Consultation on improving grid access, November 2009
Response by Community Energy Scotland

This response is set out according to the questions in the consultation document.

Scope of intervention:

Q1 - Taking into account the need for a timely solution to access delays for new generation projects, and the costs associated with taking action, do you agree with the targeted intervention planned by Government?

Yes. However, it is important that projects currently in the queue which have planning permission and are capable of timely commissioning are not discriminated against in favour of new projects.

Q2 - Do you have any evidence to indicate that other issues should be considered as part of these access reforms, rather than, for example, through the normal governance procedures?

Yes. Demand side management in the form of price mechanisms (or other measures) which encourage behavioral change should be considered with regard to electricity consumption. It is important to try and reduce demand rather than just make adjustments supply-side. The evidence for this is the potentially large generation shortfalls when existing thermal stations come to end of their expected life-spans.

Q3 – From what date do you consider the enduring arrangements should apply?

Proposed date of June 2010 seems fine for Connect and Manage as a whole, as long as consideration given to backlog of projects awaiting connection. The queue, in terms of booked capacity for projects without planning, should be addressed as soon as possible.

Industry grid access proposals:

Q4 - Do you agree with our initial assessment of the impacts of the industry grid access proposals (including on the Fourth Model, which was not formally considered by the industry process)?

Connect and Manage – Socialised Costs: CES agrees with most of the assessments of the likely impacts of this model, noting that they are generally very positive and in line with wider policy aims to maximise renewable electricity generation. In terms of the effects resulting from entrants being less inclined to consider the impact from

their connection on the wider connection costs; we do not feel this is a major concern as entrants will instead be using the renewable resource in the area as their major influence in the siting of their generation plant. If this does lead to a rush of applications for a particular area, resulting in a high level of constraint management actions and costs, this will be a good indicator of the areas of transmission and distribution which require most urgent upgrading. This work would then reduce the constraint costs which would fall on the consumer. It should be noted that many community group-based energy developers will not have the opportunity to develop a scheme elsewhere in the country far from their own geographical location, so it would not necessarily be possible for them to seek plant locations which have less impact on wider connection costs.

We believe that the potential for a "free-for-all" under a socialised model has been substantially overplayed. Generators taking advantage of a Connect and Manage regime would expect to pay a TNUoS or equivalent charge for their access, and provide user commitment leading up to energisation. These commitments would not be undertaken lightly and would only encourage serious, viable projects.

Furthermore, experience with Interim Connect and Manage (ICM) and anecdotal evidence on dates requested by advancing generators suggests that the increase in connections would be gradual and can be accommodated by National Grid within reasonable parameters.

Connect and Manage – Targeted Costs: As noted above, while we recognise that this model would give an incentive for new entrants to locate in areas where no reinforcement is required, we feel this would be of little benefit to many of the community groups we work with. For those where their community is based in an area of generally weak distribution network, there are no other options for locating their projects in areas where the grid is stronger. This is particularly the case with the projects in the West of Scotlad for instance, where there are few if any areas where projects could connect to the grid without significant reinforcement work. Likewise, many hydro schemes will be located according to the specific renewable resource in the area; they cannot simply look elsewhere. Faced with potentially crippling reinforcement or constraint costs, or offers of connection many years into the future, many of these projects will not happen, with negative implications for renewable energy and carbon reduction targets.
In order for the UK to meet its renewable targets it needs to make connecting to the grid easier for the areas with the the most abundant renewable resources.

Q5 – Do you agree with our initial view that we should focus on models based on a Connect & Manage approach?

Yes; it offers the most equitable approach for small generators who might not be in a financial position to put forward large sums of money in an auction process. It is also likely to be the most effective model for removing short-term barriers to grid access.

Analysis of models for consultation:

Q6- Do you agree with our initial assessment of the impacts of the different Connect & Manage models?

