

ELCERT MARKET RISKS

CREE – dialogue Meeting

09.11.2015

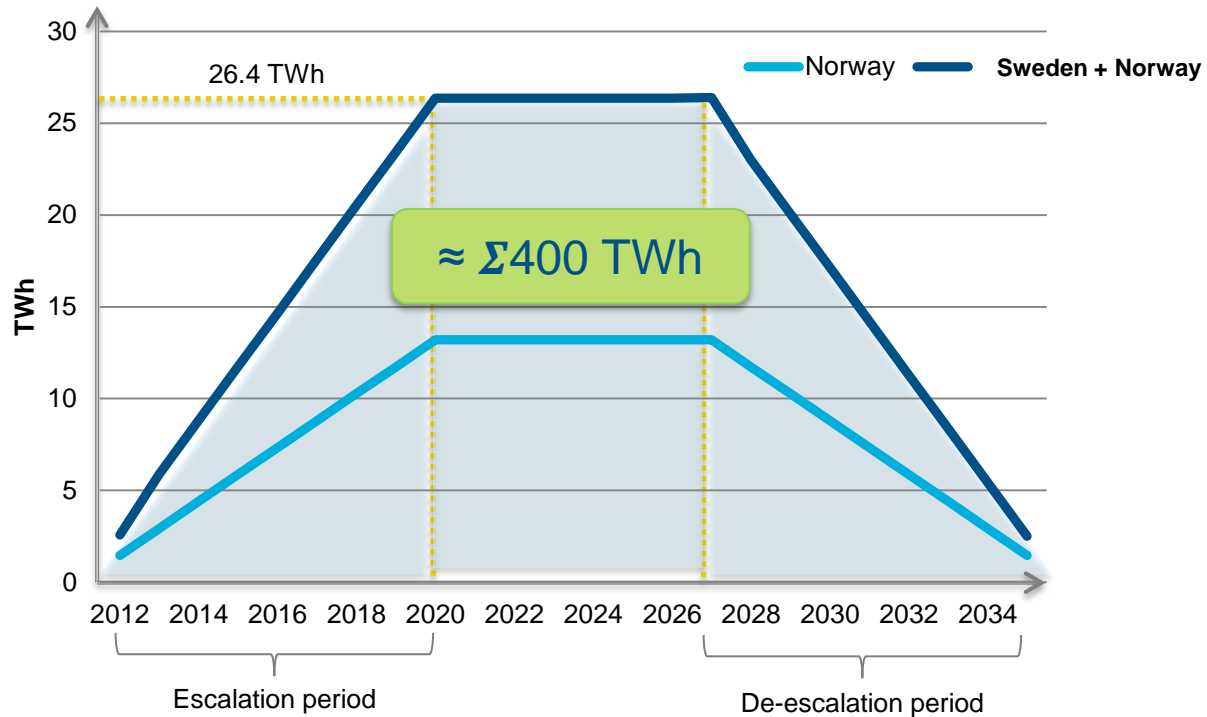
Lars Ragnar Skutlaberg



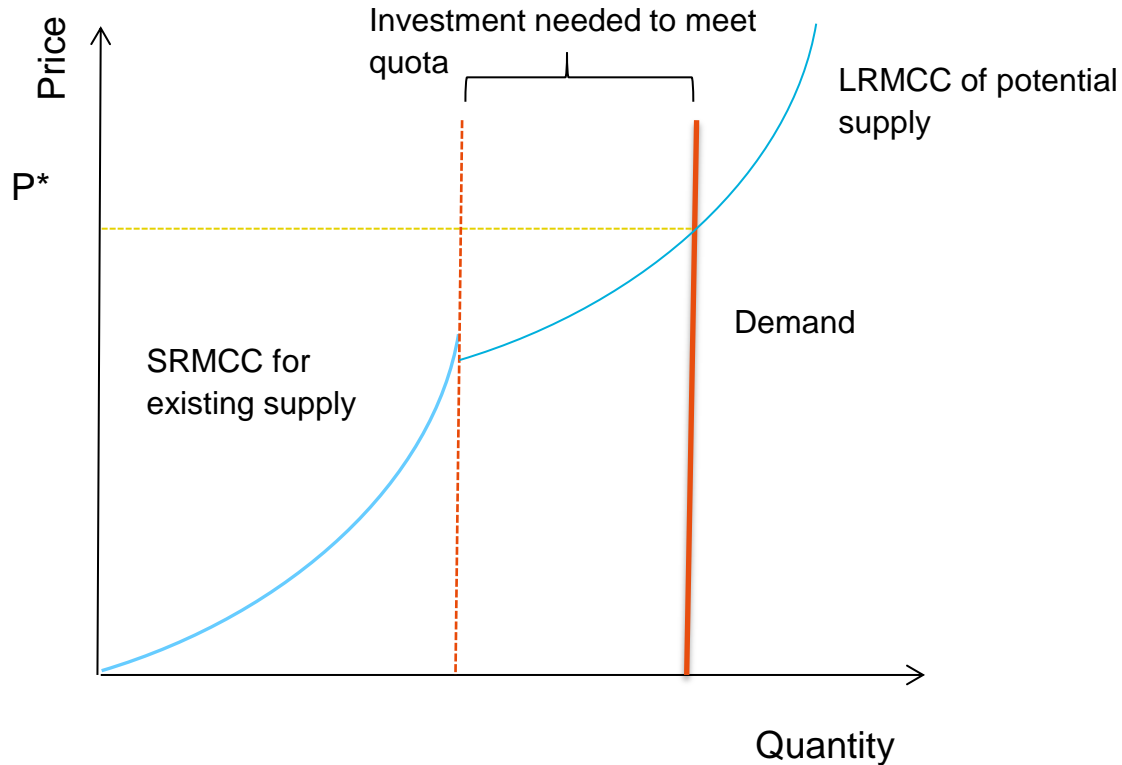
Elcert market

- ▶ Joint market with Sweden since 2012.
- ▶ Target of 28,4 TWh new renewables.
- ▶ 1 certificate per MWh from eligible sources.
- ▶ Consumers obliged to buy according to quota.
- ▶ Delivered as planned so far.

Market design



