

Roadmap Action Plan

This Action Plan of the Clean Energy Finance and Investment Roadmap of Thailand (“the Roadmap Action Plan”) provides an overview of a strategic framework to unlock finance and investment in clean energy in Thailand. It outlines critical actions that the Government of Thailand could consider to mobilise financing in two main sectors: (i) renewable power, with a special attention to small-scale systems; and (ii) energy efficiency in buildings, with a focus on cooling applications.

This chapter serves as a detailed summary guidance of the key recommendations and suggested actions that the Government of Thailand, financial institutions, Energy Service Companies (ESCOs), and academia as well as the international development community active in the country could undertake to foster clean energy investments in Thailand. The recommendations on small-scale renewable energy as well as on energy efficiency are further detailed and explained at the end of the two thematic chapters (chapter 3 and chapter 4, respectively).

Unlocking finance and investment for small-scale renewables power

While Thailand has made important strides in the development of large-scale renewable power capacity over the past decade, significant progress is still needed to unlock financing for small-scale renewable power systems. By the end of 2022, a total renewable electricity generation capacity of 12 666 megawatts (MW) was installed (including large hydropower), a doubling over the past decade (EPPO, 2024^[1]). This capacity generated a total of around 39 terawatt-hours (TWh) electricity in the same year, covering around 13% of the total electricity generation. Within this, total small-scale renewable power capacity⁶ represents a small share of 10% of total renewable energy (RE), standing at 1 282 MW in 2022. Deployment of small-scale renewable power systems, especially through rooftop solar photovoltaic (PV) systems, can provide productive benefits for local businesses, manufacturing industries and the agriculture sector as well as an opportunity for clean power access for rural communities. Limited policy support and the lack of availability of innovative financing models and instruments for these systems have hampered their development.

To support the Government of Thailand and key Thai stakeholders to promote and de-risk small-scale renewable power investment, the Roadmap proposes recommendations across three key pillars: (i) financial support; (ii) policy, regulation and governance; and (iii) capacity building, data collection and awareness-raising – summarised below. Table 1 below provides an indication of the tentative timing and potential actors involved in the implementation of the recommended measures.

Financial support

Reviewing and strengthening existing public financial incentives to prioritise the acceleration of small-scale and community-based renewable energy models

- Thai energy policymakers and regulators could regularly monitor the up-take of the ongoing feed-in-tariff (FiT) scheme, review and adjust FiT tariff rates to encourage small-scale and community-based renewable energy projects if their uptake is low.

- The FiT policy can facilitate the development of small-scale solar, for example by developing and disseminating template contracts for solar power purchase agreement (PPA), solar roof rental and community-ownership models.

Improving conditions of green loan programmes for Micro, Small and Medium Enterprises (MSMEs)

- The government, through the Ministry of Energy and Ministry of Finance, could consider continuing incentives or subsidies to encourage banks to offer green loans to MSMEs at more favourable terms, e.g. in the form of tax incentives or subsidies for interest rate differentials. Credit guarantees can also help to de-risk small-scale projects and to mitigate banks' risks associated with green lending.
- Implementing risk mitigation measures, for example through credit guarantees, can help lower the risk of small-scale projects and MSMEs, increase the confidence of lenders, which can, in turn, improve terms and conditions of existing green loan programmes for small-scale renewable energy projects and MSMEs (e.g. through favourable interest rates, lower collateral requirements, longer tenures and flexible repayment schedules).
- Within the loan origination process, financial institutions could apply adequate and proportionate reporting and verification standards for MSME green loans.
- Simplifying and streamlining application and approval processes for green MSME loans could also help to ease MSMEs access to financing for renewable energy projects.

Piloting a green credit guarantee scheme for small-scale renewable energy projects

- The government could consider supporting the pilot of a green credit guarantee scheme to de-risk small-scale renewable projects and MSMEs, designing it to cover grid connected solar rooftops and other renewable energy technologies as well as off-grid renewable energy solutions.
- The Thai Credit Guarantee Corporation (TCG) could act as guarantor, given its mandate and ability to extend and process guarantees.
- Concessional financing from the government and support by donors, multilateral development banks (MDBs) and Development Finance Institutions (DFIs) might be required to partially offset guarantee fees and service costs, especially at the onset of the programme, to lower the guarantee fee for MSMEs and mobilise commercial capital for small-scale renewable projects.
- As a first step, a feasibility study could be conducted, consulting all relevant stakeholders in the financial industry and energy sector, to inform decisions on key design elements, namely: (i) the choice between the individual and portfolio guarantee approach; (ii) the coverage ratio (i.e. what portion of a loan can be covered by a guarantee); (iii) the pricing structure for the guarantee fees; (iv) the process for handling defaults and guarantee payouts; and (v) the exit strategy.

