

# IDSA *Backgrounder*

## India and the International Solar Alliance

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### **S***ummary*

India would benefit immensely from the International Solar Alliance (ISA) Summit as it is making its commitment to the Paris Declaration unambiguous and is taking the leadership role in making solar energy an important component of its energy mix. The ISA can go a long way in helping developing countries of the global South to be energy-sufficient to a significant extent.

On 11 March 2018, India, along with France, hosted the members of the International Solar Alliance (ISA), marking an important milestone in its efforts to take the alliance, which was Prime Minister Narendra Modi's brainchild, and supported ably by France, forward. The Alliance, which was inaugurated a few days after the 2015 United Nations Climate Change Conference in Paris, became a treaty-based inter-governmental international organisation on 6 December 2017, with 61 countries signing the ISA agreement (and 32 of them ratified it so far).<sup>1</sup> The Delhi Summit was co-hosted by India and France and was attended by 23 heads of states and governments from other ISA signatory countries.

The key idea of the ISA is to “harmonize and aggregate demand for solar finance, solar technologies, innovation, research and development, and capacity building”.<sup>2</sup> The ISA aims to mobilise \$1 trillion low-cost financing for massive deployment of solar energy by 2030 and bring together 121 countries that lie between the Tropics of Cancer and Capricorn that receive plenty of sunshine and are mostly developing nations.<sup>3</sup> Most of the countries that are part of the ISA are from Asia, Africa, South America and the Pacific, are hydrocarbon-deficit with high energy demand and are grappling with issues ranging from lack of infrastructure, lack of manufacturing capacity and high energy tariffs. Therefore, it is increasingly important for these countries to get access to renewable energy (RE) at affordable prices.

One of the important challenges for the ISA therefore is to attract investments to fund the projects. Though funding is expected to come from individual countries, international organisations, non-governmental organisations and multilateral development banks, securing adequate financing will continue to remain a challenge.

The key objectives of the ISA can be summed up as the following:

1. Mobilising more than \$1 trillion of investments by 2030 for massive deployment of solar energy;<sup>4</sup>
2. Global deployment of over 1,000GW of solar generation capacity;
3. Making solar energy available at affordable rates, create solar grids and establish solar credit mechanism;
4. Reducing the cost of finance and cost of technology;

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<sup>1</sup> Mayank Aggarwal, “Narendra Modi, Emmanuel Macron bat for solar alliance to boost global energy security”, *Live Mint*, 11 March, 2018, at <http://www.livemint.com/Industry/ODY43TOYQf0M9BsLvKYN9K/ISA-nations-adopt-Delhi-agenda-to-hike-solar-share-in-energ.html> (Accessed 12 March, 2018).

<sup>2</sup> International Solar Alliance, at-<http://isolaralliance.org/Objective.aspx> (Accessed 9 March, 2018).

<sup>3</sup> Countries that do not fall between the Tropics can also join the [ISA](#) and enjoy all benefits as other members, with the exception of voting rights.

<sup>4</sup> “Mission Statement of the International Solar Alliance”, at <http://isolaralliance.org/ISAMission.aspx> (Accessed 9 March 2018).

5. Enhancing energy security and sustainable development;
6. Addressing common as well as specific obstacles that lie in the way of rapid and massive scaling up of solar energy in these countries;
7. Act as a broader platform for deep diplomatic engagement on crucial developmental issues.

Although the ISA came into being on 6 December 2017, the Delhi summit marked the momentous occasion on which the alliance was given flesh and shape. Since 2016, the ISA has launched five programmes of action — rural and decentralized application; access to affordable finance; mini grids; solar e-mobility; and rooftop installations.<sup>5</sup>

### Opportunities for India

The Summit has significant geopolitical implications. In addition to hosting this foundational summit that will shape the structure and course of the ISA, the Permanent Secretariat of ISA will also be located in India at Gurugram, the first time that an inter-governmental treaty-based alliance will have its headquarters in India. This will allow India the opportunity to position itself in a key global leadership role in the arena of climate change, RE and sustainable development.<sup>6</sup> During the Summit, India kicked off 27 projects in 15 countries enabling it to increase the scale and reach of its global engagements.

The Indian leadership also sees its active role within the ISA as a reiteration of India's commitment to fulfilling its global commitment on addressing climate change in a time-bound manner and help boost global confidence in India's capacities.

### India's commitment to clean energy

The ISA is not only expected to spur innovation in the RE space but also help make India a technological hub with independent manufacturing capabilities of RE equipment like solar panels, rather than being dependent on imports, through initiatives like 'Make in India'. India's Ministry of External Affairs is expected to play a role in "marrying Indian tech and finance capabilities with specific projects around the world".<sup>7</sup> India announced a goal of obtaining 40 per cent of its electricity from

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<sup>5</sup> "International Solar Alliance Summit, 11 March 2018, New Delhi", at <http://isolaralliance.org/docs/ISA%20Summit.pdf> (Accessed 9 March 2018).

