

Singapore Partners I-TRACK Foundation to Develop a Cross-Border Renewable Energy Certificate Framework

The Ministry of Trade and Industry (MTI), the Energy Market Authority (EMA), and International Tracking Standard Foundation (I-TRACK Foundation) will develop a framework for Cross-Border Renewable Energy Certificates (RECs) that is relevant for Southeast Asia.¹

2 Today, the use of RECs to track renewable energy and their environmental attributes across borders is complex due to differences in government regulations in Southeast Asia. The Framework aims to help countries to standardise their approaches for the tracking and accounting of cross-border RECs across three areas: how they track the physical flow of electricity and the corresponding RECs; which REC registries and instruments are permitted for cross-border electricity trading transactions; and the approach for calculating the residual mix.² This framework will give companies that purchase cross-border RECs greater confidence to make exclusive claims for their sustainability reporting, without concerns that the same unit of renewable electricity is being claimed by some other entity. This framework can also serve as a pathfinder project to complement ongoing efforts by the ASEAN Centre of Energy to develop an ASEAN regional REC framework by 2027.

3 When completed, the Framework will provide a template for user countries to account for the RECs associated with cross-border electricity trading. In addition, countries can use the Framework to align with relevant internationally accepted standards for cross-border RECs and illustrate how global best practices are being implemented in their energy markets. One example is the *International Cross-Border Electricity Trading Standards and Best Practices* being developed by the I-TRACK Foundation, which will set out detailed implementation requirements for the tracking and accounting of cross-border RECs.³

4 MTI and EMA have commenced industry consultation on the draft Framework in Annex A, with support from like-minded organisations including the Climate Group's RE100 initiative, the ASEAN Centre of Energy, the Asia Clean Energy Coalition, and the global microelectronics industry association, SEMI. Please see Annex B for quotes from these supporting organisations.

¹ RECs are digital certificates that serve as proof of the low-carbon attributes of electricity derived from renewable sources, such as solar power, hydropower or wind. RECs improve the financial viability of renewable energy projects, as they can be sold to consumers who value the low-carbon attributes of the electricity associated with the RECs.

² Residual mix refers to the electricity mix that remains in a country's electricity system after all renewable energy tracked by RECs has been subtracted. It includes energy from fossil fuels and untracked renewables. Residual mix is used to calculate the carbon emissions of electricity consumption for users who do not purchase RECs. This is important for Scope 2 greenhouse gas accounting and sustainability reporting.

³ The International Cross-Border Electricity Trading Standard will be released by the end of 2025.

5 Ms Gan Siow Huang, Minister of State for Ministry of Trade and Industry, said, “The Cross-Border REC Framework reflects Singapore’s commitment to advancing credible cross-border electricity trade and fosters regional collaboration for renewable energy development. I am encouraged by the support from organisations across the renewable energy ecosystem, which underscores the value of this initiative in strengthening the commercial viability of renewable energy projects in the region.”

6 Mr Puah Kok Keong, Chief Executive of EMA said, “As Singapore’s and the region’s energy systems evolve, ensuring credibility and trust in REC transactions will be key to driving cross-border electricity trade. The development of the Cross-Border REC Framework reflects Singapore’s commitment towards establishing a consistent and transparent approach for credible renewable energy claims across borders. This can foster greater regional collaboration and spur the investment and development of renewable energy projects across the region.”

7 Mr. Roble P. Velasco-Rosenheim of the I-TRACK Foundation said, “We see these interlinked workstreams as a meaningful step in actioning credible cross-border electricity trade tracking and disclosure in the ASEAN region. The *International Cross-Border Electricity Trading Standard and Best Practices* establish actionable principles for REC transactions between connected grids, while the complementary national frameworks make deployment possible—all in line with global best practices and the operational realities defined by sovereign actors guiding energy sector development. We are honoured to be supporting these initiatives, and look forward to supporting pilots and full-scale implementation as the market and region continue to drive progress.”

Annex A: Draft Framework

Annex B: Quotes from Supporting Organisations

About the Ministry of Trade and Industry

Our vision is to promote economic growth and create good jobs, to enable Singaporeans to improve their lives. Together with our statutory boards, we will ensure that Singapore's economy continues to be competitive, is able to attract investments, and nurture a deeper base of global Singapore enterprises.

For more information, visit www.mti.gov.sg.

About the Energy Market Authority

The Energy Market Authority (EMA) is a statutory board under the Singapore Ministry of Trade and Industry. Through our work, we seek to build a clean energy future that is resilient, sustainable, and competitive. We aim to ensure a reliable and secure energy supply, promote effective competition in the energy market and develop a dynamic energy sector in Singapore. Visit www.ema.gov.sg for more information.