Providing financial support to Pay-As-You-Go (PAYG) models to expand off-grid, community-based renewable energy

- The primary targets for replicating PAYG models include off-grid communities, especially in remote islands, where extending the grid is not economically viable. Financial support with favourable terms from the government, donors, MDBs and DFIs is necessary at the early stage of innovative PAYG models, to cover upfront investment and business planning costs.
- Replicating and expanding the PAYG model in remote islands would require significant training to ensure the communities have the necessary technical skills.

Developing aggregation and securitisation models for small-scale renewable energy projects

- Blended finance can be used to support bundling and aggregation of multiple small-scale renewable energy projects or assets into larger and rateable financial products or vehicles that are attractive to large institutional investors.
- Small loans for renewable energy projects can be pooled and then sold to a separate legal entity, such as a special purpose vehicle (SPV), to protect the assets from any insolvency of the sponsoring entity or seller. The SPV can then issue marketable securities, typically in tranches with different credit risk.
- To facilitate such structures, donors, DFIs, MDBs and/or the government can provide first loss tranches as credit enhancement to comfort senior tranche investors.
- Grants and technical assistance are necessary to develop large and bankable pipelines of small-scale renewables projects as well as to gather and standardise risk and performance data from small entities.

Policy, regulation and governance

Strengthening policy planning and setting region-specific targets on small-scale renewable energy over the near- and long-term

- A clear strategy with near- and long-term targets for small-scale renewable power installed capacity could help to provide policy direction, clarify long-term opportunities for developers and foster the development of a local industry ecosystem.
- Developing clear technology- and region-specific targets will be necessary if the aim is to ensure that all communities have access to reliable, clean and affordable electricity.
- Providing certainty and predictability of the energy policies, plans, targets and related updates.

Encouraging financial institutions to assess and disclose taxonomy alignment of their portfolios

- Actual implementation of the taxonomy could be promoted, for example, by setting requirements for financial institutions to assess and disclose the extent of alignment of their portfolios with the taxonomy.
- Such regulatory measures shall clarify the taxonomy alignment reporting requirements and timelines for both financial and non-financial entities.
- Regulatory provisions could also mandate or encourage the use of the taxonomy to identify eligibility criteria of green financial products (e.g. green bonds and loans).
- Developers of small-scale projects would need to incorporate green taxonomy criteria into project design and monitoring systems.
- Adequate capacity building and technical assistance would be necessary for MSMEs to conduct taxonomy alignment assessments.

Strengthening the regulatory environment for financial securitisation of renewable energy assets

- Developing the green securitisation market in Thailand in a prudent way requires establishing a favourable local regulatory environment by the Thai financial regulator and supervisor (the Bank of Thailand).
- Such regulation could address the risks inherent to securitisation transactions, for instance, by setting strict risk retention requirements, improving transparency and risk management processes, and enhancing underwriting policies.
- Facilitating the standardisation of contracts and enabling access to issuers' performance data of the underlying assets are key to facilitate due diligence and provide transparency to investors.

- The regulatory framework could also clarify eligibility criteria for renewable energy assets to be securitised, e.g. related to the project size, technology type, track record and revenue generation stability.
- The assessment and rating of renewable energy securitisation transactions by independent credit rating agencies would need to be facilitated. To do so, the financial regulator could collaborate with rating agencies and industry associations to develop rigorous methodologies for assessing creditworthiness.

Simplifying renewable energy licensing and permitting processes and requirements

- Processes and requirements for renewable energy licensing and permitting for small or community-owned installations (e.g. construction permits, grid connection authorisations, etc.) could be simplified and streamlined.
- The creation of a single-window service permitting, licensing and information portal (such as an online platform or one-stop service) could significantly reduce administrative barriers and streamline application procedures, especially for small players.

Improving consistency and harmonisation of grid connection codes

- The different existing grid connection codes could be harmonised and streamlined across the three responsible organisations (the transmission and distribution utilities), to ensure consistency to accommodate future increase in variable renewable energy.