Firstly, CES noted that DECC's consultant detailed design and high level impact assessment stated that the Socialised model offers the best chance of achieving the Goverment's objectives:

> "On balance, the model most likely to result in meeting all of the UK Government's objectives is the Connect and Managed Socialised Cost model. In particular, it best facilitates the accelerated connection of renewables and still facilitates flexible plant to remain on the system to provide services to the GBSO for maintaining security of supply."[1]

Yes CES agrees, although the negative emphasis placed on higher charges to consumers (the context within which your objectives have been set) appears to be clouding the view over which model is the best to deliver your objectives. All consumers will have to pay higher energy charges over the coming months and years and by facilitating exposure to these earlier rather than later will provide price and scarcity signals to the population as a whole. In turn this will encourage energy awareness and efficiency and reduce the gap that ageing generation plant and newer but more intermittent plant will have to satisfy in future. Additionally, given the projected price increase is likely to be in the order of £1 per head (for domestic consumers) per annum this cost is a small price to pay for the additional benefit of encouraging new generators on as soon as possible.

In targeting certain costs on new generators only under the socialised (hybrid) model will developers be encouraged to look toward less constrained areas of the network. It can be argued that these areas have less potential in terms of renewable resources to meet the governments targets. Additionally it is counter to the emphasis placed on communities becoming more self reliant and generating electricity on the distribution network in already constrained areas. Moves to support community groups and smaller generators in these areas assist in delivering the objectives related to energy security instead of expecting these groups to speculate outwith their immediate area, which in many cases is simply impossible.

Therefore the model most likely to meet all your objectives with minimum overall disruption to access arrangements and procedures as well as sending very encouraging signals to all levels of generator is the connect and manage socialised model as opposed to your choice of the hybrid model.

Q7 - Are there any further impacts of these models you consider ought to be borne in mind?

Yes, it appears there is more emphasis on short term costs to consumers and the need to protect consumers from what you have estimated as £1 per annum per year for domestic households than there is on securing the maximum level of new renewable

[1] Detailed design and high level impact assessment for DECC's two proffered options for GB Transmission Access reform p.15 paragraph 1.

generation. So whilst government targets feature strongly in the impact analysis they appear to be diluted and tempered by the need to keep short term costs down for consumers as well as generators.

A further impact assessment should be undertaken incorporating the costs of delayed or reduced new activity in the medium to longer term drawing on the financial costs detailed in the Stern report providing a sliding scale of future costs to future generations of varying levels of activity related to the various models proposed. This need not be a hugely detailed assessment given the figures relating to different scenarios of different levels of carbon dioxide abatement have already been provided in the Stern report. The additional cost related to reliance on foreign sources of energy should also be factored in, more clearly. Whilst energy security has been identified as an objective and has been used as part of the assessment criteria, not enough detail or emphasis has been placed on the true financial costs of ***not*** *satisfying this objective.*

Finally, instead of using short term cost to the consumer as the context for this consultation, the long term cost to the consumer and tax payer until 2050 incorporating climate change abatement measures and energy security as a whole should be used as the context. The practical application of such important policy changes must be more thorough in their approach than simply being concerned with short term consumer costs.

Q8 - What generation mix do you consider these various models would be likely to lead to by 2020?

Socialised will lead to a good mix as it will support hydro and marine energy which are often connecting in places with weak grid infrastructure.

It would also be useful to encourage different renewable technologies to share limited network capacity, where they have complementary generation profiles. For example a wood-fuelled biomass power station has storage capability and might potentially feed into the same network as a windfarm, without requiring an increase in the latter's maximum export capacity: the biomass power station would generate to 'fill in the gaps' in the wind output profile. The capacity factor of wind is rarely more than 40% so there is effectively 60% unused (on average) export capacity available (though perhaps this kind of synergy can take place under existing connection rules).

The variability of wind is often cited as a challenge for system operation, and that there will be costs attached to managing this variability. However, a major source of concern cited by National Grid – including at a constraints seminar hosted at National Grid's control room – is the unpredictable nature of self-dispatch decisions of flexible, thermal generation. Compared to this, wind output is relatively transparent in so far as it is dependent on the resource rather than in-house commercial decisions.

CES would question whether National Grid should be negotiating contracts with portfolio generators to manage their generation portfolio to, for instance, complement their thermal with wind output. This is the kind of behaviour that should be encouraged. Indeed, it is the kind of behaviour that flexible thermal generators argue we need them for in a low carbon future.