About the International Tracking Standard Foundation

The International Tracking Standard Foundation (I-TRACK Foundation) is a non-profit organization that provides a robust standard for developing attribute tracking systems. The I-TRACK Foundation is acknowledged by major reporting frameworks such as the Greenhouse Gas Protocol (GHGP), [CDP](http://www.cdp.com), and RE100 as a reliable backbone for credible and auditable tracking instruments. It ensures the highest quality systems and adherence to best practices designed to avoid double counting, double certificate issuance, and double attribute claims.

The I-TRACK Foundation facilitates the I-REC for electricity (I-REC(E)) ecosystem, which has tracked more than 1150 TWh of electricity to-date. The I-TRACK Foundation facilitates environmental markets through partnerships with national actors, the private sector, and the wider energy ecosystem—seeking to provide credible standards that can be deployed in nationally- and regionally appropriate contexts.

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Quotes from Supporting Organisations

1. Ollie Wilson, Head of RE100, Climate Group:

“RE100 members in Singapore want to be able to use renewable electricity in a credible way, so we’re pleased to see the Cross-Border REC Framework being developed. Establishing a robust framework is essential to increasing corporate renewables use in Singapore, and we look forward to providing input on the framework to support its development.”

2. Dato’ Ir. Ts. Razib Dawood, Executive Director, ASEAN Centre for Energy

“The Initiation of the ASEAN Renewable Energy Certificate Framework was part of the Annual Priority on Energy under Malaysia’s ASEAN Chairmanship 2025. The initiation aims to establish a harmonised and credible regional system to advance renewable energy deployment and facilitates cross-border exchange of renewable electricity under the ASEAN Power Grid. The ASEAN Centre for Energy (ACE) is committed to take on the mandate from the ASEAN Member States to support the development of the Framework that can be aligned with international best practices while remaining flexible to accommodate the unique national conditions of each Member State. The Cross-border REC Framework can support the regional initiative, and the Centre is committed to working closely with the stakeholders and other partners of ASEAN.”

3. Suji Kang, Program Director, Asia Clean Energy Coalition:

“The Asia Clean Energy Coalition (ACEC) is honoured to have collaborated with the I-TRACK Foundation in steering and coordinating the industry consultation for the Cross-Border REC Framework. This milestone reflects a collective public-private partnership (PPP) commitment to building credible and harmonised standards that will anchor ASEAN’s clean energy transition. The Singapore Government’s leadership, together with the industry, has been pivotal in translating vision into action, advancing cross-border frameworks that strengthen market recognition and trust while supporting the ASEAN Power Grid vision.”

4. SoYoung Jang, Senior Manager, Energy Collaborative and Consortium, SEMI:

“SEMI welcomes this landmark collaboration with MTI and EMA to establish a unified Cross-Border REC Framework. As the collective voice of the semiconductor industry and major offtakers, SEMI is proud to partner with MTI and EMA to ensure industry needs are reflected in the development of this framework template. This milestone will play a pivotal role in advancing the

region's decarbonization efforts through transparent and credible recognition of cross-border electricity trade. SEMI will continue to serve as a bridge between industry and government to enable the successful implementation of the Cross-Border REC Framework."

5. Vinit Chitkara, Director, Energy Operations and CleanTech APAC, Equinix:

"Equinix is committed to driving energy efficiency and accelerating the transition from emission-intensive sources to clean, renewable alternatives. As the demand for digital infrastructure grows—particularly driven by AI and emerging technologies—this is a pivotal moment for governments across Southeast Asia to adopt forward-looking energy policies that enable alternative energy adoption through innovative solutions, harmonized efficiency standards, and modernized grid infrastructure for cross-border energy trade. Initiatives such as standardised Cross-Border REC frameworks will unlock regional renewable resources, strengthen energy security, and enhance transparency in renewable markets—advancing our shared vision for a cleaner, more connected future."

6. Mr Zhijia Chong, Head of Energy Markets and Regulatory Affairs, APAC, Amazon Web Services

"Regional energy trade enables corporates to better harness clean energy across ASEAN. The Cross-Border REC framework is a vital step toward credible RECs and a more connected, sustainable regional grid – progress that brings ASEAN closer to its clean energy ambitions. Amazon strongly supports efforts that enhance regional energy integration and accelerates access to renewable power."

7. Ms Elena Kocherovsky, Climate Program Director, Applied Materials

"Applied Materials is encouraged to see the progress being made in Singapore to increase access to renewable energy through the Cross-Border REC framework. This will enable more companies like ours to access the clean energy needed to advance towards renewable energy targets and help decarbonize the semiconductor value chain."

8. Mr Bas Bongers, Director Sustainable Manufacturing, NXP Semiconductors

"A standardised Cross-Border REC framework is a key enabler for NXP's carbon neutrality goals, allowing credible cross-border renewable energy claims. We strongly support this initiative and commend efforts to make it transparent and globally aligned."