



To whom it may concern  
Electricity Market Reform Project  
Department of Energy & Climate Change  
4<sup>th</sup> Floor Area E  
3 Whitehall Place  
London  
SW1A 1AW

Date: 10 March 2011  
Subject: Consultation energy market reform



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Dear Sir, Madam,

On behalf of Eneco and its Board of Directors, we welcome the opportunity for the company to express its views on the UK government's proposals to reform the electricity markets "EMR". Eneco represents a new view of how utilities can be both sustainable and responsive to market and societal needs and regards itself as a progressive company both in attitude and practice. Eneco wholeheartedly supports initiatives to introduce market signals for low carbonisation and to move from predominantly a fossil fuelled economy, to those following a more sustainable strategy.

Eneco's main business is based in the Netherlands and is the third largest energy company in the country. Eneco has embarked on investing in neighbouring countries where we consider our brand values transferable. This includes the UK, Belgium and Germany. Eneco is essentially a vertically integrated business with customers, supply and generation based on low carbon and renewable sources. The Board of Directors is convinced in the business rationale of renewable energy production and believes that investing in these sources makes better business and economic sense than predominantly re investing in fossil fuelled alternatives. However, it is equally certain that until European economies make a full transition allowing renewables to compete properly with established practice, incentive structures either through taxation or subsidy will be required. We see the UK government now having to take some critical decisions to effect this change.

It is our considered view that the requirement for a new system in the UK is driven by a commendable desire to both accelerate investment in alternative energy sources and to achieve a lower cost to the consumer. To this end, Eneco is of the view that a radical change is not necessarily the best way forward for the UK at this critical time for investment. Any change of system will raise unforeseen risks that could simply replace those that are inherent in the existing mechanism and whilst the RO is by no means perfect, we believe the acceleration in investment and lower cost to consumer can be achieved within the existing framework as understood by the developer and investor communities. We guard against radical change which could make the UK an inherently more difficult place for Eneco to invest. Clearly there are barriers to entry and efficiency in the present system but these are less to do with the market led RO but more with the way the wholesale market operates and for this we commend the approach to improve market arrangements and improve competition. In particular:

Eneco Wind UK Limited

Units 3 & 4, Atilena Court, Atilena Drive, Tachbrook Park, Warwick CV34 6RT

T +44(0) 1926 331216 [www.corporateuk.eneco.nl](http://www.corporateuk.eneco.nl)

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- Reforms to balancing arrangements to ensure that cash out payments better reflect the cost of managing imbalance for ALL market participants
- The Introduction of a short term reserve market for flexible generators
- Actions to improve wholesale market liquidity
- Actions to improve system flexibility through greater demand side participation

It is our view that market reforms in the wholesale market are absolutely necessary to encourage competition and that these are welcomed. These reforms along with Carbon Price Support will produce a more competitive and fairer system for new entrants such as Eneco and adjust the market dominance of the big players. Reform to the RO should follow, if at all, in a step wise manner so that competitive pressures can have their effect so that sensible reference prices can be set if a feed in tariff system is eventually adopted.

Eneco took the decision to invest in the UK in 2007 based on a good regulatory system and a proven support mechanism driven by market fundamentals. The concept of an "obligation" backed by tradable green certificates was regarded as a sensible and logical methodology to "level the playing field" between fossil and renewable generation. Key to our decision was the stability of the system and the cross party support for the expansion of renewable generation. Stability, predictability and certainty were all factors in our investment strategy. Since 2008, Eneco has invested over £100m in onshore wind and is the sponsor of the Round 3 project near the Isle of Wight which is expected to be a £2bn investment and carries £50m of development costs to build 900 MW of UK capacity.

Eneco would like to state that it supports the Renewable Obligation as a fair method of ensuring renewable generation reaches its potential through market reference. As a methodology it is understood both by developers and financiers and we would support its continuation rather than a change to a feed in tariff methodology. Whilst it has created some barriers to entry for supply for companies such as ours through the redemption of ROC's we would still consider a modified RO that cures this issue as preferable to a wholesale change to a feed in tariff.

In this response to the DECC consultation on EMR we would like to focus on three elements:

1. The requirement for a stable and predictable support scheme
2. The "feed in tariff" alternatives to the Renewable Obligation
3. The Eneco experience of feed in tariff systems

#### **Stability and Predictability**

Renewable energy projects in common with all energy investments have a long investment horizon. A stable and predictable regulatory framework is therefore key to attract new investors to the UK and sustain those already exposed. Given democratic processes, changes to the framework are inevitable, however the UK has a sound track record in terms of stability and this has been one of the principle reasons that attracted Eneco to enter the UK market as an investor. Stability exists of two components:



- **Grandfathering:** Any change to a support scheme will cause existing or committed projects to be exposed to different economics than those committed to by the investors. It is absolutely essential that good economic support is offered at no less terms than those originally provided to those projects already financially committed to. To do otherwise will destroy confidence.
- **Stability of any replacement system:** In simple terms the level of support for renewable generation should not vary significantly from those already implemented. Change is, by nature, value destructive as individual companies WACC levels will factor in uncertainty. Any new system has to signal stability, longevity and certainty as key success factors. To be clear, if a new system for feed-in is implemented in the UK, the justification should be that it provides more certainty for investors with less financial risks in order to lower the effective cost of capital.

#### **Feed In tariffs**

Eneco would commend the department to re-examine a continuation of the Renewable Obligation rather than change to a system of feed in tariffs. Inevitably the proposed change will, and is, causing a pause in investment that, at this critical time for the wider industry, could mean 2020 targets are impossible to achieve.