Capacity building, data collection and awareness

Building capacity of MSMEs, financial institutions and technicians, and developing training programmes

- With grants, technical assistance and support of international development partners, access to information and capacity-building activities for both financial institutions and MSMEs could be increased, in particular by focusing on the following priorities:
 - Enhancing financial institution capacity on conducting climate-related disclosures, applying green standards for their lending and investment products, assessing portfolio alignment with the Thai taxonomy criteria as well as on assessing small-scale renewable energy business models
 - Increasing MSMEs awareness and knowledge on the latest renewable energy opportunities as well as improving their financial literacy
 - Increasing developers' knowledge on designing renewable energy products in line with the Thai taxonomy criteria
 - Developing financial institutions' and regulators' knowledge on securitisation and risk transfer for renewable energy assets, learning from international experience on green securitisation regulation
 - Providing adequate training to solar PV technicians and contractors for them to acquire adequate skills and updated knowledge on latest innovations as well as safety standards.

Implementing consumer awareness and education campaigns, and fostering community engagement

- With support from international development partners, awareness campaigns on small-scale, distributed and off-grid renewable technologies can address different target groups.
- Fostering community engagement and raising community awareness about the benefits of PAYG-enabled renewable energy model are necessary to encourage the up-take of these solutions.

- Community engagement activities could therefore promote the outreach and participation of women as well as youth in decision-making processes, to take leadership roles and get involved in project development.

Fostering data collection on small-scale renewable capacity and financing

- Increasing the availability of data on the expansion of small-scale energy capacity across different types of renewable energy would be beneficial.
- Financial institutions and investors would benefit from better access to risk and performance data of small-scale renewable projects (e.g. recovery rates, default risks).

Table 1. Financing for small-scale renewable power: Timing and implementers for key recommendations

| Key topic area | Recommendations | Timing | Leading agency | Implementers |
|---|--|--------|----------------|--|
| Financial support | Reviewing and strengthening existing public financial incentives to prioritise the acceleration of small-scale and community-based renewable energy models | S-T | DEDE | DEDE and MOF |
| | Improving conditions of green loan programmes for MSMEs | S-T | DEDE | DEDE, FIs and ESCOs |
| | Developing aggregation and securitisation models for small-scale renewables | S-T | DEDE | DEDE, FIs, development partners, ESCOs |
| | Providing financial support to PAYG models to expand off-grid RE | S-T | MOEN | MOEN, ESCOs, DFIs, DEDE, electricity authorities and development partners |
| | Piloting a credit guarantee scheme for small-scale renewable energy projects | M-T | DEDE | DEDE, TCG, DFIs, commercial banks, ESCOs and development partners |
| Policy, regulation and governance | Strengthening policy planning and setting region-specific targets on small-scale renewable energy over the near- and long-term | S-T | DEDE | DEDE |
| | Enhancing energy policy predictability | S-T | MOEN | DEDE and EPPO |
| | Encouraging financial institutions to assess and disclose taxonomy alignment of their portfolios | S-T | BOT | BOT, SEC and relevant ministries (MONRE, MOF and MOEN) |
| | Simplifying renewable energy licensing and permitting processes and requirements | S-T | ERC | ERC, MOEN, EGAT, MEA and PEA |
| | Improving consistency and harmonisation of grid codes and regulations | M-T | ERC | ERC, EGAT, MEA and PEA |
| | Strengthening the regulatory environment for financial securitisation of renewable energy assets | M-T | BOT | BOT, MOF and MOEN |
| Capacity building, data collection and awareness | Building capacity of MSMEs, financial institutions and technicians and developing training programmes | S-T | DEDE | DEDE, TPQI, COE, DSD, academia, research centres, FIs, industry associations, ESCOs and development partners |
| | Implementing consumer awareness and education campaigns and fostering community engagement | S-T | DEDE | DEDE, academia, research centres, ESCOs, CSOs and development partners |
| | Fostering data collection on small-scale renewable capacity and financing | M-T | DEDE | DEDE, utilities, business associations and ESCOs |

Note: BOT = Bank of Thailand; COE = Council of Engineers Thailand; CSOs = civil society organisations; DEDE = Department of Alternative Energy Development and Efficiency of the Ministry of Energy; DFIs = development finance institutions; DSD = Department of Skill Development; EGAT = Electricity Generating Authority of Thailand; ERC = Energy Regulatory Commission of Thailand; ESCOs = Energy Service Companies; FIs = financial institutions; MEA = Metropolitan Electricity Authority; MOEN = Ministry of Energy; MOF = Ministry of Finance; MONRE = Ministry of Natural Resources and Environment; PEA = Provincial Electricity Authority; SEC = Securities and Exchange Commission; TCG = Thai Credit Guarantee Corporation and TPQI = Thailand Professional Qualification Institute.

