

SCAN ENERGY

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**Integrated Single Electricity Market (I-SEM)
High Level Design for Ireland and Northern Ireland from 2016
Draft Decision Paper
SEM-14-045 .9 June 2014
SUBMISSION to the above.**

24th July 2014

Dear Mr Newsome, Dear Mr Miura,

Scan Energy welcomes the opportunity to respond to the recent consultation on the draft decision paper for the High Level Design of the I-SEM. As it was apparent at the Forum in Dundalk, the I-SEM Committee had no information on the Danish Aggregator system, even though it was referred to as an example in the Draft Decision Paper, so I – being a Danish citizen – took it upon myself to do some research.

Scan Energy has been active in the Irish wind energy sector since 1991 and I was a founder member of the Irish Wind Energy Association in 1993; I am a former Chairman of the IWEA and still a Council Member. Scan Energy was Vestas agent in Ireland, North and South till 2008, but I have also over the years been involved in the development of a number of smaller windfarms projects. So I know the market very well. This submission is purely to do with **Information on the Danish Aggregator system.**

Denmark has had a range of different support mechanism for windenergy over the years; There are also different support systems for utility financed windfarms (mainly offshore and large onshore installation, and these are based on a tender system, where utilities tender on price). For Independent Power Producer (IPP) the support is a fixed price (60 oere = app. 8 eurocents/ kWh for typically 12,000 full load hours. After that you continue to get a support of 1.65 eurocents up untill turbines are 20 years old on top of the electricity price achieved. This support is administrated by the Energinet (Transmission operator) and paid directly to the wind turbine owner.

When prices are compared, it should be taken into account that windfarms in Denmark do not pay for grid connection, nor have they to improve public roads or built floating roads over bog, so the capital cost are considerable less than in Ireland. Also windfarms in Denmark do not pay local property taxes, such as rates, which is a very substantial operating expense in Ireland.

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There are two independent commercial Power Purchase companies in Denmark for the IPPs and a Default for those, who has not entered into a PPA with either of the independent PPA companies. The default is Energinet, the Transmission system operator. The companies are listed below:

1. Vindenergy Danmark, who sells through 3 different companies: Nordjysk Elhandel (NEAS); Danish Commodities and a third European company.
2. Energi Danmark – see price offers below from this company from early July 2014.. I was told, prices very similar between Vindenergy Danmark and Energi Danmark, due to competition.
3. Energinet (Transmission operator) as default, pays pool prices (spot prices) to anyone, who has not entered into a PPA with any of the above companies. The NordPool prices have on average been 3 eurocents over the last few year, but windenergy tends to get less, as the price drops at times of strong winds. However, until turbines are 20 years old, a IPP gets the 1.65eurocent mentioned above, so total price can be up 4.65 eurocents.

Below are prices from one of the independent Power Purchase company mentioned above. There are two different price bands in Denmark; one for the eastern part and one for the Western part (Jutland). The exchange rate is one euro = 7.4561 krone. So a price of 21.91 oere = 2.94 eurocent. This is for 4th quarter 2014, and the prices in blue does not include balancing cost.

The prices in green include all balancing and administration cost, for 4th quarter 2014 : 19.72 = 2.65 eurocent or you can enter into up to a 6 year fixed price for 20.44 = 2.74 eurocents. These prices are for Jutland- Funen, where most wind is installed; prices slightly higher for Eastern part of Denmark (Sjælland).

Finally Energi Danmark also offers a PPA based on pool / spot prices.

In all above cases the 1.65 eurocent is paid by Energinet on top of the energy prices until turbines are 20 years old to enable turbines to survive financially.

Energi Danmark A/S tilbyder møllejerne at købe deres EI-produktion.

Dagens vejledende priser for nedenstående prissikringsperioder og produkter.

1: Energi Danmark Fastpris / Ekskl. Balance .