Theory: Long-Run Equilibrium Price Formation

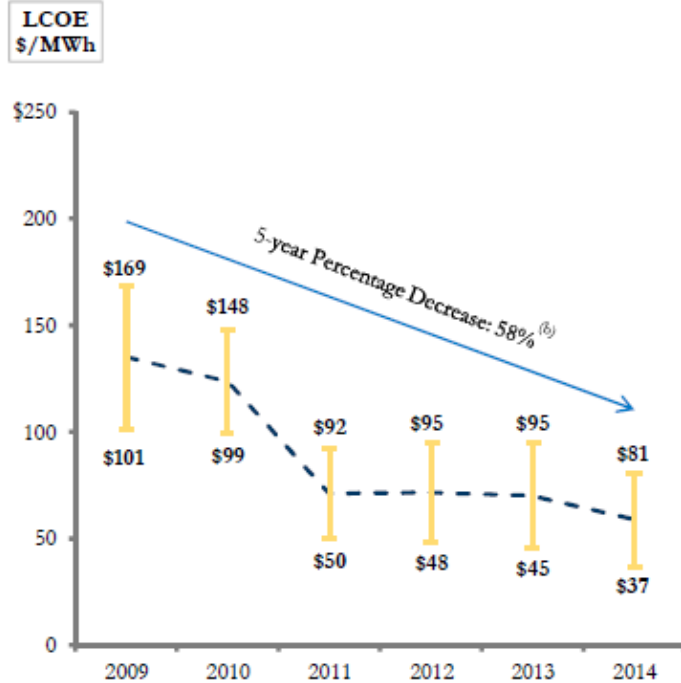


- ▶ In theory, investors can form expectations about certificate prices based on long-run marginal certificate cost
- ▶ $LRMCC^* = LRMCC - \text{wholesale price}$
- ▶ Price forms at intersection between LRMCC and Demand

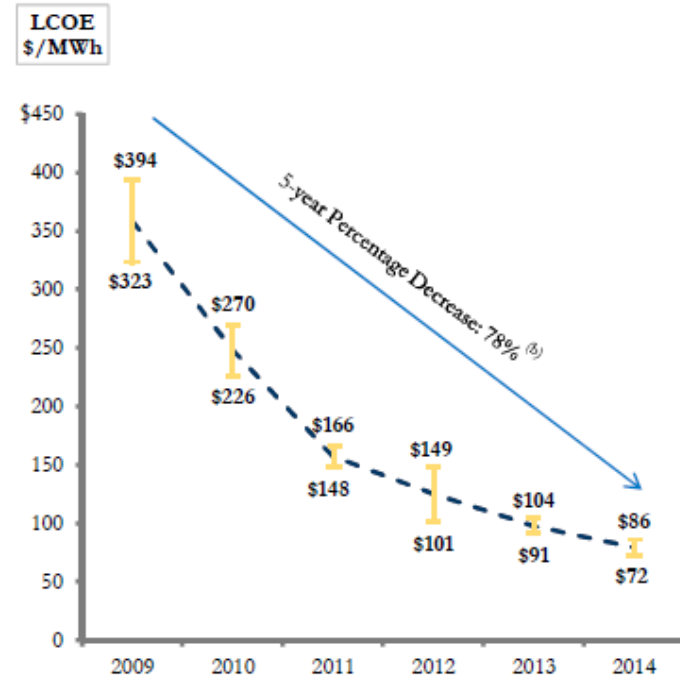
Note: LRMCC = Long run marginal cost of certificates