In response to this consultation on possible feed in tariff mechanisms that are being considered by DECC, Eneco would state that it would clearly favour a premium feed-in-tariff over a contract for difference mechanism. A transfer from the Renewable Obligation to a premium feed-in-tariff would, in our view, be less disruptive than a move to a contract for difference feed-in-tariff (CfD-FIT). Moreover, we regard the premium FIT system as a simpler system to implement. Eneco believes it is important for developers to engage with the market and react to competitive signals which are also vital for growth and innovation. A Premium FIT would provide greater certainty and continuity over the level of support, whilst also providing simpler participation in the market.

In our experience of European mechanisms, it is easier for governments to budget for a set premium tariff rather than one driven by a Contract for Difference ("CfD"). The Dutch "SDE" system is comparable to this and we discuss it in more detail below. Given that fundamental changes will be made to the balance of the wholesale market (carbon floor, retirement of coal plant etc) it is impossible for us at this stage to make a meaningful judgement on likely market price levels. Furthermore, it is difficult to set a reference price (necessary in a CfD-FIT) in a mainly bilateral market. We will elaborate on this point later in this document.

We would observe that in both an obligation driven mechanism and a premium feed-in-tariff, the market will manage the wholesale price risk of electricity. In a CfD-FIT (or in a fixed price system), the wholesale price risk is partially transferred to the government, which would mean a fundamental discontinuity and a change in the regulatory framework. This in turn changes an investors view and weighting applied to regulatory and political risk. Eneco has perceived this risk as low in the UK under the Renewable Obligation.

It should be noted that Eneco favours the direct low carbon signals as in the recently consulted carbon price support initiative from HM Treasury and sees such direct and clearly understood mechanisms as wholly positive.



### **Experience with feed-in-tariffs in the Netherlands**

Eneco as a Dutch based company has direct experience of feed in tariffs and in particular the direct equivalent of the favoured CfD-FIT termed the "SDE" (Stimuleringsregelling Duurzame Energie). From this experience the following lessons can be drawn:

- Setting and maintaining a sound reference price is extremely problematic
- Auctions don't work (lottery effect)
- Limiting budgets for funding a system (capping expenditure) are arbitrary and ultimately dissuade investment

### ***Setting a Reference Price***

Fundamental to the operation of a CfD mechanism is setting an effective reference price that meets investor expectation, ensures delivery and gives the consumer a value for money proposition. Whilst economic theory suggests this is possible it has in practice turned out to be a problem in the Dutch market and reform is considered necessary. Eneco would advise that this issue is key to the UK proposals and would, in all likelihood, prove to repeat the Dutch experience. We would also consider the effect of bilateral trading under NETA to exacerbate the situation.

### ***Auctions don't work – lottery effect***

In the Netherlands, support for offshore wind projects is auctioned. This often results in non-recoverable development costs (given higher availability of permits than support), thereby creating an inefficient system. In our Dutch experience, this creates a development inertia where companies become reticent to invest in projects that will lose out to badly priced or winner takes all strategies. In particular, auctions which are then backed by a penalty should the winner not invest dissuades bona fide developers and has encouraged maverick organisations.

### ***Capping Budgets***

The Dutch CfD-FIT was financed through the State budget creating the introduction of yearly budget caps and therefore an effective cap on energy produced (MWh). This has become a high risk factor for developers as it clearly then limits how many projects can be included in any one year. The yearly budget cap is set so low that only a few projects can be included in the CfD-FIT scheme and this has created development inertia.

In general, the short term cap has caused a reluctance to invest and put a brake on development / investment since any included projects also had to effectively pay for the development costs of all the projects that were excluded from the CfD-FIT. This has actually increased the cost to the consumer of renewable energy production.

The consultation document presented on the EMR is not clear about a budget caps and we would like to state that from an investors and developers perspective we are proponents of a system without a budget cap.



**Conclusion**

Eneco strongly advises to continue the Renewable Obligation with tradable certificates with the effective "cap" set by the renewable goals for 2020 (or the horizon of 2030, as included in the consultation document). If this is considered not to be an option for the UK government (as a support mechanism for renewable electricity), a Premium FIT would be Eneco's alternative of choice. The selection of a feed in tariff does not guarantee Eneco's continued investment in the UK. We strongly advise against auctions as price setting mechanisms and urge DECC to understand the failings of these systems.

We are aware that DECC's analysis remains, for the time being, at a high level and purely indicative and as such this makes the final policy outcome as highly uncertain. Considering this uncertainty in this response we would like to reserve our position and judgement until further details are available that will allow a complete assessment. We would be particularly responsive to sharing our Dutch and International experience of best practice to further this consultation and its conclusion.

Thank you once again for giving us the opportunity to respond to the proposed Electricity Market Reform. If there are any questions about our response, please do not hesitate to contact our office. Furthermore, we would be more than willing to elaborate on the response personally and bring Eneco's market experience to the debate which we feel is a crossroads for Renewable Investment in the United Kingdom

Yours sincerely,

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## Appendix I: Detailed answers to Market Consultation questions

### 1. Do you agree with the Government's assessment of the ability of the current market to support the investment in low-carbon generation needed to meet environmental targets?

Overall, we agree. We particularly agree with the statement: "the power sector needs to lead the decarbonisation of our economy, but the current market has a bias towards fossil fuels". The main problem in the current situation is the low and unstable carbon price, and the tax breaks for fossil fuels.

### 2. Do you agree with the Government's assessment of the future risks to the UK's security of electricity supplies?

We believe that long before the security of supply is threatened, the price of electricity will rise and should trigger both investment and demand side flexibility.

