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International REC Standard for Empowering Renewable Power Generation

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Abstract

In the recent trend most of the renewable energy power developers globally wishes to invest based on an incentive based mechanism system. In India, most of the renewable power project developers have participated in carbon mechanism from the year 2003 and have also reaped good benefits out of it. But, unfortunately as on today, carbon markets are not much encouraging to Indian renewable energy projects. Nevertheless, very recently a new generation based market exclusively for renewable energy power projects has been introduced globally known as “International Renewable Energy Certificates (IRECs). IREC provides a standard for energy attribute tracking systems that can be easily implemented so that consumers in all regions of the world can have access to internationally recognized, tradable and reliable electricity attribute tracking certificates. This market is yet to be utilized by many of our Indian renewable energy project developers.

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Wind power;
Solar power

Introduction

The I-REC Standard is a foundation based in the Netherlands. Board members of the I-REC Standard are world-wide industry experts in the use and creation of attribute tracking certificates and systems. The I-REC Standard is a list of rules, regulations and best practices which are to be used by all attribute tracking systems. These rules, regulations and best practices together combine to form the I-REC Code. The I-REC Code provides the blueprints for a standardized tracking system that can be implemented in any country or region. Standardization allows for simplified consumer claims and the elimination of double claiming, double counting and double certificate issuance. I-RECs are the tradable assets. When a company buys I-RECs as documentation for their electricity consumption, the I-RECs are

cancelled in the registry. This single standardized instrument makes it easy to track ownership, verify claims and ensure that I-RECs are only sold once and there is no double counting.

The I-REC Standard is also responsible for authorizing issuers to implement an operational attribute tracking system that, based on the I-REC Code rules and regulations, can be made available in countries or regions without a reliable and transparent electricity tracking system.

In such regions, implementation on a voluntary basis is possible; however the I-REC Standard organization requires that implementation to be done in combination with national regulatory, or policy making authorities where possible.

The I-REC Standard board has authorized the issuers to implement attribute tracking systems in very limited countries/regions where India is one among those selected countries. In most of the selected countries there are no restrictions of technology or project type under renewable energy generation. But, in India, due to potential interactions with the national Renewable Power Obligations (RPO), I-REC issuance is currently restricted to hydroelectric production devices of >25MW installed capacity. There is huge potential in India for renewable energy generation apart from large hydro.

Materials and Methods

This study is based on primary and secondary data sources. The secondary data has been aggregated from the International REC Standard (I-REC Standard) Board, Concerned Organizations /Departments/ Institutions of government and Nongovernment organizations of various aspects.

The primary data has been collected by personal interaction and observation with the I-REC Buyers, I-REC suppliers and the I-REC Issuers.

The figure 1 shows the I-REC registration process. Step one is to register production devices which will need to determine for which period they wish to issue I-RECs. It is the choice of the production device owner and the appointed registrant to request I-REC issuance. Step two is to appoint a third party to certify all production data which must be audited according to I-REC standard certificate issuance. Each national issuer may mandate a different form of production data verification. In step three registrants are able to apply for I-REC issuance electronically via their I-REC registry access. In Step four the issuer will send the registrant an invoice for the

issuance of the I-RECs. The invoice must be paid in full prior to the release of the I-REC certificates.

Results and Discussion

The I-REC Standard allows market players, individuals or organizations the opportunity to open trade and redemption accounts on the I-REC Standard registry in order to receive, purchase, trade and redeem IREC certificates for themselves or to their clients.

Organizations with these accounts are referred to as participants.

The I-REC Standard board has considered the following countries to implement attribute tracking systems with specific selection criteria as mentioned in Table 1.

Based on the national regional climate change policies, renewable energy policies, energy regulatory commission laws and other aspects such as carbon tax etc., I-REC board has limited the selection of projects to be qualified under I-REC scheme.

With reference to Indian scenario only large scale hydro projects has been considered till date (devices of >25MW installed capacity), due to potential interactions with the national RPO and Central Electricity Regulatory Commission (CERC). This is due to the existence of regional REC mechanism in India. Renewable energy sources like wind, solar thermal, small hydro, geothermal, biomass, bio-fuel cogeneration, urban and municipal waste, solar PV and others have been considered for regional Indian REC mechanism, except large hydro. This is one of the reasons for I-REC board to allow only large hydro projects from India to get registered under I-REC scheme.

Fig.1 I-REC registration process

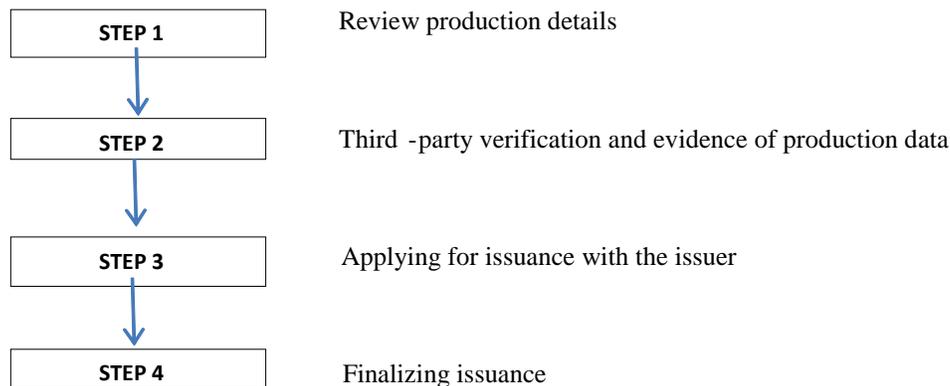


Fig.2 Percentage of generators registered globally (as on 1st March 2018)

