Energy, Utilities & Mining

IEA workshop Finance

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Regulatory risk in incentive systems for renewable energy supply?

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21 juni 2012

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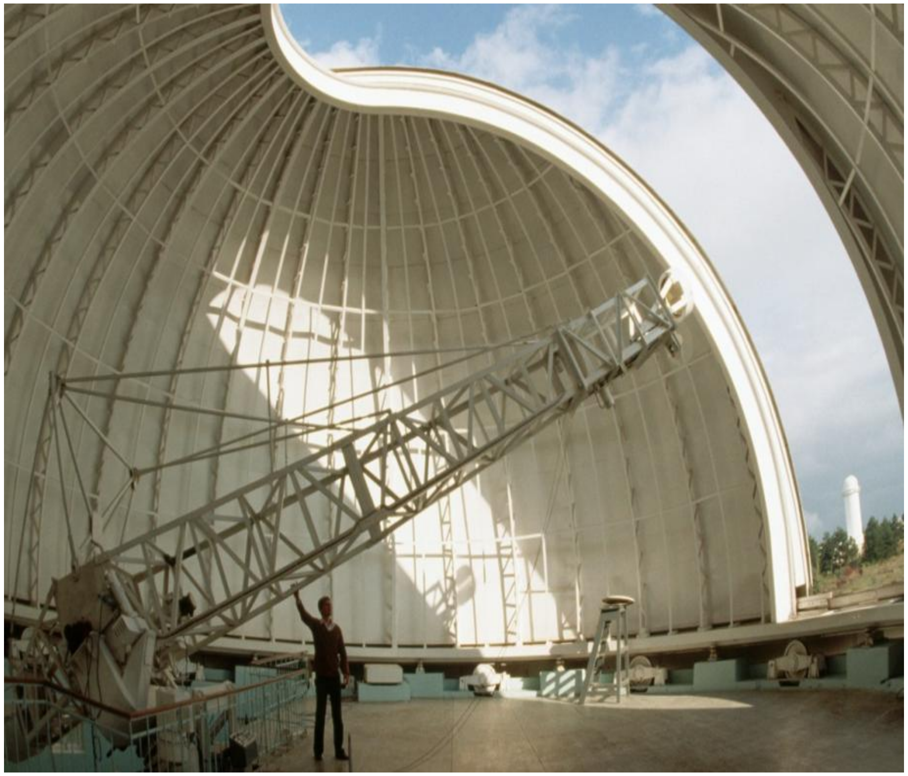
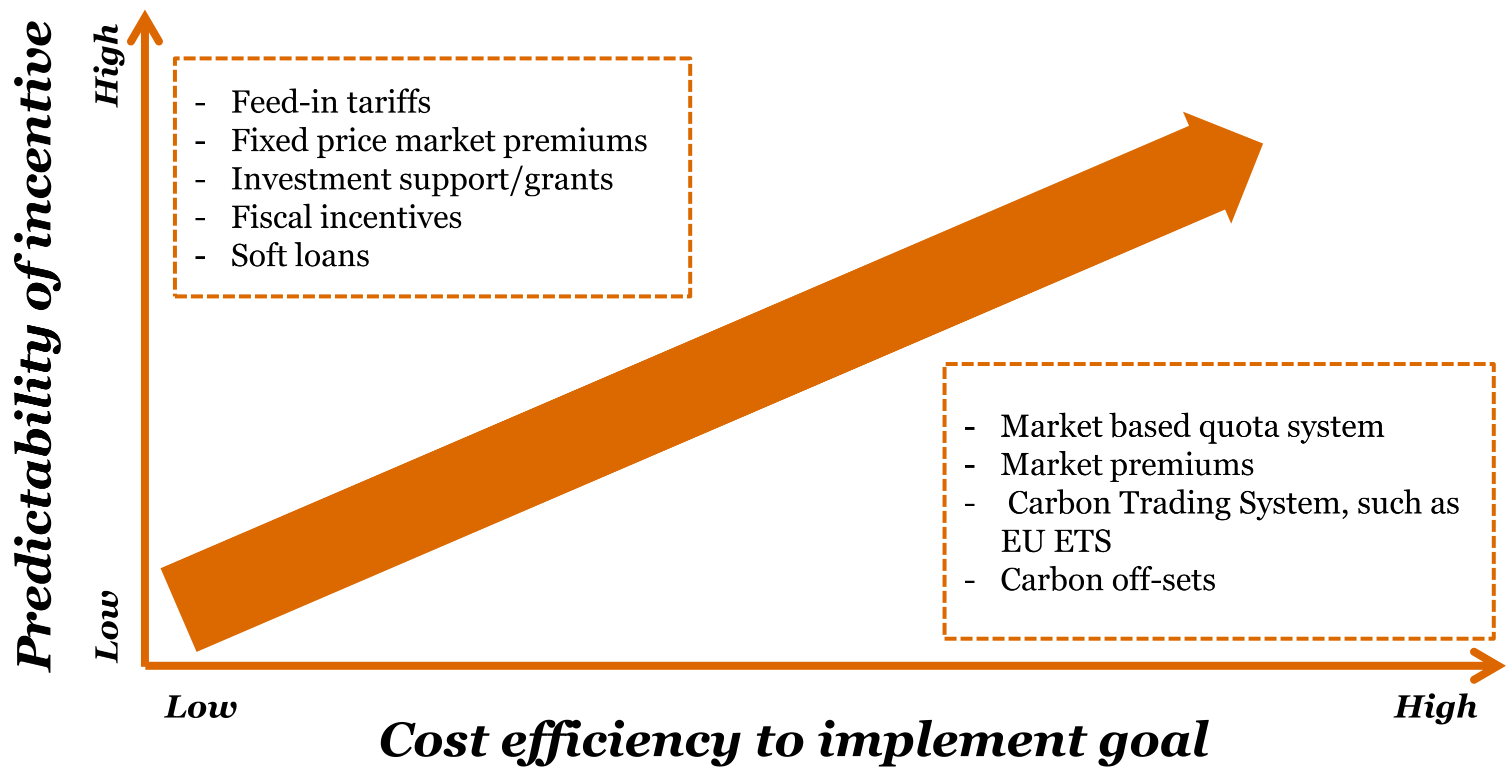
Today's topic is regulatory risk in market based systems