However we would also note that the UK has allowed a clear Oligopoly of dominant players and the so called Big 6 have created a pseudo market where both dark and spark spreads are maintained through a tightening generation supply. We believe that market signals are not reacted to as a pure market would dictate and with the coming retirement of coal and nuclear plants the generation margin will fall further before new projects will be built.

The consultation document states: "In the current system, maintaining the level of security of supply is left to market forces". It could be concluded that it is desired to transfer the security of supply responsibility to the government in a new system. However, the investments still need to be done by the market.

### 3. Do you agree with the Government's assessment of the pros and cons of each of the models of feed-in-tariff (FIT)?

#### 4. Do you agree with the Government's preferred policy of introducing a contract for difference based feed-in-tariff (FIT with CfD)?

As stated in our introduction, Eneco favours a premium FIT over a CfD-FIT. A premium FIT will keep the wholesale price risk where it belongs (the market) and cause less discontinuity from the current ROC-system. Furthermore, we think that a premium FIT system will be less complicated to implement and far easier for investment committees to appreciate. Moreover we regard the premium FIT system as a simpler system to implement. In our experience it is easier to budget for the government than a CfD-FIT. The amount paid in a CfD-FIT on the other hand, is largely dependent on the wholesale price and thus fluctuates. Moreover, it is difficult to set a reference price (necessary in a CfD-FIT) in a bilateral market. In a Premium FIT the reference price is not relevant and brings much needed certainty.



**5. What do you see as the advantages and disadvantages of transferring different risks from the generator or the supplier to the Government? In particular, what are the implications of removing the (long-term) electricity price risk from generators under the CfD model?**

Eneco favours a system where the (long-term) electricity price risk is borne by the market, not the government. Whilst it can be appreciated that the market has been slow in delivering this is largely due to systemic problems in planning and grid scarcity rather than the RO not working. This price risk is not unique to renewable electricity. And in general a price resulting from a voluntary transaction between private parties leads to more efficient allocation of resources than a price set by the government. In our view the government can give strategic direction without becoming the effective counter party for investment.

We consider a premium FIT model superior to a CfD model because a premium FIT leaves the price risk at the market.

**6. What are the efficient operational decisions that the price signal incentivises? How important are these for the market to function properly? How would they be affected by the proposed policy?**

Concerning wind energy the operational decisions are relatively independent of the market price or ROC price, as long as both are above zero. Therefore the change in policy would not introduce less efficient operational decisions for this technology.

If a premium FIT would be implemented with short term caps of the budget (like in The Netherlands) the risk of our development expenditure decreases. So, development decisions are heavily affected by the design of the system itself.

**7. Do you agree with the Government's assessment of the impact of the different models of FITs on the cost of capital for low-carbon generators?**

**8. What impact do you think the different models of FITs will have on the availability of finance for low-carbon electricity generation investments from both new investors and existing the investor base?**

A premium FIT is easier to comprehend for both investors and financiers. Therefore, we feel that it will be easier to attract financing or any other cooperation with third parties. Moreover, we have discussed this point with banks, and in their opinion, the CfD-FIT is not advantageous over the premium FIT. Therefore, they do not feel that costs of capital would be lower in either of the two systems.

**9. What impact do you think the different models of FITs will have on different types of generators (e.g. vertically integrated utilities, existing independent gas, wind or biomass generators and new entrant generators)? How would the different models impact on contract negotiations/relationships with electricity suppliers?**

The business case of new capacity in renewables is relatively independent of the level of integration of the concerned investor because of the possibility to sell the electricity on the market. Still, in case of a CfD FIT system, a sound reference price, based on a liquid market needs to be defined. In our view, changes in the wholesale market with a changing mix of inflexible nuclear, intermittent wind and reduced fossil fuels needs to be fully appreciated before referencing a CfD mechanism. It is not unthinkable that some generators benefit more from trade on specifically this market than others due to their level of vertical integration, which may present unwanted side effects to the EMR. Gaming is a distinct possibility under this system.

**10. How important do you think greater liquidity in the wholesale market is to the effective operation of the FIT with CfD model? What reference price or index should be used?**

A dependable broadly accepted reference price in a liquid market is both key to and a flaw of the CfD model. The Dutch experience shows that a reference price chosen by government causes continuous debate.

**11. Should the FIT be paid on availability or output?**

The FIT should be paid on output. Availability is much harder to verify, which means UK citizens could well end up paying for dysfunctional wind turbines which would have political consequences.

**Questions 12 through 18:**

Eneco support an Emission Performance Standard, as long as efficient CCGT's are still encouraged as balancing assets against wind intermittency.

**Questions 19 through 25:**

We believe that the capacity mechanism should enhance the market for flexible and available plant and to a certain extent should reduce volatility in the wholesale market and balancing mechanism. We would welcome this development as long as it does not create any market distortions, have a negative impact on improving the liquidity of the wholesale market or create a market from which high rent can be extracted for a limited number of participants.



**26. Do you agree with the Government's preferred package of options (carbon price support, feed-in-tariff (CfD or premium), emission performance standard, peak capacity tender)? Why?**

Eneco would favour a continuation of the Renewable Obligation as a first choice.

However, Eneco would in principle support the introduction of a feed-in-tariff, carbon price support and emission performance standard, because all three measures support clean power generating technologies. We understand that in order to secure supply in the near future, capacity payments could help, although this mechanism will not necessarily support renewable energy. However, Eneco finds that in our route towards a 100% green energy supply, gas generation is required as a flexible transition fuel.

