International Experiences on Legal Regulations Related to Auction of Renewable Energy Projects

Project “Legal Support to the Development of Power Generation Projects (Viet Nam)”
This Report is developed with the purpose of studying the auction mechanism of renewable energy projects that have been applied in some other countries, recommendations of international organizations related to the auction mechanism of renewable energy projects to provide useful information on international experiences in auction of renewable energy projects to Viet Nam's policy-making agencies.

The Authors opt to analyze the legal provisions related to the auction mechanism for renewable energy projects of three countries/regions, namely Germany, Japan, the Latin America and Caribbean, and especially the policy recommendations of IRENA in designing the auction mechanism for renewable energy projects.

The Report consists of five major parts: (i) Recommendations by IRENA; (ii) Regulation on auction for power projects development of Germany; (iii) Regulation on auction of renewable energy projects in Japan; (iv) Experiences in auction of power project development in Latin America and the Caribbean; and (v) Conclusions and recommendations.
1. RECOMMENDATIONS BY INTERNATIONAL RENEWABLE ENERGY AGENCY (IRENA)
Advantages of the renewable energy project auction design:
- Flexibility;
- Potential for real electricity price discovery;
- Ability to ensure greater certainty in price, quantity, the predictability of renewable energy supply;
- Capability to guarantee commitments and transparency in the power purchase and sale process.

Limitations/risks of the bidding mechanism:
- High transaction costs or risk of underbidding;
- Limiting the participation of small-scale developers (for being not able to meet the bidder’s qualification requirement);
- Delays and underbuilding.
1. Auction demand: pay attention to allocating between products, for example, allocation according to different renewable energy technologies, project size, or geographical location; choose an appropriate method of determining the volume of products.

2. Qualification requirements: consider five factors, including (i) Reputation of the bidders; (ii) Technology; (iii) Production site selection; (iv) Ability to secure grid access; and (v) Ability to promote local socio-economic development.

3. Winner selection process: define the bidding procedure, minimum competition requirements, winner selection criteria, and the contractual pricing mechanism.

4. Sellers’ liabilities: consider the bidder's level of commitment to contract signing, the ability to ensure contract schedule, the issue of remuneration profile and financial risks, the degree of bidder's commitment to quantity liabilities, handling the case of violation of the bidder's commitment related to quantity, penalties related to the bidder’s underbuilding and delay, assigning liabilities for transmission delays.
IRENA's studies also provide specific recommendations in the auction design, the most important of which is **there should be a balance among the different design elements of the auction design.**

- When determining the demand of the power purchaser, the balance between costs and other specific goals should be considered.
- When determining qualification requirements, it is necessary to strike a balance between reducing entry barriers to encourage competition and underbuilding.
- When determining a winner selection process, a simple or complex process can be applied to achieve certain objectives.
- When determining sellers’ liabilities, it is necessary to properly allocate risks among the bidder, the auctioneer, and the electricity purchaser.

IRENA also makes other recommendations such as **ensuring transparency to increase the bidder’s confidence and tailoring the auction design to the specific context.**
2. REGULATIONS ON AUCTION OF POWER PROJECT DEVELOPMENT IN GERMANY
The Renewable Energy Sources Act 2017 of the Federal Republic of Germany (EEG 2017) is promulgated to create a paradigm shift in renewable energy funding towards more competition and greater cost efficiency, support to reduce the deployment costs of wind energy projects and solar energy projects rapidly.

Contents of the auction for the development of power projects in EEG 2017 are specified in Part 3, Chapter 3 and divided into 5 Divisions by type of renewable energy, including:
- Division 1 - General auction regulations;
- Division 2 - Auctions for onshore wind energy installations;
- Division 3 - Auctions for solar energy installations;
- Division 4 - Auctions for biomass energy installations;
- Division 5 - Technology-neutral auctions.

There is no separate law on auction for renewable energy projects in Germany, contents are stipulated in a general law on renewable energy.

