IEA ELECTRICITY SECURITY ADVISORY PANEL
Markets for secure, efficient and low carbon power

Market design and renewables

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Context:
Development of renewable energy sources (RES)

Wind Generation

Solar Generation
Issue: Decreasing, distorted prices

Spot price and day-ahead wind forecasts in Germany and France (December 24th to 27th, 2012)

Public service contribution evolution

Wind generation (MW)

- Wind DE (D-1 forecast)
- Wind FR (D-1 forecast)
- Spot DE
- Spot FR

Spot price and day-ahead wind forecasts in Germany and France (December 24th to 27th, 2012)
Principle:
To reconcile market and physics of power system

RES producers must be responsible for their imbalance

Set RES on equal footing with other generators in terms of regulatory obligations:
- Production measurability and controllability (at least at substation level)
- Obligation to send day-ahead production forecasts to system operators
- Obligation or incentive to offer flexibility services for balancing and ancillary services for frequency and voltage

Benefits: avoid hidden costs, free new flexibilities

→ Option: give additional incentive for prevision quality
Proposal: Support mechanism

**Provide security for investments**
Reducing the risk for investors reduces the cost of support

**Avoid energy market distortions**
Fatal production should be curtailed when p<0
Maintenance operation placed during low energy prices

**Avoid investment decision distortions**
Installations should fit the appropriate capacity / production ratio

- Premium fixed ex-ante for the entire life of the asset
- Feed-in-tariffs (FIT)
- Remuneration for the capacity instead of energy

- ✔️ Premium yearly adjusted in order to stabilize global revenue (market+premium) in the LT (cf. contract for difference CFD)
Governance:
create the conditions for aggregators to enter the market

**Current arrangement in France:**
Feed in tariffs (FIT) system

**RTE proposal:**
open the access to direct subsidy to all the actors (alternative “aggregators” or generators) to benefit from the subsidy by themselves