**27. What are your views on the alternative package that Government has described?**

If "the alternative package" refers to Package 2, then this would be our most preferred package, given the Premium nature of the feed-in-tariff (contrary to the CfD methodology as included in package 3). For two reasons, we would prefer the introduction of the Premium over the CfD:

1. It increases the leeway of Eneco's trading strategy; financiers of projects gaining their revenues from the CfD system require the output to be traded following the reference price as closely as possible, thereby limiting trading liberty and potentially overloading the market on which the reference price is based
2. The Premium FIT is not dependent on a reference price. We see a great challenge for Ofgem to improve market liquidity in step with EMR, with significant related risks

**28. Will the proposed package of options have wider impacts on the electricity system that have not been identified in this document, for example on electricity networks?**

The UK is setting out on a path of low carbon technology and clearly has set out a principle in this consultation package that will favour a new generation of nuclear plant with Renewable technology such as wind, wave and tidal being a secondary preferred source. The effect of inflexible generation and intermittent generation with balancing peaking plant (CCGT) is a fundamental shift in the way that electricity has been produced and transmitted in the UK which remains largely unconnected to mainland Europe. It would be observed that the present grid system has not been designed for such sources and a large measure of investment in both onshore and offshore networks will need to be encouraged.

**29. How do you see the different elements of the preferred package interacting? Are these interactions different for other packages?**

As above we note a "one size fits all" mechanism where low carbon generation is encouraged through a single mechanism. Whilst Eneco appreciates the simplicity of this we would also observe that nuclear and renewable generation are very different in nature (Investment tenor, risk profile, generation profile) and would respectfully suggest that they require different support structures.

We feel that a CfD FIT (as included in Package 3/ the preferred package) would interfere with carbon price support more than a Premium FIT would. The CfD FIT is paid to generators ex post, which implies that the exact carbon price of that period can be used for determining the reference price. A Premium FIT on the other hand, is set up front, so especially if Premium FIT is chosen, it is of utmost importance that a long term carbon price trajectory is determined before setting the premium.

In the preferred package (Package 3), we note the following on potential interactions:

1. We share the notion of limited expected negative effects of the interaction between CPS and CfD
2. In case of a Premium FIT, a renewable electricity generator will obtain a set strike price for the complete lifetime of a project. A stable and predictable carbon price is therefore imperative
3. As previously described, a well functioning reference price mechanism is imperative for a CfD system to be successfully implemented. The design of the capacity mechanism should not interfere negatively with the liquidity of the market on which the reference price is based
4. The interaction described under 3) is less relevant in case of a Premium FIT, as a reference price is not required on a yearly basis for existing projects

**30. What do you think are the main implementation risks for the Government's preferred package? Are these risks different for the other packages being considered?**

In any process of reforms, the sooner details are provided, the better. At the moment, the upcoming market reform causes investment decisions to be delayed, because of the uncertain situation. Eneco has to make some fundamental investment decisions in the UK (Round 3 and onshore windfarms due for construction in 2012/2013) and cannot make these set against the current uncertainty of revenue streams.

Secondly some risks are related to the implementation of a CfD FIT system specifically. A CfD FIT system could be more sensitive to political changes than a Premium FIT, because the premium (in the latter) is set once for the whole period that a project is entitled to receive support (and only being indexed yearly). The reference price to determine the support in a CfD FIT system on the other hand is determined every year. Therefore, in a CfD system, it is very important that the calculation employed to determine the reference price is defined in detail, to ensure that both government and investors clearly understand what reference price they can expect. What should be avoided at any cost is a reference price that is susceptible to political changes. In a Premium FIT system, the reference price is irrelevant, because generators receive a fixed premium on top of their income from electricity trading.

Another point is that in the case of a CfD FIT, it is more difficult for DECC to budget the FIT payments in advance. Payments are made ex post, and are dependent upon the wholesale price. In the case of Premium payments, this problem does not exist, as the tariff levels are set in advance.

Furthermore, it is important to ensure that permit and FIT bidding trajectories fit each other. What should be avoided is that a project is awarded a permit, but no FIT, or the other way around. Under the RO, both were granted at the same time, giving the investor immediate clarity about the ability to progress the project. Please see the appendix for our experiences in Dutch market regarding this matter.

**31. Do you have views on the role that auctions or tenders can play in setting the price for a feed-in-tariff, compared to administratively determined support levels?**

- i) Can auctions or tenders deliver competitive market prices that appropriately reflect the risks and uncertainties of new or emerging technologies?**
- ii) Should auctions, tenders or the administrative approach to setting levels be technology neutral or technology specific?**
- iii) How should the different costs of each technology be reflected? Should there be a single contract for difference on the electricity price for all low-carbon and a series of technology different premiums on top?**
- iv) Are there other models government should consider?**
- v) Should prices be set for individual projects or for technologies?**
- vi) Do you think there is sufficient competition amongst potential developers / sites to run effective auctions?**
- vii) Could an auction contribute to preventing the feed-in-tariff policy from incentivising an unsustainable level of deployment of any one particular technology? Are there other ways to mitigate against this risk?**

Auctions or tenders have two large disadvantages over directly determined support levels:

1. When choosing auctions or tenders, the budget must be capped for that auctioning round, otherwise no-one will 'lose' the auction or tender and bids per MWh will skyrocket. By adding a short-term cap, reaching the 2020 renewable goal will be delayed. This has happened in the Netherlands for offshore wind.

2. Furthermore an auction is an incentive for gaming. Parties who have an anti-renewable interest can buy a developing project, bid very low in the auction and then never realize the renewable MWh's. And given the fact that the amount of parties bidding is very limited anyway, one can question whether an auction will be efficient.