<sup>6</sup> Indrani Bagchi, "Solar Alliance Meet: India Seeks Place in the Sun", *The Times of India*, 9 March 2018, at <https://timesofindia.indiatimes.com/home/environment/the-good-earth/solar-alliance-meet-india-seeks-place-in-the-sun/articleshow/63226245.cms> (Accessed on 9 March 2018).

<sup>7</sup> Ibid.

non-fossil fuels by 2030 at the Paris climate change summit.<sup>8</sup> It is close to achieving 20 GW grid connected solar power generation capacity this fiscal year (2018), in pursuit of achieving its target of 100 GW by 2022.

### **Technology cooperation and capacity building**

A Working Paper of the Ministry of New and Renewable Energy notes that some of the key drawbacks in the use of solar technology include lack of systematic information about the on-ground requirements, scarce opportunities for capacity building and a shortage of suitable financing arrangements to make new technologies affordable.<sup>9</sup>

The short-term priorities that have been identified as action points for the ISA are as follows:

1. Assisting member countries in drafting solar policies;
2. e-Portal to offer 24/7 real time suggestions for solar projects;
3. Creating expert groups for development of common standards, test, monitoring and verification protocols;
4. Working with ISA member countries to strive for universal access to solar lighting;
5. Preparing Detailed Project Reports and sharing of best-practices and successful case studies;
6. Exchanging best practices and work with member countries in designing financing instruments to mitigate risk and catalyse partnerships to boost investment;
7. Sharing perspectives on developing electricity systems;
8. Developing standards, specifications and test protocols for solar energy systems;
9. Generating and diffusing key learning on new technologies;

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<sup>8</sup> Raymond E. Vickory, "India's Place in the Sun: The International Solar Alliance", *The Diplomat*, 23 March 2016 at <https://thediplomat.com/2016/03/indias-place-in-the-sun-the-international-solar-alliance/> (Accessed 9 March 2018).

<sup>9</sup> "Working Paper on International Solar Alliance (ISA)", Ministry of New & Renewable Energy, Government of India, at <http://mnre.gov.in/file-manager/UserFiles/ISA-Working-Paper.pdf> (Accessed 9 March 2018).

10. Encourage collaboration in solar resource mapping in member countries and in deployment of suitable technologies;
11. Facilitating preparation of plans for solar energy development and deployment;
12. Encouraging industry cooperation among ISA member countries;
13. Forging cooperative linkages on development of Centre of Excellence for R&D in ISA member countries; and
14. Designing training programs for students/engineers/ policy makers, etc. and organizing workshops, focused meetings and conferences.<sup>10</sup>

## Financing

As noted earlier, the ISA aims to raise investments of up to \$ 1 trillion by 2030. To facilitate the ISA secretariat and the ISA corpus fund, India has already contributed \$ 62 million.<sup>11</sup> The ISA has also partnered with international organisations like the European Investment Bank, World Bank, European Bank for Reconstruction and Development and the International Energy Agency. On March 10, the ISA signed joint financial declarations with the African Development Bank (AfDB), the Asian Development Bank (ADB), the Asia Infrastructure Investment Bank (AIIB), the Green Climate Fund (GCF) and the New Development Bank (NDB, established by the BRICS countries).<sup>12</sup> On 11 March, the ISA and the International Renewable Energy Agency (IRENA) signed a joint declaration to confirm their commitment to solar projects.<sup>13</sup>

The ISA has also invited several financial institutions to form a \$ 300 billion global risk mitigation fund.<sup>14</sup> A Common Risk Mitigation Mechanism (CRMM) study, carried out with the Tera Watt Initiative (TWI) of France and the ISA, states that a risk mitigation mechanism will reduce credit risk and increase investments more than ten-fold.<sup>15</sup> Ten such funds of \$ 30 billion each have been planned by the ISA.

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<sup>10</sup> “Projects”, at <http://isolaralliance.org/Project.aspx> (Accessed 9 March 2018).

<sup>11</sup> “ISA summit: French President Macron applauds India’s efforts in promoting solar energy”, *Times of India*, 11 March 2018, at <https://timesofindia.indiatimes.com/india/delhi-the-world-capital-of-sun-macron-applauds-indias-contribution-in-harnessing-solar-energy/articleshow/63258410.cms> (Accessed 13 March 2018).

<sup>12</sup> “ISA-ADB, NDB, GCF, AfDB and AIIB joint declarations of financial partnership”, Press Information Bureau, Government of India, 10 March 2018, at <http://pib.nic.in/newsite/PrintRelease.aspx?relid=177248> (Accessed 13 March 2018).

<sup>13</sup> “IRENA Welcomes Establishment of International Solar Alliance”, *IRENA*, 11 March 2018, at <http://irena.org/newsroom/pressreleases/2018/Mar/IRENA-Welcomes-Establishment-of-International-Solar-Alliance-as-a-Platform-to-Advance--Solar-Energy> (Accessed 13 March 2018).