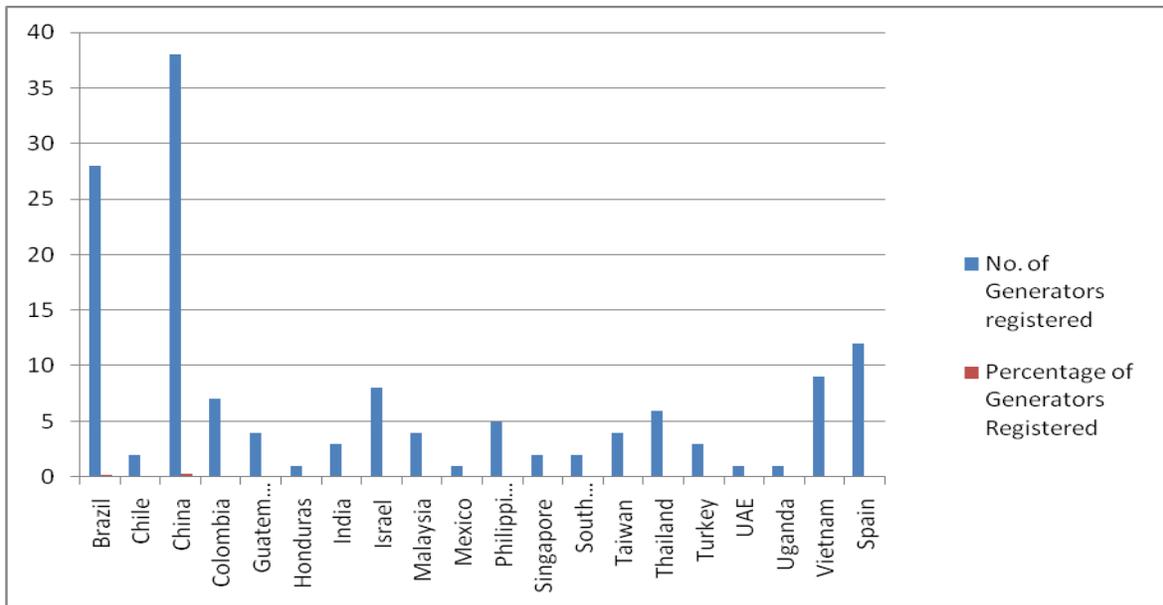


Table.1 I-REC authorized nations with project selection criteria

SL. No.	Country	Additional notes
1	Brazil	Currently there are no restrictions to issuance.
2	Chile	Currently there are no restrictions to issuance.
3	China	Issuance will only be authorized from state-owned production devices. State-owned production devices are majority owned by state or provincial authorities.
4	Colombia	Currently there are no restrictions to issuance.
5	Guatemala	Currently there are no restrictions to issuance.
6	Honduras	Currently there are no restrictions to issuance.
7	India	I-REC issuance is currently restricted to hydroelectric production devices of >25MW installed capacity.
8	Israel	Currently there are no restrictions to issuance.
9	Jordan	Currently there are no restrictions to issuance.
10	Malaysia	Currently there are no restrictions to issuance.
11	Mexico	Issuance will only be authorized from production devices that do not obtain CELs (Certificados de Energía Limpia/Clean Energy Certificates). According to national regulation, devices allowed to receive CELs are: a. Clean production devices commissioned after August 11, 2014. · Legacy production devices commissioned before August 11, 2014, provided they have increased their “clean” production. b. Clean production devices that have been excluded from a Legacy interconnection contract with the purpose to include them in a standard interconnection contract. c. Generation from distributed production devices.
12	Philippines	Issuance will not be granted to devices receiving national public support in form of the feed-in tariff.
13	Saudi Arabia	Currently there are no restrictions to issuance.
14	Singapore	Currently there are no restrictions to issuance.
15	South Africa	Currently there are no restrictions to issuance.
16	Taiwan	Currently issuance is only allowed from non-wind and solar production devices.
17	Thailand	Currently there are no restrictions to issuance.
18	Turkey	Currently there are no restrictions to issuance.
19	UAE	Currently there are no restrictions to issuance.
20	Uganda	Currently there are no restrictions to issuance.
21	Vietnam	Currently there are no restrictions to issuance.

Source: The International REC Standard – March 1, 2018.

National laws do not necessarily guarantee that a renewables claim is reliable and robust, as can be seen in some cases internationally. These systems, while referred to as a REC locally, do not function as a REC system of the type that those familiar with the US REC system or European GO system would recognize (Fig. 2).

Total of 141 generators have been registered globally as of now. Out of which only 3 generators are from Indian origin. 2.13% is the share of Indian generators as on March 1st 2018 under I-REC mechanism.

In future, there will be an opportunity for other renewable sources also to be included under I-REC scheme provided where double counting will not be allowed. This is the right time for Indian Renewable Energy (RE) developers to utilize this kind of incentive based market mechanism appropriately.

It is assumed that market players and consumers do their best to consume attributes from within the same legal energy market jurisdiction. In some cases, however, reliable procurement will not be possible from within the same legal jurisdiction and market players and consumers will be forced to look outside of that area for reliable procurement options.

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