Naturally, there are also disadvantages when the administration sets the support level per technology directly, such as choosing the right reference projects. However, we feel that these are relatively minor. When the support level is set by administration, it is important to note that this level should at the very least be equal the current ROC value.



The FIT level could be set generally at the level of the 'last' technology in the merit order for the 2020 renewable target. But this would probably lead to politically unfavourable subsidy levels for cheaper technologies. Therefore, subsidy levels should be set per technology. Setting the level per individual project is prone to long discussions between developer and government, and removes an incentive to choose an efficient geographical location (e.g. with high wind speeds).

Solar-PV is a difficult category because of the current high costs per MWh. It would be understandable if support levels for solar-PV would not cover the complete project costs. Otherwise undesirable macro-economic effects could arise as could be said in Germany.

A research agency (e.g. a British equivalent of ECN in the Netherlands) can serve as an advisor to DECC in setting the support levels. It is important for investors that the premium FIT is known in advance for the coming decade. This has been one of the good elements in the Dutch support regime.

**32. What changes do you think would be necessary to the institutional arrangements in the electricity sector to support these market reforms?**

As noted previously Eneco sees a dominant oligopoly in the UK of 6 large players with high barriers to entry. We would encourage DECC and the UK government to bring more competition through measures that remove this market dominance. This rather than direct government control of investment returns will bring better value for consumers.

**33. Do you have a view on how market distortion and any other unintended consequences of a FIT or a targeted capacity mechanism can be minimised?**

Will a Single Buyer function be required if the obligation falls away i.e. will suppliers still want to buy intermittent wind power without the ROC stimulus? This will require wholesale renegotiation of PPA contracts in the market.

Secondly, in the CfD model the sellers are going to need two contracts instead of one, one with the Government Agency delivering the CfD and one with the off-taker and whilst this is still true with the Premium FIT the Premium contract is so much easier to implement and administer than the CfD.

**34. Do you agree with the Government's assessment of the risks of delays to planned investments while the preferred package is implemented?**

Yes, we agree. Stability of the UK ROC regime has been one of the major factors that attracted Eneco to the UK market and as such any change of system will cause us to consider future investment plans until such time as revenue streams are clearer. Investment decisions for wind parks are made years ahead, therefore it is critical to give more clarity on all details of the reform as soon as possible. Meanwhile, the ROC continues to be an effective tool supporting renewable investment and we believe it should remain in place until more clarity on the new support mechanism is provided. Newly



developed projects should be able to choose for support through either RO or the new mechanism during the period between 2013 and 2017.

**35. Do you agree with the principles underpinning the transition of the Renewables Obligation into the new arrangements? Are there other strategies which you think could be used to avoid delays to planned investments?**

We agree that it is important to stimulate investments in clean power generating technologies. As stated in the introduction we think that supporting renewables is necessary as long as there is no level playing field between renewables and high carbon energy. Considering the current levels of renewable power in the total electricity market, more stimulation is necessary. However, as we know from our experience in the Dutch electricity market (see appendix), the CfD FIT approach might not be the cheapest method for stimulation of green energy.

The Dutch government is studying how to proceed with the transition to renewable energy. The approach has several aspects:

- A new SDE system will be implemented this year (see the appendix);
- Co firing biomass has been excluded from the new SDE. Soon the current subsidy for co firing (MEP) will end so the question arises how to maintain co firing biomass. A direct obligation for CCGT's for co firing is considered;
- The government and Dutch energy sector is studying on the option of a so-called hybrid RO mechanism. That means a combination of RO certificates and CfD FIT. Shortly said; a system where the value of a RO certificate is taken into account when the level of the CfD FIT is determined.

Another strategy for the UK that could be used to avoid delays to planned investments could be to improve the current RO system with 'hybrid' elements like in The Netherlands, instead of implementing a whole new system. If this alternative strategy is not chosen, we would like to refer to our statement made before, that the sooner details are given, the better.

Any support mechanism for renewable power generation should be accompanied with facilitating institutional arrangements. The planning system in the UK remains obstructive, precautionary and problematic making good schemes excessively long in gestation to produce a working project. The grid restrictions in the windiest areas remain weak and regional charging regimes excessive. These factors rather than a willingness to invest remain the brakes on UK expansion of scalable renewable energy.

**36. We propose that accreditation under the RO would remain open until 31 March 2017. The Government's ambition is to introduce the new feed-in-tariff for low carbon in 2013/14 (subject to Parliamentary time). Which of these options do you favour?**

- a) All new renewable electricity capacity accrediting before 1 April 2017 accredits under the RO;

- b) All new renewable electricity capacity accrediting after the introduction of the low-carbon support mechanism but before 1 April 2017 should have a choice between accrediting under the RO or the new mechanism.**

We would opt for a choice between the two systems during the transition period, because this gives the market the opportunity to decide what the best option at that point in time is. Some market parties would choose for the security of a guaranteed vintaged RO, while others might choose the new system. The arguments might also differ amongst projects of the same developer, depending on the preference of investors or other partners and stakeholders, or specific project characteristics, e.g., depending on the presence or absence of additional measures introduced with the new support mechanism, such as caps, floors etc.