The structure of EEG 2017 is logical and coherent, the regulations are arranged in the appropriate order, from general contents (regulations on auction applicable to all types of energy) to specific regulations on auctions for each type of energy (for example, there are separate sections for onshore wind energy, solar energy, biomass energy).
In Section 1 - **General auction regulations**, EEG 2017 stipulates important contents such as the volume of auctions (of each type of energy in each period), contents and the procedure of auction announcement, requirements for bids, auction procedure, the submission of securities, award procedure, disqualification of bids, the announcement of the awards and value to be applied, cancellation of awards.

**The Federal Network Agency** is the authority to conduct activities related to auctions (except for technology-neutral auctions) such as issuing notices on auctions, setting out principles on bidding forms, selecting winning bidders, or declaring the award cancellation of awards.

**The general auction process in Germany according to EEG 2017**

- **01** The Federal Network Agency announces the auctions.
- **02** Bidders submit securities to the Federal Network Agency before the bid submission deadline.
- **03** Bidders submit bids before the deadlines announced by the Federal Network Agency.
- **04** The Federal Network Agency evaluates bids and announces the awards.
Example:

**Onshore wind energy:**
- 2017: 800MW or 1000MW each; 3 times/year
- 2018-2019: 700MW each; 4 times/year
- From 2020: 1000MW or 950MW each; 3 times/year

**Solar energy:**
- 200MW each; 3 times/year

**Biomass (once a year):**
- 2017-2019: 150MW each
- 2020-2022: 200MW each
- From 2023: Federal Government shall present a proposal for the annual volume

**Offshore wind energy:** FNA determines the auction volume pursuant to the Offshore Wind Energy Act

**Joint auctions for onshore wind energy and solar installations** in 2028-2020: 400MW/year

**Innovation** in 2018-2020: 50MW/year
Bid sorting (the bids submitted are opened after the bid deadline):
- In the case of different bid values, bids are sorted in ascending order, starting with the bid with the lowest bid value.
  - If the bid value is the same, bids are sorted in ascending order by each bid quantity, beginning with the lowest bid quantity. If the bid values and the bid quantity of the bids are equal, the sequence shall be decided by lot.

Bid and bidder consideration:
- Disqualifying unqualified bids, e.g. not meeting general requirements (including format requirements) for bids; specific requirements for the respective form of energy; bidders do not pay/pay the full amount of auction fee/securities before bid deadline; bid value of the bid exceeds the maximum value; there is reason to suspect that the bidder is not planning any installation on the site indicated in the bid, such as an installation has already been commissioned on the site; etc.
- Disqualifying unqualified bidders, e.g. bidders submitted bids with false information/documents or colluded with other bidders on the bid values of the bids submitted in this or a previous auction; bidders have bid quantities of at least 2 previous auctions completely canceled, etc.

Example:

FNA cancels an award in certain cases, e.g. FNA withdraws/revokes the award pursuant to Administrative Procedure Act; awarded bidder returns his award.

FNA registers the information and documents related to awarded bidders; announces on its website information on bid deadline, form of energy, names of the awarded bidders, location of the installation, lowest and highest bid values, average award value weighted by quantity, etc.; informs the awarded bidders about the award and the value of the award.

Decides on the list of admissible bids in the order of sorted bids (after disqualifying unqualified bids/bidders) until the auction volume is secured.
EEG 2017 regulates specific regulations for each case of auctions (onshore wind energy, solar energy, and biomass energy), including specific regulations on bidding documents, how to calculate the amount of security, the maximum value, disqualification of bids, the payment to the awarded bidders, etc.

In the divisions on the auction for each energy, there are specific regulations that are only being applied to that energy.