Topics

- Introduction on incentive systems for renewables.
- PwC view on regulatory risk and market-based systems.
- Advice to policy makers and investors.



Incentive system design differ based on predictability for investors and cost efficiency to implement goal



Long term predictability is desired by investors and cost efficiency by policy makers

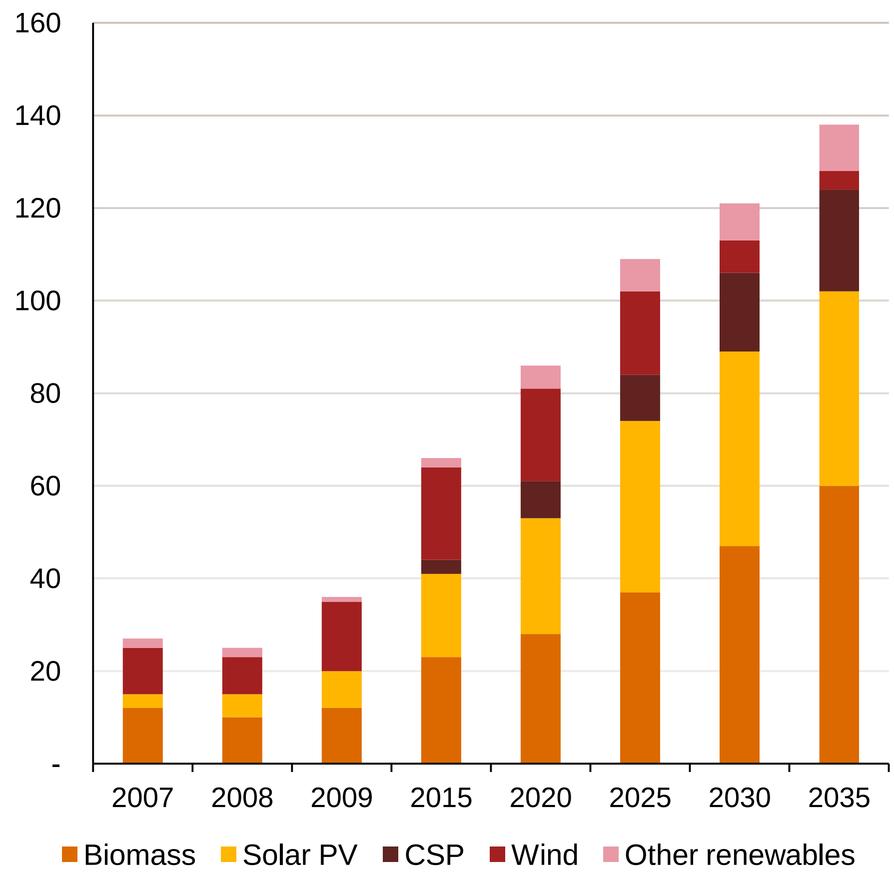
Different priorities have lead to a wide spread in type of subsidy schemes