**37. Some technologies are not currently grandfathered under the RO. If the Government chooses not to grandfather some or all of these technologies, should we:**

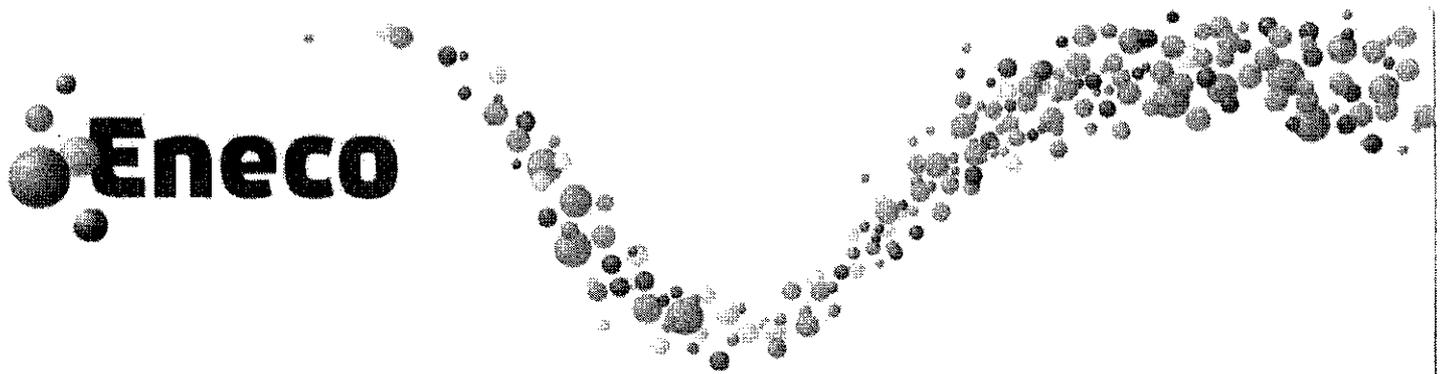
- a) Carry out scheduled banding reviews (either separately or as part of the tariff setting for the new scheme)? How frequently should these be carried out?**
- b) Carry out an "early review" if evidence is provided of significant change in costs or other criteria as in legislation?**
- c) Should we move them out of the "vintaged" RO and into the new scheme, removing the potential need for scheduled banding reviews under the RO?**

We agree that co-firing of biomass, bio liquids, energy crops and CHP should not be grandfathered. These technologies are carbon neutral, but do not stimulate investments in new sustainable generators. It is furthermore important that banding is implemented, as is the case in the RO, since cost prices of technologies still differ. Banding should be altered when there is a significant change in costs. We also believe that those technologies that are clearly at the R&D stage (wave/ tidal) should be supported through direct grants rather than trying to be commercial through multiple ROC's or otherwise.

**38. Which option for calculating the Obligation post 2017 do you favour?**

- a) Continue using both target and headroom**
- b) Use Calculation B (Headroom) only from 2017**
- c) Fix the price of a ROC for existing and new generation**

Key for existing projects to continue operations in the future is their ability to cover all costs, including debt payments. Also for projects that come online between 2013 and 2017, uncertainty should be minimized. If ROC's are procured by the government under the last of the three mentioned options, our preference would be to fix the price of a ROC at a sufficiently high level for existing generation capacity. New electricity generation capacity should then be included in the support mechanisms as included in the EMR.



## **Appendix II: Support scheme renewable power generators in the Netherlands**

### **Introduction**

In the Netherlands, currently two support schemes for renewable energy are running: the MEP (Milieukwaliteit Elektriciteitsproductie) and the SDE (Stimuleringsregeling Duurzame Energie). At the moment, both schemes are closed for new projects. A new system is developed by the government. This scheme is known as SDE+.

### **MEP**

In July 2003, a feed-in-premium has been introduced – the so called MEP premium – (premium on top of the market price for power, fixed for ten years). Under the MEP scheme, Dutch producers of renewable electricity feeding into the public grid receive a fixed fee per kWh for a guaranteed period of ten years. The 'MEP premium' was abolished (but grandfathered) in August 2006.

### **SDE**

In October 2007, the Dutch government published a new regulation for a feed-in premium for renewable energy. The new support mechanism, called SDE partly resembles the old MEP premium system. Producers receive a premium to compensate for the uneconomic gap between the wholesale energy price and cost price of different technologies of renewable energy for a fixed number of years. The premium will be provided to the generator of green power for a maximum of 12 or 15 years (varies per technology). The level of the premium varies with each technology.

#### *The budget is capped*

In contrast to the old MEP scheme, the SDE comprises an upper limit. The SDE programme has a limited budget consisting of a fund of €300 to €350 million per year, which is available until 2010. The budget is divided over sub budgets for different technologies like combustion of biomass, wind onshore, solar, etc. The budgets for biomass and solar have been proven insufficient the past years because there were more applicants for SDE than the budgets covered. In 2010 the budget for wind onshore was overwritten for the first time.

#### *Application criteria*

One of the most important criteria for applicants is the possession of a building permit for the installation involved. Furthermore, the SDE programme allows the regulator to check the viability of the business case of a project that is applied for. In practice, this check is not carried out in much detail. There are some special criteria for some technologies. For instance, for biomass projects the programme prescribes that there should be a ratio of equity and debt of at least 20% equity versus 80% debt. In SDE-Round 2 for offshore wind, applicants were required to file a bank guarantee of €



20 m per application. If the offshore project were not to be operated within 5 years, the € 20 m had to be paid as a penalty.

### *Application process*

Apart from the abovementioned Round 2 offshore wind price tender (which was closed on March 1<sup>st</sup> 2009), market parties can apply for SDE during the months March to October. On November 1<sup>st</sup> the application period closes. After the closing of this period, the regulator can decide to shift with budgets from one category to another in order to honour applications in a category, of which the budget was exhausted during the application period. The assessment of the applications is based on the principle of first-come-first-serve. As such, an application filed in March has priority over an application filed in August.

