SUBMISSION FROM OSSPOWER LIMITED

Background
Osspower Limited, a private company, is developing four run of river hydro schemes near Loch Lomond in Scotland. The total capacity of these schemes is 6.1MW. We have obtained all necessary planning consents and secured a connection to the National Grid. Pre-construction planning costs totalled around £900,000. In addition the upgrade and extension to the grid cost £1.56m. These costs need to be amortised across all four schemes to provide an acceptable return on investment. It was intended to obtain finance for the first two schemes and start construction in spring 2011.

Owing to uncertainties in the existing FiT legislation (concerns that the two separate schemes might be considered one, thereby attracting a substantially lower FiT payment), Osspower was unable to obtain finance for the two schemes and so we were forced to proceed with just one (costing £6m). This scheme should be generating in mid 2012.

Providing the new FiT regime comes into effect as planned in the Department of Energy and Climate Change’s Consultation 2B published 8th February 2012, it should now be possible to proceed to financing the second scheme, albeit after suffering a delay of 12-18 months.

Osspower Limited Responses to Inquiry

Remit
“An inquiry into the achievability of the Scottish Government’s 2020 renewable energy targets, the merits of the targets and what the risks and barriers are to realising them.”

Terms of Reference

Targets
• Are the 2020 renewables targets (for electricity and heat) achievable? If not, why not?
  Osspower response:
  Within the overall mix of renewables technologies, the British Hydropower Association estimates that there is approximately 1,200MW of undeveloped hydro capacity (i.e. excluding pumped storage) in Scotland1 out of a UK wide total of 1,450MW. The DECC Consultation 2B 2 has proposed a 5% automatic degression of the tariffs from April 2014 with a cap of 55MW (meaning earlier

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1 British Hydropower Association presentation to Minister of State for Energy & Climate Change 22 February 2012

2 The consultation document was published on 9th February 2012 and can be found at http://www.decc.gov.uk/assets/decc/Consultations/fits-review/4311-feed-in-tariff-scheme-phase-2b-consultation-docume.pdf
degression will be triggered if this limit is reached earlier). The cap in 2015 is 73MW.

The BHA estimates that there is a practical limit to the potential new build capacity of a maximum of 320MW by 2020, taking account of constraints such as planning, access to potential sites, grid connections, financing and availability of experienced construction, consulting and other professional resources.

The BHA is concerned that the Phase 2B proposals will limit the opportunity for deploying hydropower to as little as 100MW over the period to 2020. Discussions are taking place with DECC to evidence fully these concerns and propose a rate of degression which will deliver closer to the full potential of 320MW, which is itself only ¼ of the potential capacity.

Osspower believes that, particularly in Scotland, hydropower is an essential element in achieving the 2020 renewables targets and that the current Consultation proposals will unnecessarily restrict hydro’s contribution.

Challenges
(a) Technology

- Is the technology to meet these targets available and affordable? If not, what needs to be done?
  Osspower response: The technology for developing hydropower installations is long established. Techniques for minimising the environmental impact are being continuously refined and, subject to the reservations above regarding tariff levels, these schemes have a relatively predictable construction and installation cost base.

- Are electricity generating or heat producing technologies compatible with the need for security of energy supplies?
  Osspower response: There is a high degree of predictability for rainfall in Scotland. The majority of potential schemes lie to the West of Scotland where rainfall is higher than the national average. Rainfall is highest in winter months (long term averages suggest 60% of the annual rainfall occurs in the winter months), when electricity demand is likely to be higher. Hydro generation is more predictable than other forms of renewable energy (e.g. wind or solar): once a rainfall event has occurred the run off over the ensuing 24 or even 48 hours can be accurately predicted.

  Run of river hydro cannot replace base load electricity supply but it provides more certainty than other technologies.

(b) Supply chain and infrastructure

- Is the supply chain in Scotland in place to meet the targets?
Osspower response: Hydro schemes are comprised of a high level of civil engineering (approx 20% of the total in Osspower's case). This includes manpower, plant and materials (aggregates etc). Other key elements include pipe (Glass reinforced plastic, High Performance Polyethylene, steel), turbines and electrical equipment. We do not foresee any constraints in the supply chain for components and equipment and materials.

However, the construction teams are, of necessity, highly skilled in working in hostile terrains, poor weather conditions and environmentally sensitive areas. We are concerned that, without a clear future, construction and consulting skills will be dispersed and the industry’s long term capacity to install new schemes will be diminished. A high level of predictability of construction demand is essential to avoid this risk.

- What further improvements are needed to the grid infrastructure or heat supply networks both at a national and a local level? Additionally, are we confident that the necessary infrastructure can be developed and financed so that Scotland can export any excess electricity generated to the rest of the UK and/or the EU? What is the role for the Scottish Government here?

Osspower response: In our case, the cost of the grid connection is the single most significant element of the planned developments. This we believe is typical. We obtained an initial indication in 2007 that the cost of the grid would be £600,000. This increased to £1m when we signed connection agreements with the Distribution Network Operator in 2008 and further increased to £1.5m in 2010. There was a requirement to make substantial payments on account ahead of construction (and before being able to raise development finance). This structure puts a high degree of risk on developers and we are aware of schemes being suspended on account of this.

We are also aware that the lead times in some areas for connection are in the order of two years or more and, against a background where the FiT regime itself does not provide a level of confidence over that time scale, it is certain that some schemes will not progress.

