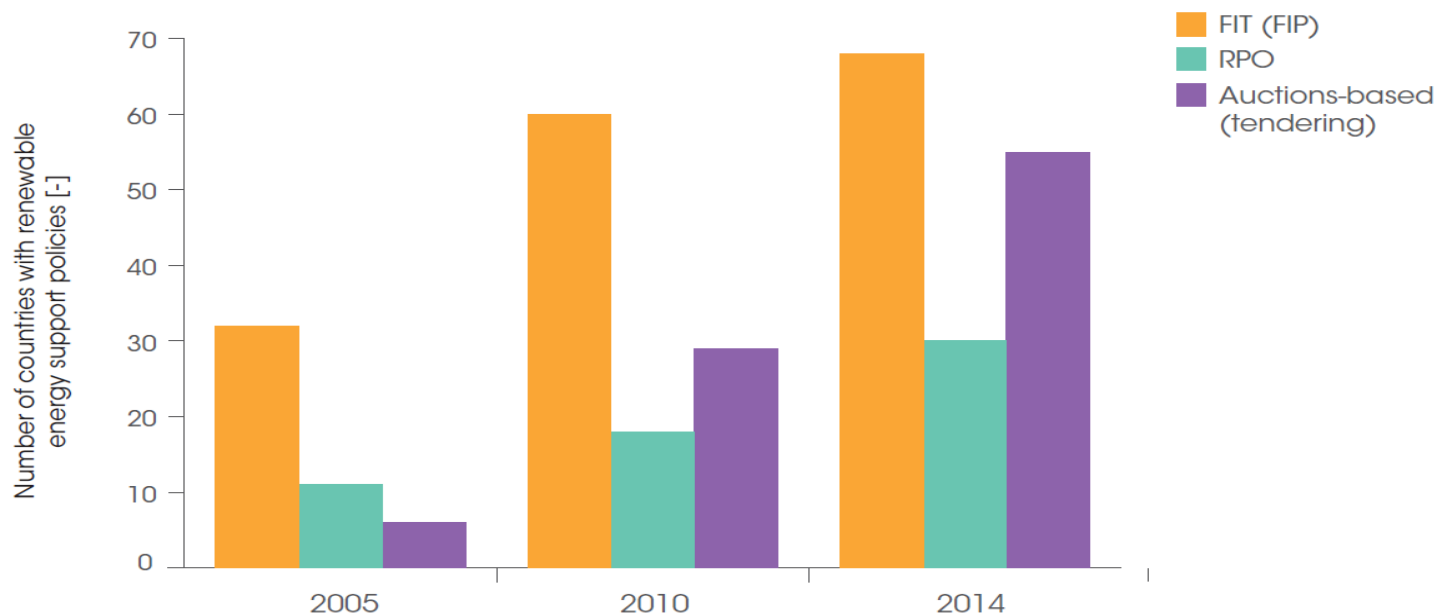


Renewable Energy Auctions: A Guide to Design



Renewable Energy Policies

Number of countries with renewable energy policies, by type



Moved from a feed-in tariff to auctions



Moved from auctions to a feed-in tariff

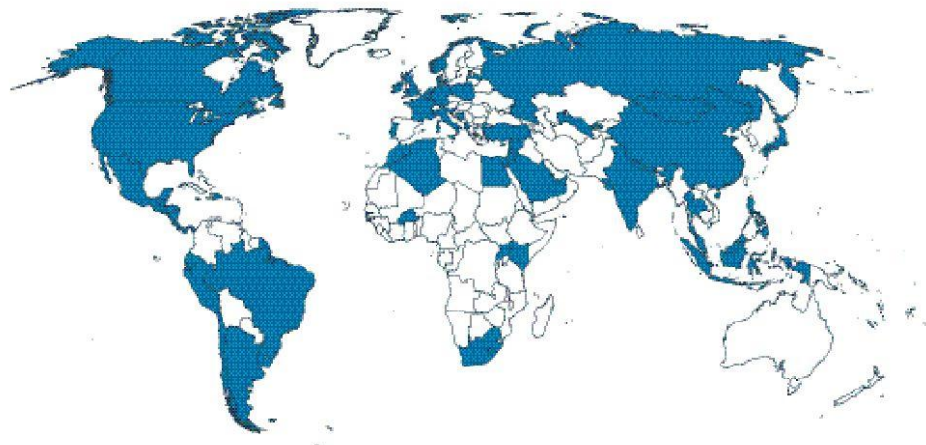
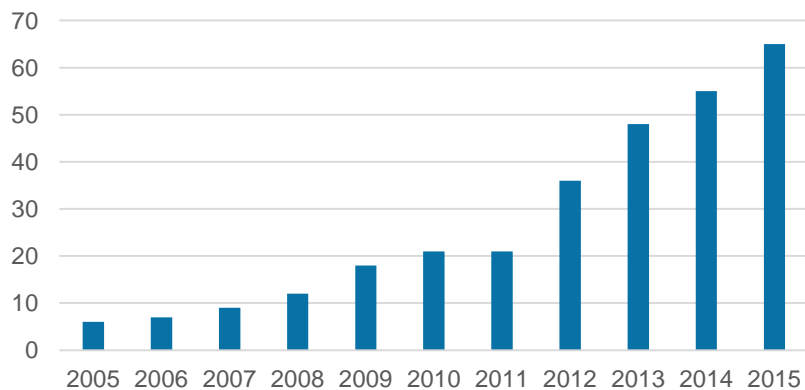