Example:

- Onshore wind energy installations: EEG 2017 regulates special auctioning rules for citizens’ energy companies.
- Solar energy installations: EEG 2017 regulates the special precondition for awards for disadvantaged areas.
- Technology-neutral auctions: EEG 2017 regulates the joint auctions for onshore wind energy and solar energy installations; and innovation auctions, in which there is no restriction on types of renewable energy.
**Example:**

**ONSHORE WIND**

- General requirements for bids (Section 30)

  **Requirements** (approvals pursuant to the Federal Immission Control Act (approvals), the installations and the necessary data being notified to the register)

  **Data** (the numbers of the installations covered by the approval, the file number of the approvals of the installations issued, the approving authority and its address)

  **Documents** (self-declaration that the approval has been issued for himself, or the declaration of the holder of the relevant approval that the bidder is making the bid with the agreement of the approval holder, declaration by the holder of the approval that no valid award exists from previous auctions for installations for which the bid has been made)

**SEcurities**

- The bid quantity multiplied by 30 euros per kilowatt of capacity to be installed

**Maximum value**

- From 2018: The average of bid values of the highest bids awarded funding from the last three bid deadlines, increased by 8 percent

**Expiry of award**

- The award will expire if the installations have not been commissioned after 30 months from the date of announcement of the winning bid

- FNA shall make one extension to the expiry deadline based on application of bidders (submitted prior to the end of 30-month deadline) if a legal remedy from a third party has been filed against the approval following the submission of the bid awarded funding and this approval has received immediate enforceability by competent authority/a court. The extension shall be granted at most for the duration of the validity of the approval

**SOLAR**

- General requirements for bids (Section 30)

  **BIDS**

  - Installation site information (e.g., erected on/affixed to a building, noise barrier; on a construction used for other purposes; or on a site having the decision to adopt or amend the zoning plan)

  **Ground-mounted solar installations**

    - Declaration that bidders are owners of the site on which installations are erected or the approval of site owners

    - Bid capacity should not exceed 10 MW per bid

  **If solar installations installed on a construction used for other purposes or ground-mounted solar installations are erected on specific sites (e.g., sites having the decision to adopt or amend the zoning plan, sites converted to use for commercial, transport, residential, military purposes, sites owned by the Federal, etc.), bids must provide the installation approval of competent authorities (e.g., The approved decision on the establishment or amendment of the land-use plan)

**SECURITIES**

- Bid quantity multiplied by 50 euros per kW of capacity to be installed

**Maximum value**

- Before February 1, 2017: 8.91 cents per kWh

  - From February 1, 2017: Maximum value fall or rise each month in accordance with Section 49, subsection 1 to 4. (On the first day of February, May, August, and November, maximum value may reduce to 0.9% from the previous month and may increase/decrease further depending on the total installed capacity of solar installations in a year)

**Return and expiry of awards**

- Bidders may reject awards entirely or in part by giving FNA an unconditional declaration of rejection in a written form (or in electronic means if available)

- Bidders’ awards may be canceled if (i) Bidders have not fully paid the second security; (ii) Payment authorization has not been applied within 24 months after the award public announcement; or (iii) Application for issuing payment authorization has been rejected
3. REGULATION ON AUCTION OF POWER PROJECT DEVELOPMENT IN JAPAN
The use of renewable energy started to increase in Japan after the Japanese Government issued the *Act on Special Measures Concerning Procurement of Renewable Energy Electricity by Electric Utilities 2012* (Renewable Energy Law 2012), which took effect in 2016.

Similar to Germany, Japan has not issued a separate legal normative document on the *auction mechanism for renewable energy projects* but generally stipulates this content in a general Law on renewable energy (Renewable Energy Law 2012).

The auction mechanism of renewable energy projects focus on contents such as:

- Designation of classification of renewable energy power generation facilities following the bidding process;
- Bidding implementation guidelines;
- Submission of Renewable energy power generation business plan;
- Bidding process implementation;
- Procurement price and period pertaining to successful bidders;
- Certification/changes of Renewable energy power generation business plan;
- Notification of discontinuance of business, order for improvement, expiration/revocation of certification.
Example:

Renewable Energy Law 2012

METI DESIGNATES THE BIDDINGS
- Consulting relevant ministries and Procurement Price Calculation Committee
- Publishing the List of renewable energy projects
- Resorting the List of renewable energy projects to the Diet