The Hybrid model will encourage large wind farms and discourage distributed generation.

Q9 - In your view, what impact on overall generation and transmission costs would the various models be likely to lead to and by when?

Hybrid model would increase generation costs in the short term but reduce transmission costs placed on the consumer.

DECC's initial assessment that the costs to consumers of the Connect and Manage (Socialised) model would be £1 per household per year to 2020. The impact is therefore maximised growth in renewable energy generation and CO_2 reduction with a very small increase to consumer bills. With the planned upgrades to electricity networks, constraint costs should disappear as an issue.

Q10 - Do you have any evidence of any risks or unintended consequences as a result of any elements of these models?

The Hybrid model would discourage distributed generation and prohibit development in areas where the grid infrastructure is weak. In turn there would therefore be less renewables in the rural areas with the most renewable potential and it would therefore be less likely that the Government would make the renewables targets.

Q11 - Do you agree with the Government's initial view that a model along the lines of Connect & Manage (Hybrid) is likely to best meet our objectives?

No, the Socialised model is more likely to meet objectives. It will encourage developers to connect early on before the upgrades thereby helping the Government meet its targets early. Consumer will pay some of upgrade costs whichever model. The Hybrid model disadvantages areas where the grid is weak and in Scotland these are the areas with the best renewable energy resources. Therefore we need to encouraged renewable generation in these areas and spread costs across network using socialised model.

Additionally, the hybrid model will place a burden on new and emerging technologies like wave and tidal as typically capital roll out and installation of these will already be high. Absorbing the costs through the fully socialised model will assist some way in getting these technologies to market and connection. It is understood that there may be a reluctance to spread constraint charging arrangements across existing generators when constraint and transmission management issues will be required more as a result of new generation coming on. However the principle to date has been that those generators more financially equipped to connect have been able to do so using up available capacity on fragile networks and have not been expected to contribute as much to transmission upgrade works even though they will expect to benefit from those works in future. The hybrid model will continue to protect existing generators from some of these costs whilst targeting new generators and the socialised model will allow smaller generators to connect across the network as a whole regardless of whether that area is currently congested

Continued acceptance of applications in congested areas will also help focus attention and effort on the much needed upgrades and reinforcement in these areas. Spreading the costs across all generators is a more equitable arrangement recognising that all generators will eventually benefit from a more robust electricity network. Furthermore it could be argued that rather than cause speculation in any one area over another it will allow a more balanced spread of connection applications and generating stations

resulting eventually in the market funding the necessary and long overdue network upgrades in fragile areas. These are areas where privatisation of electricity supply and generation has led to significant market failure and the lack of opportunities from poor infrastructure.

Detailed questions on the models for consultation:

Q.12 - In relation to the Connect and Manage (Hybrid) model, what balance do you consider to be appropriate between socialisation and targeting of additional constraint costs? How should these costs be recovered? Would a form of locational BSUoS be an appropriate mechanism for targeting a proportion of the additional constraint costs? Should this apply to everyone behind an identified constraint or be targeted solely at new generation opting for a Connect & Manage connection? Are there other means for targeting 15 constraint costs (apart from locational BSUoS) which the Government ought to consider?

In relation to the Connect and Manage (Hybrid) model, what balance do you consider to be appropriate between socialisation and targeting of additional constraint costs?

Full socialisation offers the most equitable and effective option, as it will not penalise those who are looking to develop schemes in areas where the grid is weak. These are often areas where there are strong renewable resources, such as the wind, hydro and wave resources in the Western Isles and Argyll. These resources are likely to be under-developed if those behind a constraint have to pay for the costs associated with a Connect and Manage scheme. This could have negative implications for meeting Scottish and UK targets for renewable electricity production and for carbon emissions reduction. Encouraging developers to areas where the grid is stronger may not necessarily put developments in areas with the strongest renewable resources. Likewise it might severely affect the viability of community schemes in remote and economically deprived areas, which frequently have weak distribution networks. A socialised model would remove this consideration, and would provide a level-playing field for developers, allowing them to viably develop schemes in the areas of best renewable resource, and of greatest community need.