Implemented auctions and a feed-in tariff simultaneously

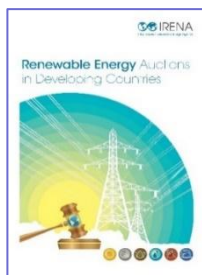
Renewable Energy Auctions

Auctions have increasingly been adopted to support renewable energy deployment

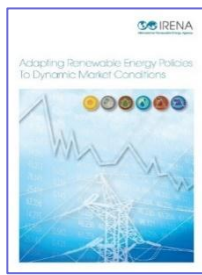
Number of countries that have adopted Renewable Energy Auctions



Based on REN21 Global Status Report (2005 to 2015)



2013



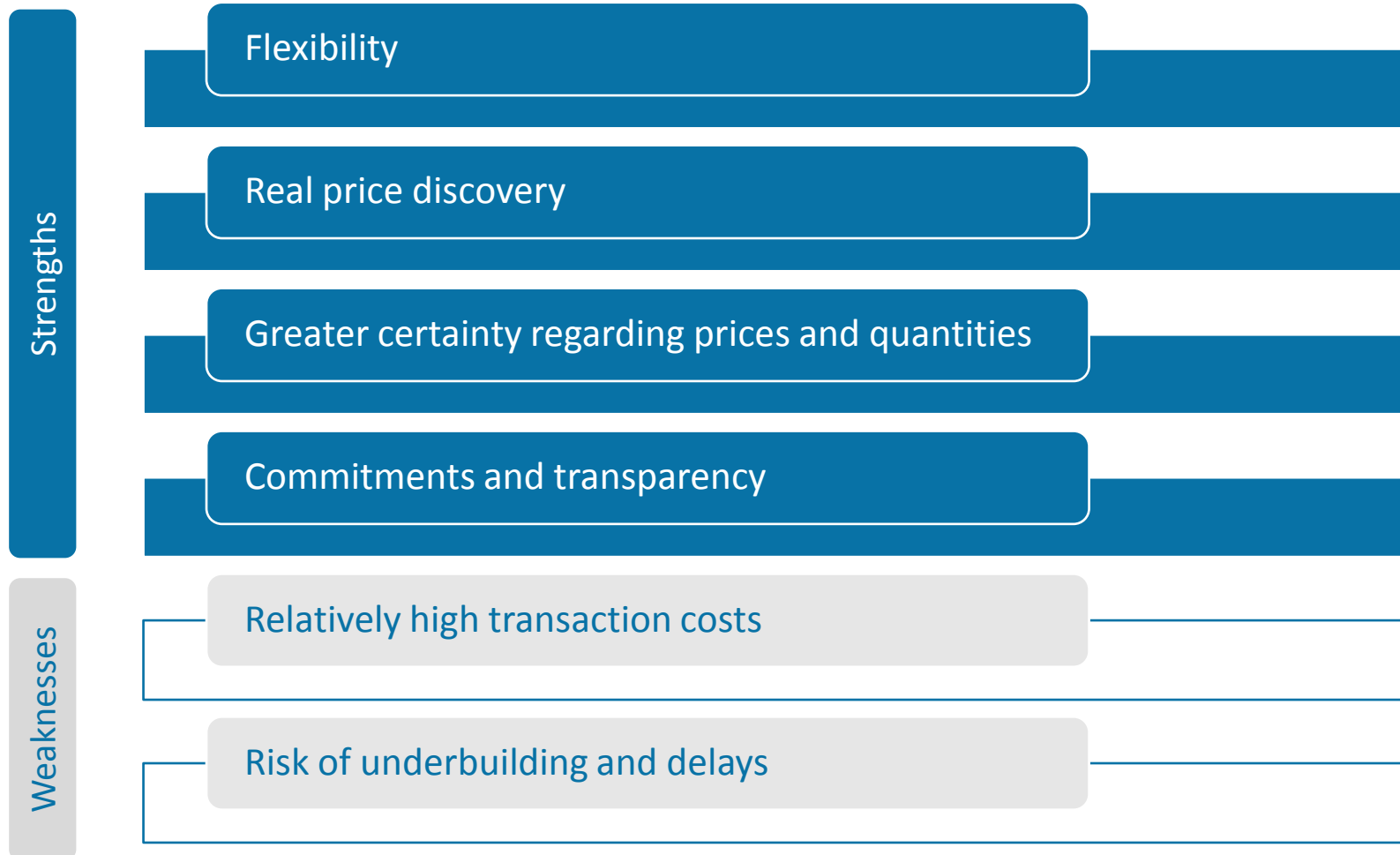
2014



2015



Strengths and weaknesses of Auctions



Auction design elements



Key considerations in designing and implementing auctions

Increasing competition for cost-efficiency

- Increased participation of bidders
- Prevention of collusion and price manipulation

Limiting participation to bidders who can meet goals

- Project delivery
- Deployment goals

Ensuring global and local socio-economic goals

- Qualification requirements
- Multi-criteria selection

Increasing competition for cost-efficiency

Diversity of technology



- Implementing a technology-neutral auction can enable the development of least-cost technologies



- Implementing a technology-specific auction can fulfil deployment goals

Volume auctioned



- Auctioning a large volume at once allows for rapid capacity addition but might result in lack of competition

Increasing competition for cost-efficiency (cont'd)

Level of participation of bidders

- Reducing entry barriers:
 - Requirements and compliance rules commensurate with market conditions
 - Resource assessments, feasibility studies and permits provided to bidders
 - Streamlined administrative procedure and one-stop-shop
 - Fair and transparent rules



- Reducing the perception of risk
 - Demand-side responsibilities
 - Increased certainty and regularity of auction rounds
 - Mitigated financial risk

Prevention of collusion and price manipulation

- Selecting an appropriate bidding procedure may prevent collusion
- Introducing a ceiling price can limit the price



Limiting participation to bidders who can deliver the project

Reputation requirements



- Proof that bidders have the financial, technical and legal capability to develop the project to prevent speculative bidding



- Proof that bidders have the past experience and proven track record to help ensure successful delivery

Compliance rules



- Bid bonds and project completion bonds to help ensure successful and timely delivery



- Penalties for delay and underbuilding to help ensure successful and timely delivery



- Penalties for under (or over) performance to help prevent under (or over) producing

Limiting participation to bidders who can meet deployment goals

Technological requirements



- Technologies that can compete to align with national energy policy
- Equipment specifications to ensure quality

Project size requirements



- Minimum size to enable economies of scale and reduce transaction costs
- Maximum size to encourage small and/or new players

Location constraints



- Achieve geographic diversification and avoid competition with other sectors
- Ensure proximity to the grid