BIDDING IMPLEMENTATION GUIDELINES
- Contents of the Guidelines includes: the classification of renewable energy, the power output of the facility subject to the bidding, qualification standards of bidder, etc.
- Factors should be considered when developing the Guidelines: quantity of electricity from renewable energy that is supplied, changes in the amount of expense required for developing power facility, the basic energy plan, etc.
- Consulting relevant ministries and Procurement Price Calculation Committee before publishing the Guidelines
- Publishing the Bidding Implementation Guidelines (the upper limit supply price is optional)

BIDDING PROCESS IMPLEMENTATION
- METI notify bidders having qualified/unqualified Plans to participate in the bidding
- Implementing the bidding process in accordance with the bidding implementation Guidelines
- Factors should be considered when select bidders: the supply price bidders offer; the power output bidders provide
- Special cases in bidding process
- METI notifies the successful bidders, make the bidding result public
- Bidders submit bidding fee. The fee must be considered on the actual cost
- The designated bidding body for METI

CERTIFICATION OF THE PLANS
- Subjects of application: (i) Persons participate in biddings under the Bidding implementation Guidelines (compulsory); (ii) Persons conduct business of supplying an electricity utility under the specific contract (optional)
- Subject is competent to receive and certificate the Plans: METI
- Contents of the Plans must contain the following information: Bidders' information; Contents, implementation period of power generation businesses; The places where the power generation facilities are installed, management method; etc.
- Plans must meet following conditions to certify by METI: The contents of the renewable energy power generation business conform to standards of METI; The expected renewable energy power generation business is proved to be implemented smoothly and with certainty; Successful bidders submit the Plans by the deadline, etc.
- METI consults relevant ministries before certifying the Plans
- METI publishes some information of the Plans in accordance with legal regulations
Bidding process according to Renewable Energy Law 2012

1. **METI designates the biddings**
2. **Bidders submit the Renewable energy plan to METI and the bidding fee**
3. **Qualifed bidders offer power output that they can supply and the supply price**
4. **METI evaluates bidders basing on ceiling price and the power output to be bid, announces the qualified bidders**

**METI develops the Bidding Implementation Guidelines**
- Consults relevant ministries and Procurement Price Calculation Committee
- Publishes the List of renewable energy projects and reports the List to the Diet

- Publishes the Bidding Implementation Guidelines
- Reports the Guidelines to the Diet (excepting: (i) The method for determining the procurement price based on bid); (ii) The procurement period for the classification of the renewable energy power generation facilities subjected to the bidding process)

**METI consults relevant ministries when evaluating the Plan (for biomass energy)**
- METI evaluates to choose qualified Plans and notifies bidders qualified/not qualified to participate in the bidding process
- Publishing selected information of Plans in accordance with regulations
Japan’s Renewable Energy Law 2012 follows 4 basic elements recommended by IRENA, including (i) Auction demand, (ii) Qualification requirement, (iii) Winner selection process, and (iv) Sellers’ liabilities.

The bidding process prescribed in Renewable Energy Law 2012 is strict and logical, promoting the responsibility of METI Minister and related ministries, and departments in the bidding process, ensuring public disclosure, and transparency, increasing accessibility and compliance for bidders through public lists and guidelines.

The electricity purchase price is a prerequisite and important criterion for selecting winners. Based on the set ceiling price, bidders will be selected if the selling price does not exceed the ceiling price in ascending order of the electricity price proposed by the bidders.
4. EXPERIENCES IN AUCTION OF POWER PROJECT DEVELOPMENT IN THE LATIN AMERICA AND CARIBBEAN
In general, the auction design in the Latin American and Caribbean countries is **not much different from the design recommended by IRENA**, especially in the following factors: (i) Auction demand, (ii) Qualification requirement, (iii) Winner selection process. In fact, Sellers’ liabilities (the fourth of the four elements recommended by IRENA) are clearly stated in the PPA.

A **recommended PPA template** for Latin America and the Caribbean countries includes the following groups of terms: (i) general terms, (ii) economic terms, (iii) technical, economic, environmental, and social obligations, and (iv) financing terms.