<sup>14</sup> “Updates form ISA Work Programme: Affordable Financing at Scale”, *ISA Journal*, 4 November 2017, p 5 at- <http://isolaralliance.org/docs/ISA%20Journals/ISA%20Newsletter%20-%20Issue%204.pdf> (Accessed 9 March 2018)

<sup>15</sup> “Frequently Asked Question on ISA”, at- <http://isolaralliance.org/docs/ISA%20FAQs.pdf> (Accessed 9 March 2018)

According to the ISA, the Indian solar industry's risk mitigation and credit enhancement mechanism that has been developed by the Indian Renewable Energy Development Agency (IREDA) can be used as a model for adaptation by other ISA member countries.<sup>16</sup>

### **The trouble with tariff**

One of the foremost objectives of the ISA has been to undertake joint efforts to reduce the cost of finance and technology, besides mobilising more than \$ 1 trillion worth of investments needed by 2030 for the deployment of solar energy. While the cost of solar installations has been decreasing worldwide, it still remains high in many of the ISA countries. Most African countries also have a high most favoured nation (MFN) tariffs for photo voltaic (PV) cells, modules and semi-conductor devices. This is exacerbated by their lack of manufacturing capacities and high tariffs. The Pacific island countries have the highest MFN applied rates for solar products, with some going as high as 30-40 per cent.<sup>17</sup> Hence, to further the spread of technology related to solar energy, reducing high tariff barriers is essential as such duties are detrimental to cost-effective solar deployment.

### **Cooperation in energy storage technology**

Energy storage technologies have the potential to change the face of RE. Non-fuel minerals like cobalt are essential to energy storage technologies. Sixty per cent of global cobalt reserves are located in the Democratic Republic of Congo, which is a signatory to the ISA.<sup>18</sup> Chile, another signatory, is part of the 'lithium triangle' of countries that contain approximately 54 per cent of the world's lithium reserves.<sup>19</sup> Although Chile and Congo have yet to ratify the ISA agreement, cooperation with these mineral rich countries within the ISA can unlock large gains for solar energy.

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<sup>16</sup> Ibid.

<sup>17</sup> Rahul Mazumdar, "Trade: A Dark Spot in the Solar World", *The Hindu Business Line*, 8 March 2018, at <https://www.thehindubusinessline.com/opinion/trade-a-dark-spot-in-the-solar-world/article22985420.ece> (Accessed 9 March 2018).

<sup>18</sup> Eshe Nelson, "The surprising ways to cash in on the electric-car boom", *Quartz*, 5 October 2017, at <https://qz.com/1070609/beyond-tesla-the-surprising-investment-opportunities-created-by-electric-cars/> (Accessed 9 March 2018).

<sup>19</sup> "A battle for supremacy in the lithium triangle", *The Economist*, June 2017 at <https://www.economist.com/news/americas/21723451-three-south-american-countries-have-much-worlds-lithium-they-take-very-different> (Accessed 9 March 2018).

## Conclusion

At the Summit inauguration, Prime Minister Modi set out a ten-point action plan for the ISA. This action plan includes framing of regulation and standards, consultancy support for bankable solar projects, concessional and less risky finances, all aimed at increasing the share of electricity produced from solar energy in the overall energy mix. PM Modi also announced the creation of a solar technology mission for R&D and 500 training slots for member countries.<sup>20</sup> India also extended Line of Credit of up to \$1.4 billion for 27 projects in 15 countries at the summit,<sup>21</sup> while France has committed to investing \$ 860 million by 2022 in solar energy in addition to the over \$ 369 million that it committed in 2015.<sup>22</sup> A day after the conference, President Macron and PM Modi flew to Mirzapur district in Uttar Pradesh to inaugurate a 75 MW solar power plant.

There is great optimism that the solar alliance would help in pushing ‘power for all’ into a more realistic realm. Furthermore, the ISA could be greatly beneficial in boosting technology transfer and emphasising the need for greater storage technologies. ISA member countries could also cooperate in developing an integrated electronic mobility ecosystem that is fueled by solar energy. India too would benefit immensely from the Alliance. Not only would it facilitate it in its endeavor to meet its commitments under the Paris Agreement, but would also allow it to take a leadership role in the developing world.

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<sup>20</sup> “International Solar Alliance Summit: PM Modi lays down 10-point action plan for clean energy”, *The Indian Express*, 11 March 2018, at <http://indianexpress.com/article/india/international-solar-alliance-summit-pm-modi-lays-down-10-point-action-plan-for-clean-energy-5093843/> (Accessed 12 March 2018).

<sup>21</sup> “India to help 15 nations tap sun”, *The Pioneer*, 12 March 2018, at <http://www.dailypioneer.com/todays-newspaper/india-to-help-15-nations-tap-sun.html> (Accessed 12 March 2018).

<sup>22</sup> “ISA Summit: French President Macron applauds India’s efforts in promoting solar energy”.

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