Grid access requirements

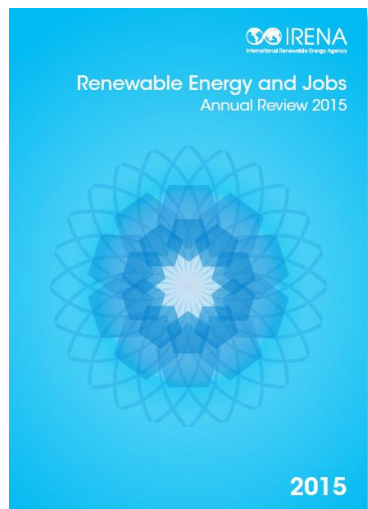
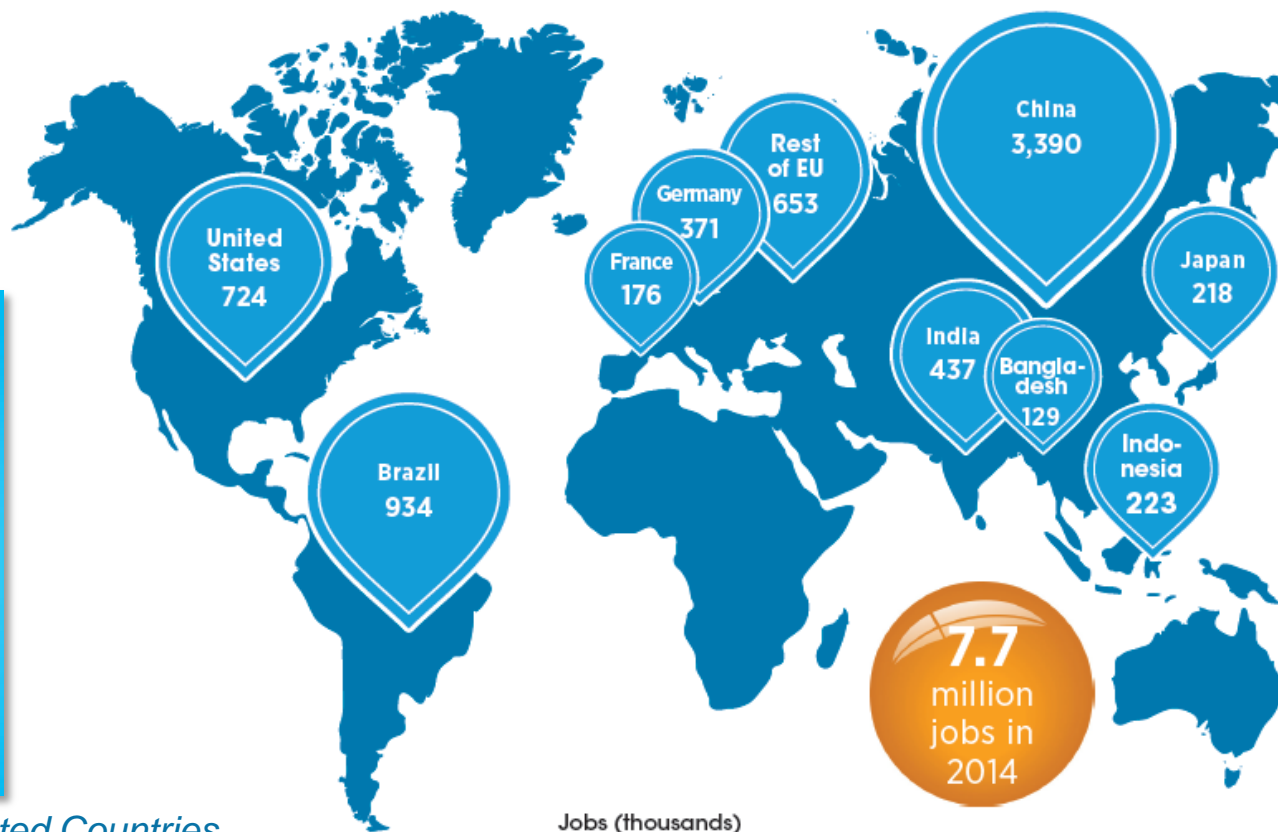


- Ensure feasibility of integrating renewable electricity into the grid
- Avoid delays due to grid expansion

Ensuring global and local goals

Socio-economic impacts

- Qualification requirements
- Multi criteria selection



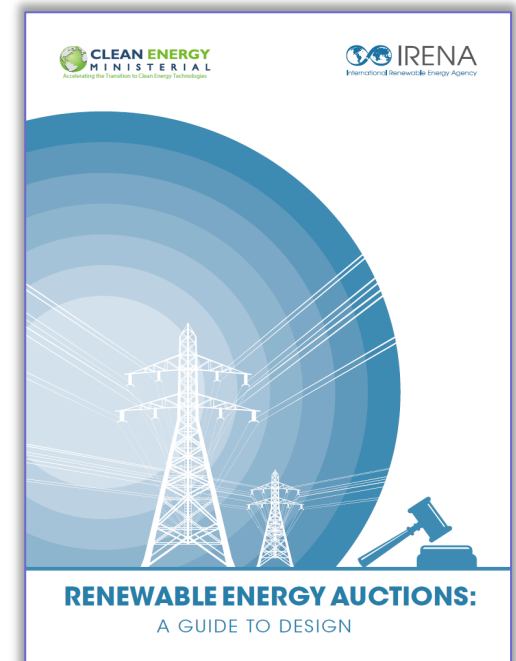
Employment in Selected Countries

Jobs (thousands)

Conclusion

While designing auctions, policy makers may want to consider the following recommendations:

- Account for the trade-offs between different design elements
- Different policy options to support deployment are not mutually exclusive.
- Tailor the design of auctions to the specific context





IRENA

International Renewable Energy Agency

Thank you!