Note: S-T = short-term; M-T = medium-term

Source: Authors

Unlocking finance and investment for energy efficient buildings and cooling

Thailand is one of the leading energy efficiency markets in Southeast Asia thanks to the early introduction and public support for financing schemes such as the Thai Energy Efficiency Revolving Fund (EERF). Thailand also has a vibrant private energy service companies (ESCOs) market, although it is still nascent and requires further support to achieve greater scale.

Energy intensity in Thailand decreased from Thai Baht (THB) 8.54 toe/million (0.27 USD) in 2010 to THB 7.6 toe/million (USD 0.21) in 2023, by 12% (DEDE, 2023^[2]). Improving the energy efficiency of cooling applications of Thailand's building stock is a critical priority. The building sector represented on average approximately 25% of the total electricity consumed in Thailand in 2019 and cooling applications make up for over half of the Thai commercial building sector's energy consumption (Chumnanvanichkul, Chirapongsananurak and Hoonchareon, 2019^[3]). Buildings in Thailand and in other countries of Southeast Asia have been characterised by high cooling demand. In residential buildings alone, the electricity use share of air conditioning (AC) systems is about a quarter of the total. Space cooling electricity demand for large-scale non-residential buildings such as for public and commercial uses is similarly high and relies on equipment with average energy efficiency. Given the country's strategic regional importance as a commercial and manufacturing hub and tourism destination, combined with expected population growth, increasing urbanisation and rising temperatures, electricity demand for cooling will grow, thereby highlighting the importance of scaling up investment in energy efficiency buildings and cooling solutions.

The Government of Thailand is committed to accelerate finance and investment in energy efficiency projects in the Thai building sector and has put in place several supportive policies comprising government regulations, financial incentives and awareness-raising initiatives. This Roadmap provides a set of recommendations to further support Thailand's efforts to mobilise financing for energy efficient buildings and cooling, addressing three main areas: (i) financial support; (ii) policy, regulation and governance; and (iii) capacity building, data collection and awareness-raising. It should be noted that several of the following recommendations can be applied as well to promote energy efficiency across sectors. Table 2 below provides an indication of the tentative timing and potential actors involved in the implementation of the recommended measures.

Financial support

Maintaining consistent public support to promote the ESCO market

- Besides ensuring that market regulations and accounting rules allow for ESCO operations in-country and particularly with regards to their service offerings in the commercial and public buildings sector, the operation of ESCOs can be encouraged with dedicated financial incentives, training programmes as well as the accreditation and certification of qualified ESCOs.
- Favourable financing conditions or de-risking instruments like energy savings insurance models or credit guarantees for ESCOs can help improve access to financing, including for the implementation of energy efficiency measures and small-scale renewable power in large-scale commercial and public buildings.

Conducting ex-post evaluations of the Energy Efficiency Revolving Fund and the ESCO Fund

- Conducting ex-post evaluations of the Energy Efficiency Revolving Fund (EERF) and the ESCO Revolving Fund would allow for the proper assessment of results achieved through these funds over the years of implementation and identify the strengths and weaknesses of these mechanisms, the achieved impact on Thailand's energy efficiency market and remaining gaps.
- The evidence produced by such evaluations could then be used to inform decision-making on the need for future public funding and interventions in the energy efficiency domain.

Establishing a bulk procurement model for energy-efficient cooling appliances

- The government could consider establishing a bulk procurement scheme for energy-efficient cooling appliances. Concessional financing from the government and international development finance providers can cover the upfront costs of the scheme and mobilise investment from commercial sources.

- Building on the existing but still nascent ESCO market in Thailand, a public-private aggregator or Super ESCO with a robust business model could be established to take on the investment risks and costs for bulk procurement, co-ordinate demand and achieve economies of scale, thus reducing prices.

Implementing an Energy Savings Insurance (ESI) model in Thailand

- Piloting an Energy Savings Insurance (ESI) model in Thailand could promote the energy efficiency market and unlock Thai ESCOs' potential. When piloting ESI models, Thailand could benefit from the availability of templates, methodologies for standard performance contracts, project investment analysis and verification tools developed in other markets.
- Concessionality could be incorporated into ESI credit lines, thanks to concessional financing and grants extended by international development partners. These concessional elements enable commercial financial institutions to offer preferential financing terms to MSMEs or ESCOs at either longer payback periods or lower rates than available in the commercial market.
- ESI models usually targets MSMEs and aim to help them invest in small-scale energy efficiency projects. For example, ESI models in Thailand could incentivise MSME investment in acquiring energy-efficient appliances such as lighting, Heating Ventilation and Air Conditioning (HVAC) systems, refrigerators as compressed air systems in industrial processes. An enabling insurance regulatory environment as well as a holistic demand creation strategy are necessary for the take-up of ESI models.