2: Energi Danmark Nettofastpris / Inkl. Balance og gebyrer

3: Energi Danmark Spot / Ekskl. Balance

Energi Danmark Fastpris ekskl. Balance

Periode	4. kvartal 2014	1. kvartal 2015	Rest År 2014	År 2015	År 2016	År 2017	År 2018	År 2019
DK1 (Jylland - Fyn)	21,91	21,43	22,25	22,72	22,58	22,17	22,32	23,50
DK2 (Sjælland)	23,59	24,93	23,82	24,15	24,21	24,20	24,50	25,71

Periode	2 år (år 2014-2015)	3 år (år 2014-2016)	4 år (år 2014-2017)	5 år (år 2014-2018)	6 år (år 2014-2019)
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DK1 (Jylland - Fyn)	22,58	22,58	22,46	22,43	22,63
DK2 (Sjælland)	24,05	24,12	24,14	24,22	24,50

* Der fratrækkes ikke et adm. gebyr som kan være op til 0,20 øre pr kWh. Kompensation for balancehåndtering på 2,30 øre/kWh samt øvrige pristillæg udbetales direkte til møllejeren via Energinet.dk

Energi Danmark Netto Fastpris inkl. Balance og Gebyrer.

Periode	4. kvartal 2014	1. kvartal 2015	Rest År 2014	År 2015	År 2016	År 2017	År 2018	År 2019
DK1 (Jylland - Fyn)	19,72	19,24	20,06	20,53	20,39	19,98	20,13	21,31
DK2 (Sjælland)	21,40	22,74	21,63	21,96	22,02	22,01	22,31	23,52

Periode	2 år (år 2014-2015)	3 år (år 2014-2016)	4 år (år 2014-2017)	5 år (år 2014-2018)	6 år (år 2014-2019)
DK1 (Jylland - Fyn)	20,39	20,39	20,27	20,24	20,44
DK2 (Sjælland)	21,86	21,93	21,95	22,03	22,31

* Alle omkostninger er inklusiv = Ingen fradrag på afregningen for adm. gebyr (op til 0,20 øre pr kWh), omkostninger til nettarif m.m. pt. 0,39 øre/kWh og balanceomk. Kompensation for balancehåndtering på 2,30 øre/kWh samt øvrige pristillæg udbetales direkte til møllejeren via Energinet.dk

Vigtig information vedr. Nettofast Priser:

Vores Nettofastpris-produkt adskiller sig fra andre fastpris-produkter, i det produktet indeholder samtlige omkostninger til nettarif, adm., balance osv. Balanceomk. har historisk været mellem 0,7-10 øre/kWh. Omkostninger til nettarif m.m. udgør pt. 0,39 øre/kWh samt adm. gebyrer på op til 0,20 øre/kWh

Energi Danmark tilbyder også at aftage din produktion på Markedsspot*. Møllen afregnes ud fra spot prisen på el time for time.

* Energi Danmark Spot ekskl. balance: Der fradrages omkostninger til nettarif, Balance og Energi Danmark adm. gebyr på 0,10 øre pr kWh. Fra Energinet.dk udbetales direkte til møllejeren 2,30 øre/kWh som kompensation til balanceomk. samt øvrige pristillæg.

Klik på nedenstående link for yderligere markedscommentar

http://www.energidanmark.dk/home_da/nyheder-og-markedsinfo/nyhedsarkivet/2014/july/morning-report-july-3.aspx

The other interesting part of the Danish system is the size of the Aggregators; Vindenergy Danmark states on their web site , they sell electricity from a combined 2,000 MW of windturbines and they have app. 50% of the market. VindEnergy Danamrk was original set up as a Co-OP be the Danish windturbine owners association. This would be a lot of the early small turbines in Denmark.

Energi Danmark, whose prices I have shown above, apparently sell almost as much, but mainly from newer , larger turbines. The Default , sells very little.

I hope the information above has been useful and will assist in forming the policy for an Aggregator in Ireland both in terms of cost to the IPP and the necessity to have competition in the market.

Yours sincerely,

Inge V. Buckley