



Bureau of
Energy Resources,
United States
Department of State



National
Association of
Regulatory
Utility
Commissioners

LMI Workshop on Regulation and Regional Coordination Bangkok - Thailand

Tariffs: Incentive Schemes to Promote Renewables

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Renewable Portfolio

Obligate utilities to use RE generated electricity to a specified target. RE technologies include:

- **Wind;**
- **Solar PV;**
- **Biomass;**
- **Medium and small hydro (~1MW); and**
- **Geothermal.**



How FIT Works

- People decide they want to make RE priority;
- Governments sets long term price for all who wish to supply RE;
- Utilities allow grid access and pay the set price for long term contract (10 – 20 years);
- Incremental cost are passed on to consumers;
- RE systems are built and reflect RET cost; and
- Prices are regularly reviewed for new projects.



Why FIT Works 1

- **FIT rewards actual production;**
- **No bidding and long term contracts minimize investment and financial risk;**
- **Encourage small, medium or large systems;**
- **Encourage local or community ownership;**

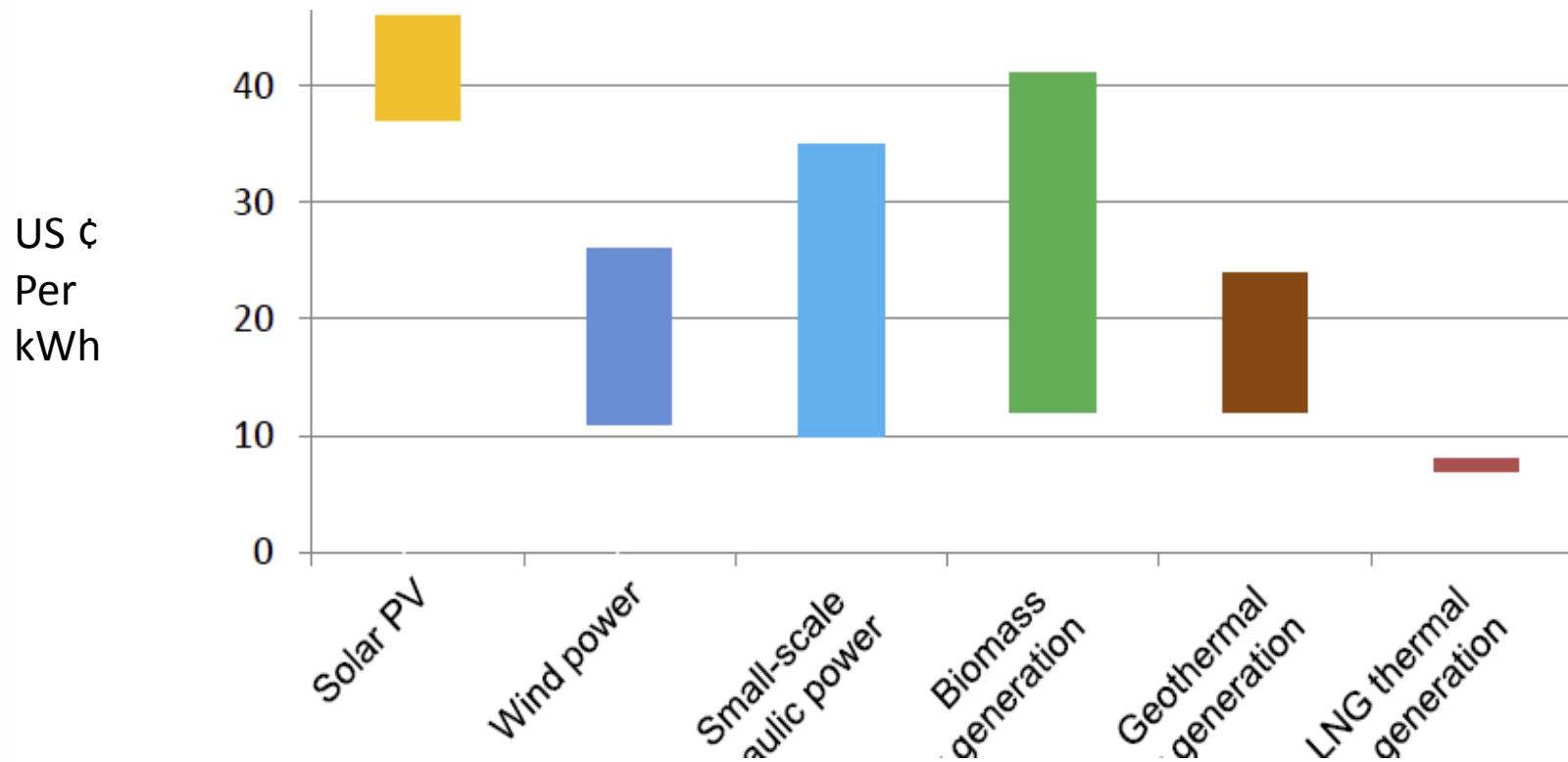


Why FIT Works 2

- Encourages to use most efficient RET, driving down the cost;
- Although prices rise in the short term, in the longer term they are expected to stabilize; and
- For producers, income offsets price increase.



Cost of Generating RE Electricity



Renewables in Asia Pacific Region

Disparate but Converging Policies and Regulatory Frameworks

Setting targets and defining country specific combination of policy and regulatory instruments

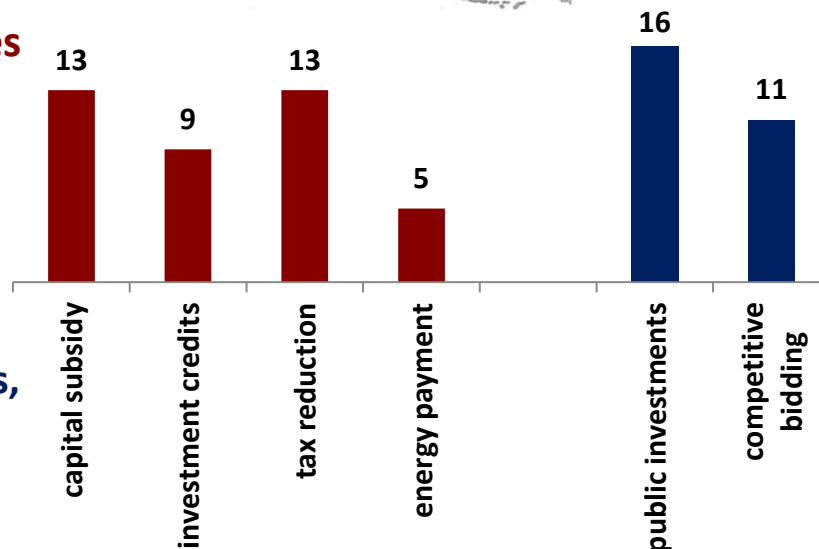
Common aspirations

- Ensure sustainability
- Enhance energy security
- Increase RE share in supply mix
- Universal access to energy services

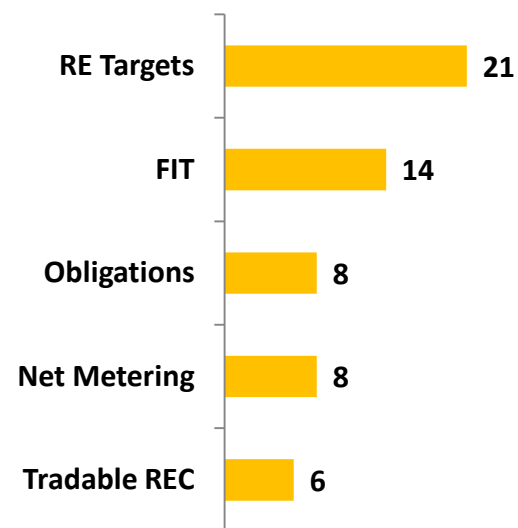


Fiscal Incentives
(number of countries,
Asia-Pacific).