Creating an on-bill financing programme for energy-efficient cooling appliances

- The government and utilities could contribute to expanding the uptake of energy efficient cooling appliances and equipment in the building sector by creating an on-bill financing (OBF) programme, enabling utility customers to acquire energy efficiency equipment and to pay for it over time through their monthly utility bills.
- For the OBF programme to be successful, adequate investments in consumer awareness shall be planned. Moreover, to ensure that households of all income levels can access OBF loans, financial incentives might be required, such as preferential interest rates for low-income households.

Fostering issuances of green bonds in the building sector

- Financial support for green building certification and green bond verification costs can encourage the up-take of this instrument, especially for MSMEs that might not have sufficient resources to pay for certification and verification services.
- Clear criteria on which types of buildings are eligible to be financed through proceeds of green bonds, in line with green building standards, will facilitate issuance in this sector. Eligibility criteria of projects to be financed through green bond proceeds could be anchored to the Thai taxonomy criteria (ADB, 2022^[41]).

Policy, regulation and governance

Incrementally increasing stringency of minimum energy performance standards and expanding AC labelling to large commercial buildings.

- The scope and stringency of minimum energy performance standards for buildings as well as for appliances (such as air conditioners) could be gradually and periodically increased, to reflect technological advancements and best practices in energy efficiency.
- Green building certifications could also be regularly updated to reflect the latest performance standards.

- AC labelling could be expanded to cover large commercial systems to use higher efficiency systems and labelling implementation could be encouraged.

Setting up an institutional co-ordination scheme and revising roles and responsibilities of implementing agencies

- An inter-agency task force could be established to improve co-ordination of the different responsible agencies and oversee enforcement and implementation of energy efficiency standards.

Strengthening the policy framework for district cooling

- As demand for district cooling projects is expected to increase, developing District Cooling Guidelines could be developed and disseminated to national, province and district development authorities, developers and investors, to clarify regulatory expectations.
- Integrating stringent energy efficiency standards and encouraging the utilisation of renewable energy sources, such as heat pumps, could be encouraged to enhance the overall sustainability and performance of district cooling systems.

Developing an Energy Efficient Technology List (EETL) and collaborating with financial institutions to provide financial incentives to the listed technologies

- The government could consider developing a high-performing Energy Efficient Technology List (EETL), with qualified appliances, installers and solution providers that have been pre-approved as eligible for financing from partnering financial institutions.
- This tool could be made available through an online platform which could offer a shopping-style platform connecting vendors of best-in-class green technologies with businesses and homeowners. Performance requirements for technologies and vendors would be based and assessed against the EETL.

Capacity building, data collection and awareness

Establishing capacity building and training programmes for financial institutions and ESCOs

With support of international development partners, tailored capacity building programmes could be established, focusing on the following priorities:

- Training engineers and architects with latest green building design techniques and standards, including by upgrading university curricula
- Training monitoring and verification professionals (e.g. energy auditors)
- Educating and train financial institutions to increase their knowledge and familiarity with energy efficiency projects
- Strengthening measurement and verification (M&V) skills to assess energy savings
- Enhancing institutional capability of agencies responsible for the design, implementation and monitoring of energy efficiency policies.

Implementing consumer awareness and education campaigns for efficient buildings and cooling

- With support from international development partners, awareness campaigns on energy-efficient buildings and cooling can be promoted, to focus not only on spreading knowledge on the latest technologies and regulatory changes and standards, but also on the latest developments in terms of financial instruments, both public and private.

Fostering data collection on energy savings of energy-efficient buildings and cooling systems

- More and better data on the performance, cost and energy savings of energy efficient buildings and cooling appliances can help inform financing and investment decisions as well as policy design.
- Collecting and publishing data in aggregated form in publicly available dashboards can help to strengthen market confidence in energy efficiency projects.

