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Mr Jonas Törnquist
Head of Electricity Transmission Policy
Networks Division
Ofgem
9 Millbank
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Dear Mr Törnquist,

**TRANSMISSION INVESTMENT FOR RENEWABLE GENERATION - INITIAL PROPOSALS
ISSUED FOR CONSULTATION IN AUGUST 2004**

The Carbon Trust welcomes the opportunity to comment on Ofgem's consultation document "Transmission Investment for Renewable Generation - initial proposals" dated August 2004. We think this consultation is both necessary and, in the light of the lead times involved for planning, constructing and/or reinforcing transmission lines, timely - some might say overdue.

Our comments focus on the strategic considerations which underpin the incentivisation of investments in a liberalised energy market. We have not commented on matters of detail relating to specific transmission line reinforcement projects.

We consider that this consultation raises issues which go beyond the responsibilities of Ofgem to consider. They should be addressed by Ofgem, DTI and the Scottish Executive working in a strategic and complementary manner.

Ofgem's consultation takes place against the backdrop of lagging progress towards the Government's renewable electricity target for 2010; a growing realisation that the reinforcement of the transmission (and distribution) infrastructure is an essential part of the process which will determine whether that target will be met (or missed); and an

Energy White Paper that has set us on a firm, unequivocal, long term course towards a low carbon economy, with particular emphasis on an expansion of renewable power generation and energy efficiency improvements. It is important therefore that future developments and investments are considered in a manner which takes into account not just the short term consumer interests but also the longer term national interest.

What consultees are being asked to consider is part of a much bigger picture - the transformation of our electricity supply industry in the years and decades to come. This transformation is taking place in one of the most advanced liberalised energy markets in the world where the decisions taken by the regulator (and others) will not only set the scene for investment in the transmission and distribution networks over the next decade but also will determine, to a large extent whether the UK makes the most of its new and renewable energy sources. In terms of delivering a public utility good via a relatively new liberalised market, we are in uncharted waters.

The issue which has stimulated this particular consultation is defined by the following three quotes from the consultation document:

“the Government has a target for renewable generation to provide ten per cent of UK electricity in 2010 with a further aspiration to double this share by 2020.”

“it has become clear that investment will be required to strengthen and extend the transmission system, particularly in Scotland and potentially in Northern England”; and

“when the present transmission price controls were set no specific allowance was made because the extent and timing of any transmission investment for renewable generation could not have been forecast with any degree of accuracy.”

These quotes illustrate that not only are we facing a chicken and egg dilemma but also we have started to think seriously about it rather late in the day. The way this dilemma is handled will have major implications for the Government’s policy to stimulate the massive expansion of renewable energy power generation required to put the UK on the path to a low carbon economy.

Our analysis of this dilemma is that there is a policy and a responsibility gap between Government and Ofgem. For some time, the Government has had clear policy objectives with respect to renewable power generation and carbon emissions reduction generally. They were formalised in 2002. To achieve these objectives requires timely action to incentivise the necessary investment not only in the rotating machinery but also in the transmission and distribution networks. The transmission licensees will not invest in additional capacity without incentives and hence what Ofgem decides about the incentive mechanism will determine the level and pace of investment going forward.

Ofgem makes decisions in the interest of consumers - primarily, today’s consumers. It does not, therefore, support investment ahead of need or which, in its view, cannot be justified at the time. Thus, the consultation document says:

“These initial proposals should protect and safeguard consumers’ interests by allowing the efficient and timely transmission investment necessary for new renewable

generation to access the market a cost effective fashion, and, avoid any unnecessary delays to the development of renewable generation.”

Whilst we hope that this statement will be borne out in practice, the Carbon Trust considers that there is a real risk that this particular circle cannot be squared.

Ofgem has also made clear:

“It focuses on establishing a framework to provide incentives for an efficient level of investment, given the forecast pattern of renewable generation. It does not seek to provide additional subsidies for investment in renewable generation.”

This statement lies at the heart of the dilemma in this consultation: to achieve the goal of rising renewable electricity generation, requires a hand in hand approach with respect to the networks and the generation plant. Though Ofgem does not provide additional subsidies for renewable generation investment, its decisions in relation to network investment will be the rate determining step for connection of new capacity to the network.

There are, of course, uncertainties about the rate at which new renewable power generation capacity (or any other generation capacity for that matter) will come forward for connection to the network. For example, the planning hurdles for generation plant, and the transmission and distribution networks, are significant and growing. It could take several years for firm planning decisions to emerge from the process and for development proposals to be translated into hard investment. On the other hand, Government may choose to take action to tackle planning and other barriers to the deployment of new and renewable generation capacity.