Overview of present support mechanisms in >50% of the stated country / region

Subsidy schemes		EU	USA	China	India
Price-based	Feed-in tariffs	✓	✗	✓	✗
	Premiums	✗	✗	✗	✗
Q-Based	Green certificates	✗	✓	✗	✗
	Quotas / Portfolio standards	✓	✓	✓	✓
Tax-based	Fiscal incentives	✓	✓	✓	✓
	Investment incentives	✓	✓	✓	✓
Other	Loans	✓	✓	✗	✗
	Carbon offsets	✗	✗	✓	✓

Source: IEA, World Energy Outlook, 2010

Global government support for renewable electricity by technology (US$ bn 2009)



Subsidies for renewables are at risk in times of austerity…

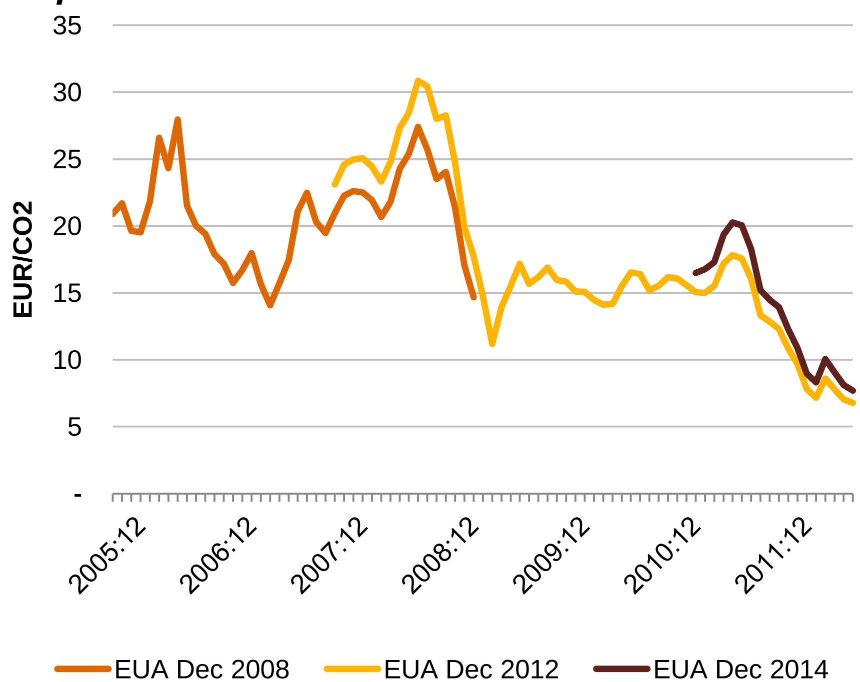
Financial times, Oct 4, 2011

"Renewable energy: Subsidy cuts cause crisis of confidence

A winning combination of natural advantages, powerful utilities and public policy has made Spain a world leader in renewable energy. But a government decision to make retroactive cuts in one of the guaranteed subsidies that have helped drive this green revolution raises serious questions for the future of Spanish energy policy. The retroactive cuts in the subsidies paid to producers of solar photovoltaic (PV) energy announced last December came "at the worst possible moment, given the severe economic crisis affecting Spain", says Miguel Salis, chief executive of N+1 Eolia, which manages Spain's largest independent wind and solar PV operator."