### *Level of the premium*

Each year ECN, an independent consultancy agency commissioned by the government, calculates the level of cost prices per technology, based on a market analysis (including financial conditions). Market parties are given the opportunity to respond to a consultation request about the draft levels. The government, in turn, decides on the definitive level of cost prices, and as such on the level of the premium granted. Except for offshore wind, applications for all technologies are covered on the basis of first-come-first-serve. In 2009, a price tender for offshore wind was organised on the basis of the SDE programme ('Round 2 offshore wind'). Parties were invited to file applications with a maximum cost price level. The projects with the lowest price level were selected to receive the premium asked for.

Apart from the maximum budget, the level of coverage of the financial gap itself is limited by way of a basic wholesale energy price: if the energy price should fall below the level of the basic energy price (increasing the financial gap) the level of the premium will not increase with it.

### *Summary of key elements of SDE methodology- as defined by ECN*

- The SDE is intended to compensate the extra costs (financial gap) of production of renewable (green) power;
- The SDE compensation, and therefore the base amount, must be sufficiently high to facilitate the production of renewable electricity and green gas/biomass. This does not imply that the base amount is high enough to facilitate all projects: as a rule of thumb most of the projects (i.e. 80%) must be realisable;
- The levelised cost of energy is determined based on a reference technology (onshore or offshore wind, biomass etc.);
- For each fuel-technology combination, the techno-economic and financial parameters are determined;
- Techno-economic parameters are (in summary):
  - Installation size;
  - Capex;
  - Opex (fixed and variable);
  - Maximum full load hours;
  - Fuel prices (biomass);
  - Energy content biomass;

- o Electrical and thermal efficiency (biomass);
- The financial parameters are:
  - o Equity share;
  - o Interest rate;
  - o Return on equity;
  - o Project return (WACC);
  - o Term loan;
  - o Economic life installation;
  - o Other contributions, i.e The Green Financing Scheme;
- Based on these parameters, the basic production amounts and, as such, cost price amounts are determined using a stylized flow model;
- In determining the production costs, the cost of capital is included. Starting point is project financing, in which the capital raised is partly debt and partly equity. The ratio depends on the risk assumption in respect of the project. The interest rate for loan capital is set on 6% (5.1% for onshore wind), for return on equity the rate is set on 15%. A reimbursement of capital that exceeds 80% debt at 6% and 20% equity at 15% is not allowed by the European Commission in its SDE-approval statement;
- Per category maximum periods of subsidizing are taken into account (10 - 15 years) as well as maximum full load hours (850 - 8000);
- The advised basic amounts include the cost of production and any scheme-specific turns in the electricity and gas contracts;

#### *Key criticisms on SDE scheme*

- The cap on the budget makes that investors have a rather high risk for development expenditure. They are not sure if a SDE subsidy is awarded;
- Insufficient level of representation of different techno- economic and financial parameters;
- Exclusion of certain cost parameters, such as devex, profile costs, upward fluctuation effect of (land) fees, grid connection<sup>1</sup>;
- Insufficient acknowledgement of actual financing conditions (debt-equity rates as authorised by the European Commission are not in conformity with the actual market conditions as a consequence of the financial and economic crisis);
- The price setting for offshore wind is done by auctioning, which creates unrealistic bidding and gaming.

#### **SDE+**

As a consequence of the cutback-policy measures of the new Dutch government, the existing SDE-programme for renewable energy technologies will be replaced in 2011 by a new programme, the SDE+. The SDE+ will enter into force in July 2011. The new SDE+ will focus on stimulation of technologies that have the highest cost efficiency levels: onshore wind and biomass (green gas). The new SDE+ has a maximum cost price level of 15 €/ct/kWh. A phased application mechanism must ensure that the limited budget will first be available for technologies that have the highest level of cost efficiency. The first phase is open to projects with the lowest cost price level; the second phase is open for the second, somewhat higher, cost price level, etc. The government has published the following preliminary premium levels for electricity:

<sup>1</sup> In the process of preparing the necessary legislation for the SDE+, an important issue has come up: the Dutch government is investigating the possibility of introducing a form of differentiation of the SDE-tariffs for onshore wind. A necessary condition is that cost raising effects such as land fees, grid connection, local fees etc will be resolved.



- Phase 1 (green gas): 9 €/kWh;
- Phase 2 (wind on shore): 11 €/kWh;
- Phase 3 (biomass categories and hydro): 13 €/kWh
- Phase 4 (biomass category): 15 €/kWh;

If in Q1 the phase 1 budget is depleted, there will be no phase 2 in Q2.

The total amount of the combined MEP/SDE/SDE+ spending will be around € 1400 m per year. The SDE+ budget will increase gradually as of 2013 from € 100 m/year up, as the MEP/SDE spending part will decrease.

A new element of the SDE+ scheme is that the premium will be financed by way of a surcharge on the energy bill of end-users. This amount will directly be allocated to the SDE+ budget.

The government is still studying on the possibility of replacing the actual system of appointing subsidy by way of lots (in the situation of budget overruns per technology) or by a system of price tenders.

Because of the budget cuts there will be a high risk of budget overruns in the first two phases. This will probably trigger applications with decreased realisation perspectives. To meet this effect the government is studying on introducing a stronger check of commercial, economic and technical feasibility of the projects.