Table 2. Financing for energy-efficient cooling in buildings: Timing and implementers for key recommendations

| Key topic area | Recommendations | Timing | Leading agency | Implementers |
|---|---|--------|----------------|---|
| Financing | Piloting on-bill financing and Energy savings insurance (ESI) | S-T | DEDE | DEDE, utilities, FIs, ESCOs and development partners |
| | Establishing a bulk procurement model for energy-efficient cooling appliances | S-T | DEDE | DEDE, utilities, provincial authorities, ESCOs and development partners |
| | Conducting ex-post evaluations of the Energy Efficiency Revolving Fund and the ESCO Fund | S-T | DEDE | DEDE and independent evaluators |
| | Maintaining consistent public support to promote the ESCO market | M-T | DEDE | DEDE, ESCOs and FIs |
| | Fostering the uptake of green bonds in the building sector | M-T | DEDE | DEDE, MOF, SEC and FIs |
| Policy, regulation and governance | Incrementally increasing stringency of minimum energy performance standards and expanding AC labelling to large commercial buildings. | S-T | EGAT and DEDE | EGAT, DEDE, MOEN, TISI, research centres and academia |
| | Setting up an institutional co-ordination scheme and revising roles and responsibilities of energy efficiency standards implementing agencies | S-T | MOEN | MONRE, MOF, MOEN and MOIN |
| | Strengthening the regulatory framework for district cooling | M-T | DEDE | DEDE and local authorities |
| | Developing an Energy Efficient Technology List (EETL) and collaborating with financial institutions to provide financial incentives to the listed technologies and providers. | M-T | DEDE | DEDE and financial institutions |
| Capacity building, data collection and awareness-raising | Establishing capacity building and training programmes on energy efficiency for the building sector | M-T | DEDE | DEDE, TPQI, COE, DSD, academia, research centres, business associations, ESCOs and development partners |
| | Increasing consumer awareness campaigns for efficient buildings and cooling | M-T | DEDE | DEDE, academia, research centres, business associations, ESCOs and development partners |
| | Fostering data collection on energy savings of energy-efficient buildings and cooling systems | M-T | DEDE | DEDE, business associations and ESCOs |

Note: COE = Council of Engineers Thailand; CSOs = civil society organisations; DEDE = Department of Alternative Energy Development and Efficiency of the Ministry of Energy; DFIs = development finance institutions; DSD = Department of Skill Development; EGAT = Electricity Generating Authority of Thailand; ESCO = Energy Service Companies; FIs = financial institutions; MOEN = Ministry of Energy; MOF = Ministry of Finance; MOIN = Ministry of Industry; MONRE = Ministry of Natural Resources and Environment; SEC = Securities and Exchange Commission; and TPQI = Thailand Professional Qualification Institute.

Note: S-T = short-term; M-T = medium-term

Source: Authors

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Notes

¹ Colombia, Egypt, India, Indonesia, the Philippines, South Africa, Thailand and Viet Nam. Please visit [Clean Energy Finance and Investment Mobilisation - OECD](#) for more information.

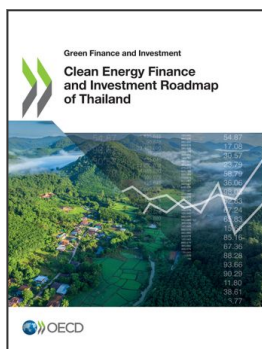
² In the past, the same model has been applied as part of the following studies: (i) Financing Thailand’s Climate Actions in NDC and NAP under GIZ’s Thai-German Climate Programme (2020); (ii) Ambition to Action’s Domestic Expenditure and Employment Impacts of Power Sector Development in Thailand (A2A, 2019); and (iii) Affordable and Secure Energy for Southeast Asia (CASE) on *Towards a collective vision of Thai energy transition: National long-term scenarios and socioeconomic implications* (2022).

³ Further details on the stakeholder consultation workshops can be found at: [Clean energy finance and investment roadmap - OECD](#).

⁴ The recommendations and suggested actions to incentivise financing for small-scale renewable energy are outlined in the “Roadmap Action Plan” below and further detailed at the end of Chapter 3.

⁵ The recommendations and suggested actions to unlock financing for energy efficient buildings and cooling are outlined in the “Roadmap Action Plan” below and further detailed at the end of Chapter 4.

⁶ In the context of this Roadmap, small-scale renewable power refers to power generation by renewable energy sources with a total capacity of less than 1 000 kW. The threshold represents the amount below which a business is exempted from the requirement to apply for an energy business license as per the Royal Decree following the Energy Industry Act B.E.2550 (Energy Regulatory Commission of Thailand, 2009^[5]). The full range of small-scale, low-carbon energy solutions in industry, agriculture, transport and other sectors were not considered within the scope of the report. The report mainly considered distributed renewable energy technologies such as small-scale solar PV, solar home systems and mini grids, which provide clean energy to households, industry and commercial users, independently from centralised systems.



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