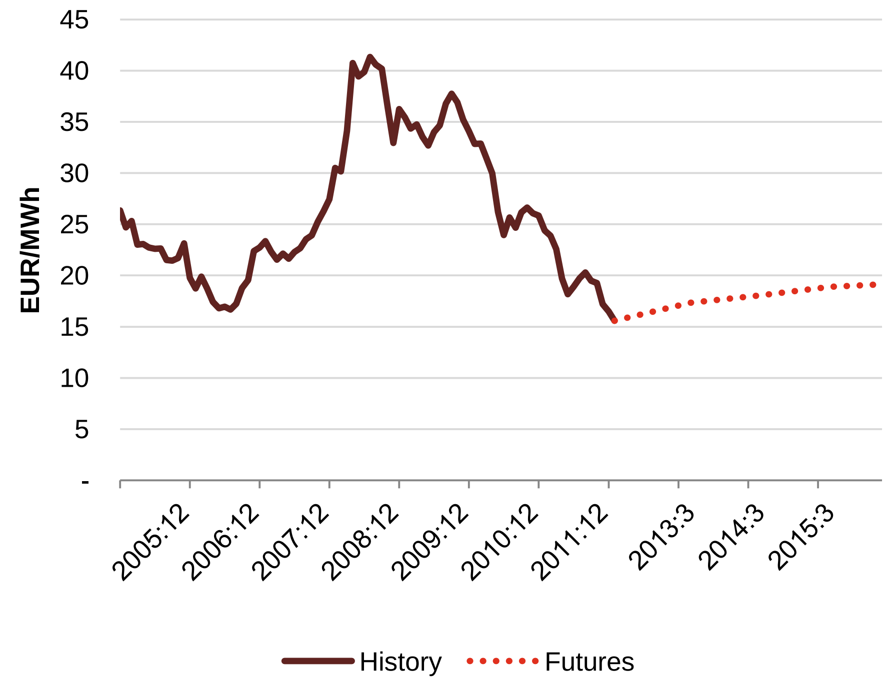
Market based incentive systems typically deliver the goal but have been characterised by high volatility

EUA prices, future contracts 2008, 2012, 2014



Source: Point Carbon

Electricity certificates, spot and future prices



Source: Svensk Kraftmäkling

High price volatility, partly due to immature markets and poor transparency, impacts the perceived risk level for renewable investments

Periods of low prices creates political pressure and regulatory risk, leading to an unpredictable investment environment

"Sweden's green certificate quota system has been changed several times – 2015 it's up for review again"

- 2007: Change of grant period to 15 years
- 2010: New renewables goal and change of quota levels
- 2012: Merge with Norway, changing supply base
- 2015: Possible review of quota levels due to currently low prices

"EU ETS III has an 8-year plan for predictability"

- Policy makers want to "Set aside" EUAs, to decrease supply and increase price
- Auctioning planning may be used as tool to control prices by managing supply of EUAs to the market

"Proposed regulatory changes in the UK electricity market reform"

- Carbon price floor suggested at £30/tonne
- Will other countries follow?

Increased implementation and promotion of renewables will benefit from stability and transparency

Advice to policy makers

- Learn from previous mistakes, poorly designed systems may create boom and bust investment cycles.
- Have faith in that market based incentive systems will deliver on goal and provide regulatory stability.
- Don't mess with the rules of the game, as it erodes investor confidence.

Advice to investors

- Investors need to consider several policy scenarios and appropriately account for regulatory risk when evaluating business cases in renewables.

In the long term renewables must be competitive to conventional energy sources to thrive in the global energy supply

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