#### *Co firing biomass*

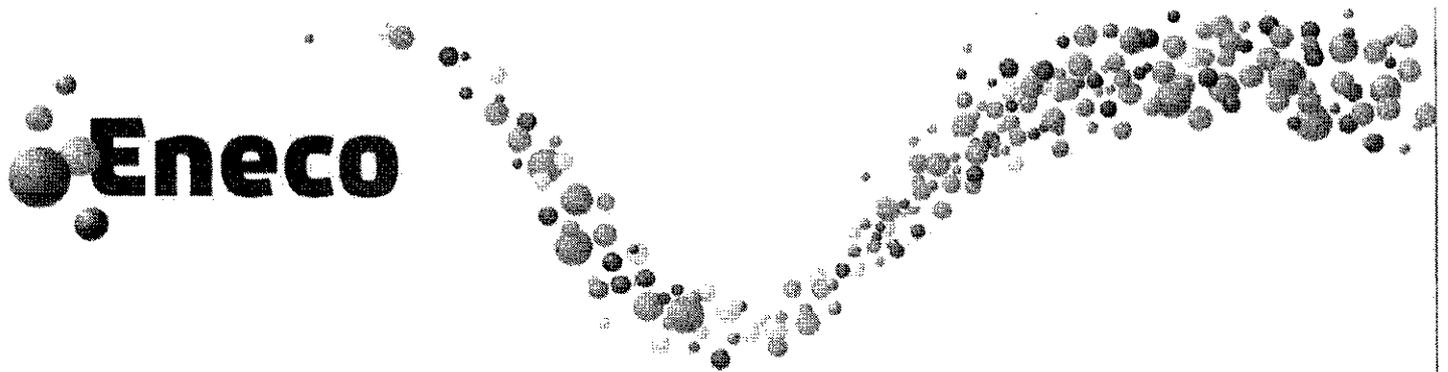
Co firing biomass is excluded from the SDE+ because the SDE system is not seen as suitable for co firing and the government wants to prevent that the total budget for SDE+ goes to co firing. The government is studying on how to proceed with co firing. A direct obligation for CCGT's to use a certain percentage of biomass is considered.

### **Analysis of the Dutch SDE system in relation to the UK system**

#### *Devex risk*

The main issue is that the annual budget for SDE is not explicitly calculated on the basis of the 2020 targets for renewable generation. The budget is limited by the cutback targets of the new Dutch government and a deep-rooted concern to end up in an open end system. Therefore, there is insufficient certainty that a project in the end will receive a feed-in-premium. This means that the 'Devex risk' of renewable production projects is rather high. Once a feed-in-premium is granted to a project, there is certainty that the financial gap of a project will be compensated for a period of 12-15 years depending on the technology. This will not change in the new SDE+ system. Although the SDE+ system will be financed out of a surcharge in the Energy bill of end users like in Germany, there will still be a limit on this surcharge (unlike the German feed-in-tariff system)

In this respect, the German feed-in system and the UK ROC system provide for more certainty to developers of projects. The Devex risk is lower, because a developer of projects is certain that he will



receive the price support needed. If the UK ROC system is not to lose its advantage for developing projects, ideally there should not be a limit for the proposed system. It would be better to exclude Solar PV from the new system in order to restrict the costs of the system. That would prevent a situation like in Germany where Solar PV causes high costs of the FIT system.

Another way of thinking would be that the total annual budget of the new UK system would be based on the UK 2020 target for renewable energy. This would mean that the budget needed for nuclear power should be calculated separately because nuclear power is excluded from the 2020 targets.

#### *Capex risk*

A disadvantage of the current UK system of ROCs from the perspective of investors is of course that the value of a ROC fluctuates, which causes higher risk for the Return on Capital. This risk however is not absent in the Dutch SDE system. When the wholesale price comes below a certain level, the financial gap is no longer compensated (see above).

#### *Level of premium: objective calculation or tendering*

The Dutch system for calculating the premium is very detailed and is focused on an objective 'right' price. The past has shown that the system for onshore wind was not sophisticated enough. In the new SDE+ system (which will be introduced in 2012) there will be a differentiation between premium levels for areas with much wind and less wind. Of course, there is an ongoing discussion between the market and ECN, who calculates the premium levels, but one can conclude from the overbooking of the SDE budgets that the levels of premium are acceptable enough to trigger a certain critical mass of projects. On the other hand, the limited budgets available and linking budgets with cutback goals of the government raise the question whether it is sufficient to arrive at the 2020 goals.

As was mentioned above, a price tender system was used in 2010 for offshore wind. The claim that this system will function effectively in order to stimulate projects with the highest cost efficiency and to prevent speculative applications is highly disputed. Analysts point out that a much stronger evaluation of the economic and technical feasibility of applications is necessary. There are strong doubts as to whether the provisional winner of the tender (offering the lowest cost prices) will be able to realise the project as a viable business case. This system creates a lot of uncertainty about the realisation of the project.

#### *The calculation of premium levels*

The SDE tariff is based on the APX electricity price, but the applicable APX price is fixed ex post. Therefore, the SDE contribution is paid on calculations that are made in advance. In April of the following year (the first production year), a correction and crediting will take place, which is often an additional payment. This procedure leads to higher necessary financing and higher administrative costs for the implementing agency and manufacturer. If the electricity price would be determined on the basis of ENDEX, electricity prices for the coming years will be known in advance. In this case, it is not necessary to settle afterwards.



The electricity price based on ENDEX instead of APX reduces the administrative burden. When the electricity price is determined by ENDEX, security is given in advance, to receive the electricity price. Moreover, it leads to a lower price volatility, which results in lower (price) risk estimates made by financiers, in comparison to the situation in which the APX functions as a price basis. This will lead to a lower risk premium.

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*In case of any questions, please contact our Eneco UK office*