, the Climate Policy Initiative has published a booklet on 'Innovative Finance Solutions to Drive Investment to Renewable Energy' to help overcome challenges in climate and energy financing and to identify new ways to drive investment.
- As per the Joint Declaration between ISA and the World Bank, a global solar fund will be established for the next ten years, with contributions from the World Bank, bilateral and multilateral aid programmes, and the Green Climate Fund to leverage investment to meet the financial requirement of solar programmes in ISA member countries.

As per the 2016 report of the Standing Committee on Finance to the Conference of Parties as submitted at COP-22, the climate finance flows to developing countries from developed countries in 2013-14 was USD 25.4 billion in 2013 and

USD 26.6 billion
in 2014.



"Creating a common buyers' market for solar finance, technology, innovation and capacity building will lead to higher quality, lower costs, customisation of products, collaborative innovation, and technology development."

- Shri Anil Madhav Dave,
Minister for Environment,
Forest and Climate Change,
Government of India





Photos from ISA events held at COP22, World Future Energy Summit and Vibrant Gujarat 2017

The Global Solar Atlas

- The World Bank, in partnership with ISA, launched the Global Solar Atlas at the World Future Energy Summit in Abu Dhabi on 17 January 2017.
- The Global Solar Atlas is a free, web-based tool to help investors and policymakers identify potential sites for solar power generation virtually anywhere in the world, at the click of a button.
- The tool displays annual average solar power potential, and has the capacity to zoom into areas (with a spatial resolution of 1 km, or 0.6 mile).
- The tool also provides access to high resolution global and regional maps and geographic information system (GIS) data, enabling users to utilize the data in other applications.



"This new tool will assist governments and investors to obtain an initial indication of solar resource potential before carrying out their own more detailed analysis."

PIYUSH GOYAL

Minister for Power, Coal, New and Renewable Energy, and Mines, Government of India



The database is built on roughly

22 years

of satellite data, verified with ground-based measurement data where possible.

Upcoming Events | Solar Decathlon China 2017

The Solar Decathlon is an international competition being jointly held by China National Energy Administration, the Department of Energy, U.S. and the China Association for Overseas Industry Development which challenges 20 collegiate teams to design, build and operate the most attractive, effective and energy efficient solar-powered house. The challenge for the competition, to be held in Dezhou, Shandong in August 2017, is to build a double storey solar-powered house which has to be equipped with all necessary household appliances such as television, refrigerator, cooktop, dishwasher, washing machine, computer and these appliances must be powered by solar energy.



At the World Sustainable Development Summit a special session was organised on ISA on 8 October 2016 at New Delhi where the first issue of the ISA Journal was released.

Recently, on Minister Piyush Goyal's visit to the Indian Institute of Technology, Bombay's campus, he appreciated IIT Bombay's Team Shunya's efforts for the Solar Decathlon.



Business Standard

Cabinet approves International Solar Alliance (ISA): Signing of the Framework Agreement

Delhi December 28, 2016 Last Updated at 00:20 IST

Cabinet approves International Solar Alliance (ISA): Signing of the Framework Agreement

UNFCCC To Ratify India-led International Solar Alliance

October 31st, 2016 by smiti

The United Nations Framework Convention on Climate Change is expected to recognise the International Solar Alliance in the upcoming session of the Conference of Parties at Marrakech.

Solar alliance, a positive move

Dec 03, 2016, DHNS

An important event at the recent Marrakech climate conference, which is of significance was the signing of a framework agreement on the International Solar Alliance (ISA) which will soon become an international treaty under the auspices of the UN after the dovetailed with the Marrakech process. It is an ambitious project to build cooperation among sun-rich countries lying fully or partially between the Tropics. The entire project drew out of an idea India had presented at some interna

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International Solar Alliance to be ratified at COP22 in Marrakech in November

By Ananya Chaudhary, ET Bureau | Updated: Oct 13, 2016, 12:09 AM IST

NEW DELHI: The International Solar Alliance (ISA), a brainchild of Prime Minister Narendra Modi, announced at the climate conference in Paris (COP21), will be ratified at the forthcoming COP22 in Marrakech in November.

The ISA's objective is to bring together solar rich countries on a common platform to make joint efforts through innovative policies, projects, programmes, capacity building measures and financial instruments to increase solar energy capacity. Its future, however, had become uncertain following differences between India and the US over its precise nature.

While India wanted it to be ratified through a treaty which all member countries would sign and which would be registered with the UN, the US wanted an organisation of a more informal nature without any such treaty. The differences have since been ironed out, though precisely what will be ratified at COP22 has not been spelt out.



India has also set aside the acres of land in Gurugram, near to the National Institute of Solar Energy, to house the headquarters of the ISA.

ISA's Internship Programme

ISA has launched its internship programme in collaboration with the United Nations Development Programme. The internships are for a duration of three to six months. Interns are required to work on the various ISA programmes. Three candidates have

been taken on board under the internship programme. Applicants from prospective ISA member countries are encouraged to apply. All internships shall be as per UN norms.



Interim Secretariat

INTERNATIONAL SOLAR ALLIANCE

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