How should these costs be recovered? Would a form of locational BSUoS be an appropriate mechanism for targeting a proportion of the additional constraint costs? Should this apply to everyone behind an identified constraint or be targeted solely at new generation opting for a Connect & Manage connection?

If this was the case, it could unfairly penalise the existing generators behind the constraint, who would not have taken these unforeseen costs into account in their business planning. Socialising the costs would be more equitable as it would equalise the burden and not disadvantage any one generator.

Q13 - Do you consider that any element of user commitment beyond existing requirements is necessary as part of the solution? If so, what form should this take? Should this be for a fixed period (e.g. five years as envisaged in the Shared Cost & Commitment model) or for a flexible period?

Because CES favour the Fully Socialised model, we do not feel that user commitments beyond the existing requirements are necessary, although mechanisms which help to spread or predict costs (and reduce cost spikes) associated with BSUoS or TNUoS are useful in helping create a stable environment in which developers can base decisions.

Q14 - Do you consider that some kind of deferred recovery of some element of constraint costs should form part of the solution? If so, what form could this take? What proportion of costs should have deferred recovery and over what length of time?

Deffered recovery could be an option allowing the cost of connection to be set against revenue in the form of rent or additional use of system cost. Small community projects can have a large proportion of commercial debt and excessive rental charges would have an impact on profits in the initial year so the longer these cost can be deffered the better, this would need to be the length of the project. Though the connection rights would need to be transferable to subsequent projects.

CES opinion is that deffered recovery should be an option not mandatory. Some projects may be able to raise the capital for the constraint costs at the start of the project, which for communities would potentially increase the profit levels at the start of projects.

The proportion of deferred costs would need to be on a project by project basis.

Q15 – Do you have views on whether a deferred recovery mechanism would be allowable under International Accounting Standards and if so how this might work?

No

Q16 - Are there any other features of the models described which you consider could be amended or improved?

Other issues:

Q17 – Do you agree with our initial view that the enduring access regime should apply equally to distributed generation in categories (a) and (b)? What would be the benefits and impact, in terms of facilitating access to or efficient use of the transmission system, of applying the new regime to this distributed generation? What interactions do you see between the models set out in this consultation and distributed generation? Do you agree that any further amendments to the treatment of distributed generation should be progressed through the industry-Ofgem governance process?

What would be the benefits and impact, in terms of facilitating access to or efficient use of the transmission system, of applying the new regime to this distributed generation? What interactions do you see between the models set out in this consultation and distributed generation?

Ref Q11 and Q12 – It is CES's view that the hybrid model would have a negative effect on distributed generation and therefore the Goverment's renewable generation targets.

The socialised model would have a positive effect on distributed generation in remote locations and consequently renewable generation accessibility.

Do you agree with our initial view that the enduring access regime should apply equally to distributed generation in categories (a) and (b)?

Yes the enduring access regime should apply equally to distributed generation in categories (a) and (b) because it should allow consented projects on distribution networks to connect as soon as their "local connection works" have been completed. This could also serve, at least in the short term, to utilise any available capacity that is currently held but not used by contracted but unconsented generators. A clear definition of "local connection works" would be useful here to determine eligibility for Connect & Manage.

Do you agree that any further amendments to the treatment of distributed generation should be progressed through the industry-Ofgem governance process?

Summary questions:

Q18 – Are there any other issues that Government should bear in mind to ensure the sustainable and effective implementation of changes to support the efficient access to and use of the transmission system?

The electricity industry uses controlled circuitry and radio signals to manage load on the grid by switching on and off storage heaters. This over the years prior to privatisation allowed large peaks and troughs of energy demand to be effectively managed. With the separation of the supply components it is more difficult to identify where the individual business benefits lie in managing the grid and distribution system in this way. This has resulted in less enthusiasm to develop and sell off peak heating products.

A solution may be to encourage grid and distribution companies to offer greater incentives to supply companies to offer time of day or weather related prices so they can encourage customers to look again at electric heating options. This is particularly relevant in areas of good renewables, high connection cost areas of sparser population and fuel poverty for example north and west Scotland. These heavily constrained areas would benefit from a more holistic mechanisms of managing demand and supply.

Q19 – Do you have any specific comments on licence and code amendments required to implement these models?

No.