Real World Complexities Make It Hard to Forecast an Equilibrium Certificate Price

WIND LCOE

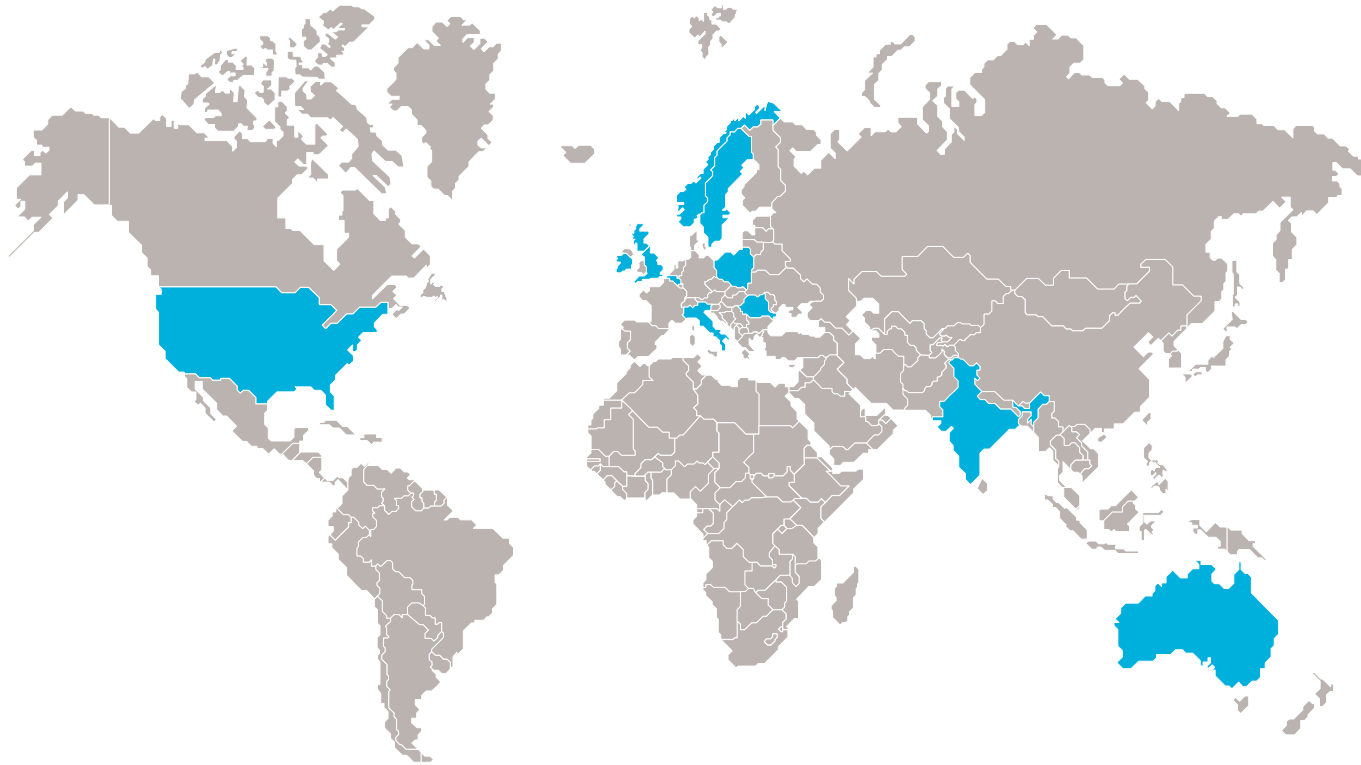


SOLAR PV LCOE^(a)



Source: Lazard's Levelised Cost of Energy Analysis – Version 8.0 (2014)

Current Non-Voluntary Certificate Markets



Norwegian-Swedish Scheme Has High Market Risk

Country	Transition to another scheme	Past political intervention*	Technology specific	Ceiling	Floor
Australia		X		X	
Belgium, Flanders		X	X	X	X
Belgium, Wallony		X	X	X	X
Belgium, Brussels		X	X	X	X
United Kingdom	X	X	X	X	
India		X	X	X	X
Italy	X	X		X	X
Poland	X	X	X	X	
Romania		X	X	X	X
Connecticut		X		X	
New Jersey - Solar		X		X	
Massachusetts		X	X	X	X
Norway – Sweden					

Note*: Political interventions is defined by any changes to the fundamental functioning of the certificate scheme that has been implemented.

Questions of interest to CREE

- 1. Is the Elcert market design robust?**
 - Price formation
 - Extensions
 - Political intervention
- 2. What can be expected in the balance phase of the scheme (post 2021)?**



THANK YOU



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