Source: BNERI



Regulatory Policies and Targets
(number of countries, Asia-Pacific)



As of early 2013, 71 countries and 28 states/provinces adopted some form of FIT policies

Public Financing
(number of countries,
Asia-Pacific)

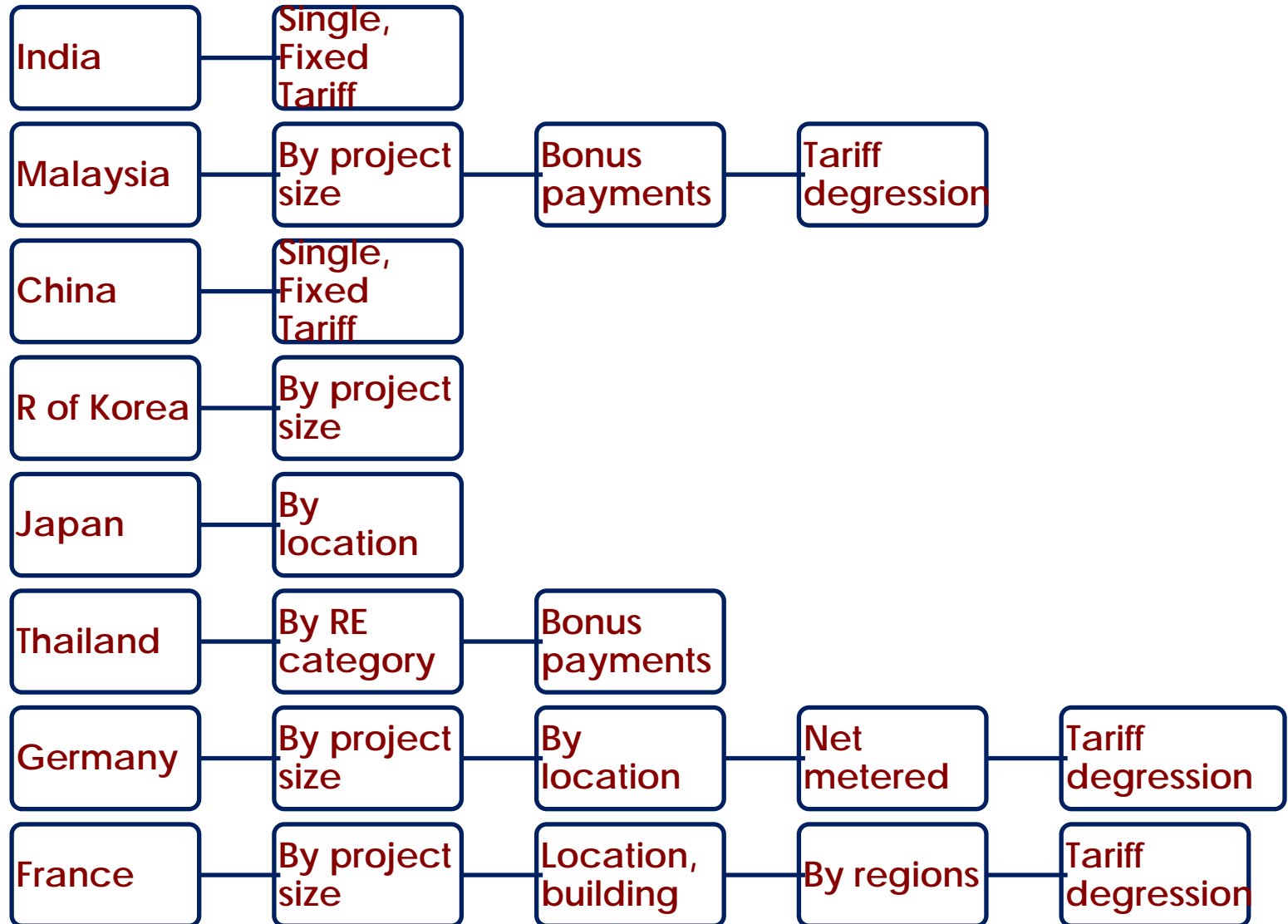


FIT Policy Elements

- **Provide interconnection;**
- **Utility required to buy;**
- **Utility gives priority to RE Electricity on the T&D system;**
- **Long term contract (10 – 20 years); and**
- **Specified pricing to be paid to RE generator.**