The **recommended PPA terms** for Latin America and the Caribbean countries **include a number of contents to fit the region context** (for example, the inflation rate and international equipment procurement). The competent authorities of Viet Nam can refer to the PPA template of this region in developing a PPA template that is applicable to the auction design in Viet Nam.
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Example:

Commencement: when the delivery of energy, capacity must begin

- Lead time: period between winning the auction and the commencement
- Longer lead time leads to greater risk
- - Existing power plants: time for administrative reasons related to auction adjudication process and signature of the contract
- - New project procurement auctions: time to be implemented projects that must be compatible with the time required for the entry into commercial operation of plants (e.g. time to obtain all technical and environmental permits)

Duration

Corresponds to the delivery period of the energy, capacity and starts at the commencement date

Long period to improve the investment attractiveness and facilitate cash-flow stability and predictability, reflect the capital intensity of the technology, the modality of the project financing, and the discount rate involved

Currency and Indexation

Requires the existence of indexing clauses linked to the dollar or national inflation indexes (use a single formula to index all the contracts procured in the auction, or to allow bidders to include the required indexation within their bid)

Construction timetable

Establishes main milestones that developers must meet to deliver contracted object on commencement date

Allows purchasers (and lenders) to monitor schedules and adopt measures to ensure energy or capacity (may monitor by an independent regulatory agency)

Option 1: is to set the contractual obligation according to a fixed annual amount of energy and capacity, thereby the off-taker and the generator bear deficits and a surplus of contractual energy

Option 2: is to set contractual obligations according to the seasonality of the generation, thereby the purchaser bears alone the risk of energy surplus or deficit and may buy or sell the contractual imbalance

Option 3: to set the contractual obligation according to the seasonality of the load, therefore, the seller bears the market risk and might conduct the installation of additional capacity without the contractual cover

Technical conditions to energy and capacity delivery

Indicates conditions of energy and capacity delivery and determines the liability of each party

Measurement, invoicing and billing

Sets the timeline for payment activities, deadlines, and conditions for challenging the values charged, thereby allocating risks and responsibilities in contracts (In the event of imbalances between the ideal and real dispatch, the seller must submit adjustment notes. The buyer, in turn, must pay the invoice within fifteen working days)

Penalties

Requires penalties applied for developers not complying with contracts (e.g. monetary fine, price rebate, termination of contracts). The economic effect of penalties should be high enough to dissuade the developers from intentionally choosing not to comply with the contract but, and should not be so excessive as to jeopardize the feasibility of projects
Policy makers should be aware of the advantages, limitations, and risks in conducting the auction of renewable energy projects to maximize the advantages and find solutions to address the limitations and minimize the risks of this design.

Policy objectives need to be clearly defined during the design of the auction mechanism to ensure the balance of 4 elements (i) Auction demand, (ii) Qualification requirement, (iii) Winner selection process, and (iv) Sellers’ liabilities.

The development of an auction mechanism should ensure that it is appropriate to the national context (especially from technical aspects such as the determination of energy needs or potential for technological development).

Attention should be paid to ensuring the transparency of the auction mechanism to increase the chance of successful application in Viet Nam.
Policy makers may consider developing a separate law on renewable energy, including the content of the auction mechanism similar to the model of Germany and Japan, or developing a new, separate document (for example, in the form of a decree guiding the Law on Electricity) stipulating the auction mechanism of renewable energy projects.

The document regulating the auction mechanism in Viet Nam can refer to the regulations of Germany - which are structured into a group of general regulations and a group of specific regulations for each type of renewable energy.

The responsibility and participation of the competent authorities, especially the consultation, and publicity in the bidding process according to Japanese regulations, can be a useful reference source for policy makers in the process of drafting legal documents.

If the proposed auction mechanism document stipulates the model of PPA with the winner, the drafting agencies can refer to the recommended PPA template for the Latin America and Caribbean region.
It is also noted that securing the necessary resources from the competent agencies and the entities responsible for organizing the auction is a particularly important factor in the auction preparation and implementation.

Finally, the Report on legal international experience should be considered together with the Report on technical international experience.
THANK YOU VERY MUCH!