We believe more should be done to support developers through providing higher predictability on connection dates and costs and that some elements of financial risk should be removed from the developer. At present the DNO is not exposed at all and in many cases may have a brand new element to the grid entirely underwritten by the developer.

(c) Planning and consents

- Is the planning system adequately resourced and fit for purpose?

Osspower response: Great strides have been made in regard to assessing the impact of individual hydro schemes and the cumulative impact of others. In Osspower’s case the Loch Lomond and the Trossachs National Park is
supportive of appropriate hydro developments. Planning officers at SNH and the National Park are more familiar with the characteristics and are able to interact with developers to provide site specific inputs.

- How can national priorities be reconciled with local interests?
  **Osspower response:** Hydro developments typically occur in remote, rural areas where alternative investment and development opportunities are limited. The local communities will benefit directly from construction (and longer term operations) employment opportunities and, in Osspower’s case, a significantly increased income to the estate on which the projects are located will arise. This will be reinvested in achieving the estate’s long term goals of improving the natural heritage and protecting the local environment. It is important that local communities are consulted and informed about the developments and it is probable that local interests will be aligned with the development and thus will reconcile with national priorities.

(d) Access to finance

- Will sufficient funds be available to allow investment in both the installation and the development of relevant technologies? What can the Scottish Government do to influence this?

  **Osspower response:** As noted above, in relation to hydro, there is little requirement for funds to be available to develop technologies, as these are all well established.

  Regarding funds for installation, this is a key concern and is largely driven by the level of confidence that finance providers may have in the FiT regime to sustain a long term construction programme (over at least one year) and provide an adequate return thereafter.

  The history of the last 18 months demonstrates that, as confidence in the sustainability of the FiT regime has declined, so finance available for development has dried up and in some cases developments have been postponed for two years or more. The delivery of new hydro schemes relies entirely on a stable and long term financing regime. We would suggest that, based on our experience, a time horizon of at least four years is required to accommodate initial feasibility studies, planning, grid procurement, construction and commissioning.

- What will the impacts be on consumers and their bills?

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3 Gordon Watson, Director of Planning quoted in the Scotsman  [http://www.scotsman.com/scotland-on-sunday/scotland/waterways_in_national_park_will_create_power_to_ward_off_wind_farms_1_2032421](http://www.scotsman.com/scotland-on-sunday/scotland/waterways_in_national_park_will_create_power_to_ward_off_wind_farms_1_2032421)

4 This income will be paid in priority to providing any return to finance providers. In Osspower’s case, the partners in the estate own approximately 30% of the company. The debt finance has been provided by the Cooperative Bank.
Osspower response: There is currently approximately 30MW of potential capacity fully consented but on hold pending a satisfactory outcome to the Phase 2B Consultation. Based on current levels of FiT payment (11.5p / kWh) and a construction cost of £3m per MW of capacity installed, the annual FiT payments to generators relating to this capacity would be £11m per annum. 

This payment would continue, inflation adjusted, for the 20 year term of the FiT regime and would provide an acceptable financial return to developers. After the 20 year term, experience indicates that installations can continue with little or no subsidy for between 50-100 years, having undergone replacement of turbine components etc.

Whilst there will be an impact on consumers if the cost of the FiT payments is passed on in electricity bills, in the case of hydro, there is a substantial investment element in the costs passed on which will provide long term benefit.

(e) Skills and workforce development

- Will Scotland have sufficient home-grown skills to attract inward investment? Are current policies producing the desired move towards Science Technology Engineering and Maths subjects at schools and universities? Is the skills transfer from the oil and gas sectors being realised?

Osspower response: Please see response to question (b). The hydro industry relies on high degrees of skilled input from consultants and contractors to deliver schemes to the level of design necessary to integrate them into sensitive landscapes (often with official designations). Without a stable, long term development environment, it will be difficult to retain and sustain the requisite skill sets.

(f) Energy market reform and the subsidy regime

- Are the reforms of the energy markets and subsidy regimes at both UK and EU level sufficient to meet the challenge of the Scottish Government's renewable targets?

Osspower response: Please see answer to “Terms of Reference - targets” above. We believe a stable regulatory and subsidy regime is an essential pre-requisite to the future success of the hydro industry in Scotland.

We and the BHA have identified several other key factors in the regime proposed in the Consultation as follows:

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5 Estimate provided by Hydroplan Limited January 2012
Retention of RPI adjustments to the proposed level of FiT payment and limits to the degression below the 5% proposed: The apparent basis for providing a degression mechanism is that technology costs will fall over time. Whilst this may be true of newer technologies such as solar (where economies of scale and improving technologies will contribute to higher returns for investors) hydro will be exposed to higher costs of construction and raw materials which will be most accurately compensated by applying an RPI adjustment to base costs.

Hydro provides greater value for money than other technologies: Once consumers have contributed to the costs of construction, through the 20 year FiT payment structure, the physical assets will remain in place and, on past experience, will be sustainable with only the income received from the unsubsidised sale of electricity.

Point of Connection issues: Many future schemes have been configured to be connected to the national grid by a private wire linking a number of individual schemes together. At present these schemes would be aggregated and only benefit from the lower FiT level applicable to larger schemes despite being in every other respect individual small schemes with the associated higher costs per MW installed. The industry is in discussion with DECC to ensure this essential point is addressed.

A regime with longer intervals between review and with consequently reduced uncertainties is essential to accommodate the timescales experienced in the hydro industry. Preliminary Accreditation is an important element in providing greater confidence to finance providers and should contribute to some reduction in the cost of capital to finance schemes.

Osspower Limited
20th March 2012