Our networks impact study, carried out on behalf of the DTI’s Renewables Advisory Board, estimated that developers’ plans accounted for 72% of the Government’s 10%/2010 target (around 5GW). (Plausible scenarios to achieve the full 10% took this figure to between 6-7.5GW.) This capacity was deliverable to the point of connection to the transmission and distribution network but that the network could not accommodate this amount of connection without upgrades. We estimated these upgrades would cost in the region of £1.4-2.1Bn for transmission and around £0.8M for distribution networks respectively. Additional upgrades would be required to meet the Government’s aspirational goal of 20% renewable electricity sales by 2020. We recommended, among other things, that:

- (i) *“The incentive schemes devised for the TSOs and DNOs should allow a suitably long-term view for providing the necessary additional network capacity, including the possible future use of HVDC systems.” And,*
- (ii) *“To ensure that the work is undertaken within the timescales required, Ofgem needs to finalise an adequate mechanism for selectively incentivising Transmission System Operators (TSOs) and Distribution System Operators (DNOs) as a matter of urgency.”*

Ofgem has proposed a stepwise model for incentivising investment based on an economic and risk assessment which characterises investment proposals as follows: firm

baseline, less firm incremental and uncertain additional capacity. The assessment has drawn on work Ofgem commissioned from engineering consultants Sinclair Knight Mertz (SKM). SKM considered forecasts of renewable connections; the trade offs between investment and constraint costs; the risks of stranded transmission assets and the licensees' estimated costs. Because Ofgem are drawing heavily on this analysis, it is a crucial piece of work.

The Carbon Trust has looked at the SKM report and considers that one of the critical factors is the analysis underpinning the "downgrading" of capacity credits for wind power from 60% (as assumed by the transmission licensees) to around 20% in the SKM study. A 60% figure, SKM say, results in the identification of network reinforcement and investment ahead of need and also in excess of actual requirements for a given installed wind generation capacity. However, looked at another way, there is a risk that a figure of 20% would under-estimate the amount of reinforcement required and would therefore inhibit the connection of wind power generation on to the transmission network.

Why is there such a big difference between the transmission licensees' estimate and SKM's? Given that such a difference has emerged from SKM's analysis, we consider that a prudent course of action on the part of Ofgem would be to commission further analysis. It would be unreasonable to go ahead on the basis of the SKM study alone knowing full well that it reduces appreciably the amount of network reinforcement deemed to be necessary to accommodate rising percentages of wind power generation as underpinned by developers' plans.

Clearly, the assessment of risk is crucial to the analysis and determines the nature of the incentivisation mechanism. Whereas Ofgem's approach seeks to safeguard consumers from paying too much, or too soon, for transmission network reinforcements, it does introduce a risk that the Government's renewable electricity targets will not be achieved and the growth of renewable power generation will be set back.


This risk is a matter for Government to deal with, consulting relevant stakeholders. Without Government action, the Carbon Trust considers that Ofgem's policy will lead to the transmission network being found wanting. Network capacity will be insufficient to cope with the rising renewable generation capacity going forward and a queue will develop for generator access to the network. This, in turn, will prevent renewable generation projects from receiving an income stream. They will quickly become unbackable and investor confidence - already fragile - will be lost. As a direct result, the Government's renewable generation and carbon emissions targets will not be met.

Utility investment incentivisation is considered by Ofgem from the perspective of today's consumer. The Carbon Trust considers that this is too narrow a perspective. It will not lead to a sensible outcome for the UK, considering the importance the Government attaches to tackling climate change and to achieving rising percentages of renewable power generation on the network. The gap between consumer interest today and longer term climate change policy objectives (highly relevant, in fact, to the interests of tomorrow's consumers) needs to be considered, analysed and bridged.

In conclusion, the Carbon Trust considers:

- (i) that DTI, Scottish Executive and Ofgem should work more closely together on strategic issues of this kind. They should devise a complementary investment incentive mechanism which makes sure that the transmission (and distribution) networks do not act as a barrier to the deployment of new and renewable power generation. Joint working on this aspect of transmission network development, perhaps via the existing coordination etc groups, should be started sooner rather than later in order to avoid the situation we have now - i.e., with long planning horizons (on average 3-7 years with 10 years not unheard of), mechanisms are only now being considered to incentivise investment in transmission reinforcement.
- (ii) given that such a difference has emerged between the transmission licensees' and SKM's estimates of wind capacity credits respectively, it would be imprudent for Ofgem to go ahead on the basis of the SKM study alone knowing full well that to do so reduces significantly the amount of network reinforcement deemed to be necessary to accommodate rising percentages of wind power generation;
- (iii) that Ofgem should carry out further and independent analysis to understand better why the transmission licensees consider a 60% capacity factor is the appropriate figure to use whereas SKM say 20% is the "right" figure;
- (iv) it would also be as well to scrutinise the economic arguments carefully. The value assigned to the wind capacity credits will also impact on decisions on what are, or are not, necessary transmission upgrades.

Yours sincerely,



DAVID VINCENT
Technology Director

cc Tom Delay