FIT design options in Asia/Pacific Region

Solar PV Projects (Source: BNERI)





Other Models

- Net metering; and
- Net billing.



Net Metering

- RE facility owner is allowed to use generation whenever needed, instead of when it is generated;
- The RE facility receives retail credit for the portion of electricity it generates;
- Smart meters accurately record in both directions;
- Net metering laws may involve monthly roll over of kWh credits; and
- Utility is forced to add more cost to other customers, as the RE generator does not pay the fixed cost portion of the system cost.



Net Billing

- **Allowing the RE generator to receive avoided cost of the excess power they produce and sell to the utility;**
- **The avoided cost can be either long run marginal cost or the short run marginal cost.**
- **The policy can mandate a premium over the avoided cost for RE projects.**



Standard Offer Contract

- **Facility be licensed to connect;**
- **Residential customers max at 10 kW.**
- **Commercial customers max at 100 kW.**
- **Total installed RE capacity on any distribution feeder may be limited.**

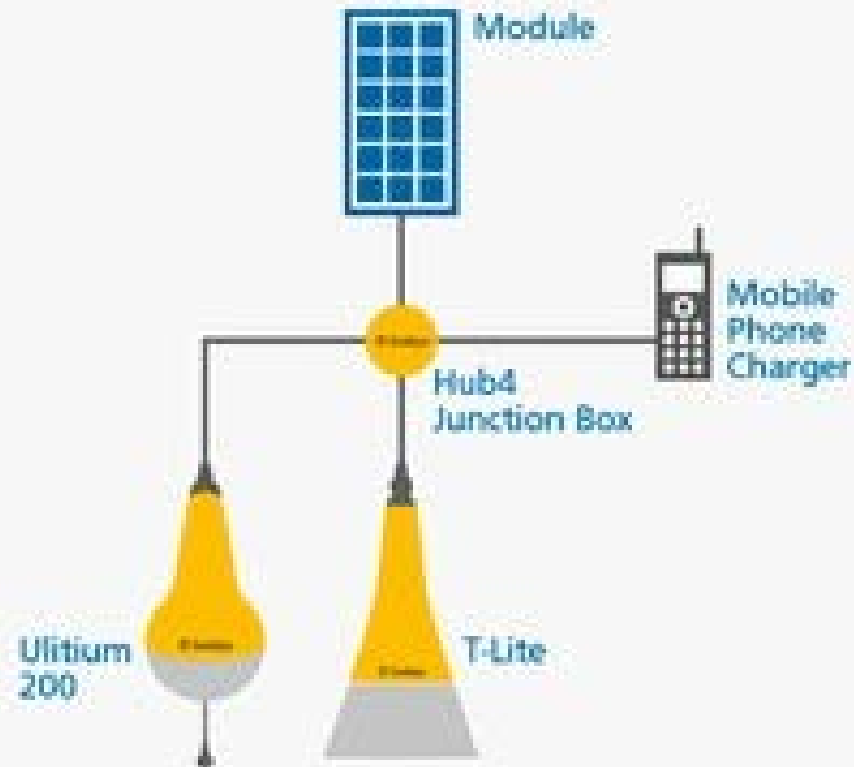


Thank you!

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Solar Pico-System





Rural Solar Projects Examples



Mozambique School
Project



Green Power for Rormanani
Romania



Pico System Tanzania

Source: Phaesun – Stand Alone Solar Solutions