



Submission to the DECC FiT review 2015/2016 on behalf of the UK hydropower industry

1.0 Summary

As part of the DECC Feed-in Tariff (FiT) Consultation, the British Hydropower Association and Scottish Renewables, their members, and with input from other trade bodies, are providing this submission to raise a number of serious concerns and issues, supported by suggested solutions which we wish DECC to seriously consider.

FiTs have provided the positive stimulus for the considerable potential offered by small-scale hydropower. However, the application of the tariff degression mechanism is set to bring a premature end to the future development of a growing hydro industry which currently supports 7,400 jobs, adds £600m to the wider UK economy every year¹ and significant value to remote rural communities.

In order to ensure hydro has a long-term future in the UK and contributes to the wider renewable mix - at the lowest lifetime cost to the consumer of all renewable technologies - the Government should ensure the following changes are made:

1. **Tariff** - Revise the hydro tariffs to a level which will stimulate further hydropower development.
2. **Degression** - Adjust the tariff degression mechanism to ensure gradual, predictable changes to tariff levels, rather than the unpredictable and steep cuts the sector currently faces.
3. **Grace Period** - Introduce a grace period for grid connection delays where the project would have commissioned on time but for delays that were not the developer's fault.
The introduction of a grid delay grace period is relatively straightforward, with full consensus across all small-scale renewable technologies, and we therefore request a fast-track review to cover this proposal to ensure implementation for both new and existing projects before the end of 2015.
4. **Pre-accreditation window** - Change the pre-accreditation window to ensure there is sufficient time to achieve financial close and efficient construction.

Unless there is an upward revision of the prevailing tariffs and the changes requested are made to the degression mechanism and pre-accreditation window, new hydro deployment will decline markedly from the end of 2016.

¹ The Size and Performance of the UK Low Carbon Economy, BIS (2015) - https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/416240/bis-15-206-size-and-performance-of-uk-low-carbon-economy.pdf

2.0 Introduction

The BHA is the only trade membership association solely representing the interests of the UK hydropower industry (from micro to large scale) and its associated stakeholders in the wider community.

The BHA is extremely concerned about the prospects for continuing new development in the small-scale hydro sector. FiTs have provided a much needed stimulus to hydro development since 2010. However the cumulative impact of the tariff degression mechanism introduced following the 2012 FiT review has led to a sharp drop-off in new development activity. This threatens the future existence of a sector that has made a valuable contribution to the UK's renewable energy mix over the past five years while also stimulating £1.9bn in turnover, creating £600m of additional value and supporting 7,400 of jobs across the UK².

Some of the issues raised are specific to hydro while others are common to all FiT-supported technologies. In preparing this pre-consultation submission, the BHA has engaged with the other renewables trade bodies with a view to presenting a common approach to DECC on areas of shared concern.

3.0 Current status of small-scale hydro in the UK

Recent growth and benefits

Hydropower provides a valuable contribution to achieving UK government renewables targets and climate change goals, while supporting UK businesses and communities. The FiT scheme has been hugely positive for the hydro sector, attracting investment and stimulating businesses throughout the country, leading to the significant environmental and economic benefits currently enjoyed.

Hydro currently represents 9.2%³ of all renewables generation in the UK with over 1,718MW⁴ of installed capacity. Although much of this capacity is a legacy from hydro development in the mid-20th Century, the introduction of FiTs has led to a total of 65.5MW⁵ (see table 1 at the top of page 3) of new small-scale hydro since 2010. Studies suggest that there is still potential for further small scale hydro to deliver over 1,000MW of new schemes in Scotland alone⁶. In order to realise some of this potential, changes must be made to the FiT scheme to ensure the industry continues to develop and grow.

² The Size and Performance of the UK Low Carbon Economy, BIS (2015) - https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/416240/bis-15-206-size-and-performance-of-uk-low-carbon-economy.pdf

³ DECC Energy Trends - <https://www.gov.uk/government/statistics/energy-trends-section-6-renewables>

⁴ DECC Energy Trends - <https://www.gov.uk/government/statistics/energy-trends-section-6-renewables>

⁵ DECC Monthly MCS and ROOFIT degression statistics - <https://www.gov.uk/government/statistical-data-sets/monthly-mcs-and-roofit-statistics>

⁶ The Employment Potential of Scotland's Hydro Resource, Nick Forrest and Jamie Wallace September (2009) <http://www.gov.scot/Resource/Doc/299322/0093327.pdf>

Table 1 – Commissioned FiT hydro schemes up the end of 2014 [March 2015 stats - OFGEM]

Year	New hydro capacity commissioned (MW)
2010	8.6 [9 months]
2011	9.3
2012	16.2
2013	8.5
2014	22.9

Introduction of degression and impacts

Pre-accreditation and degression were introduced as part of the comprehensive review of the FiT in 2012. In order to gain pre-accreditation and avoid cuts in support, a surge in pre-accreditation submissions to OFGEM were made in the immediate run-up to each of the tariff cut-off dates in 2013 and 2014.

As a result it is anticipated that there will be a sudden increase in construction and commissioning in 2015 and 2016 at the end of the two-year pre-accreditation windows. Data has not yet been made available to show how much capacity is due to be commissioned over the next two years, however it is expected that the capacity actually commissioned will be significantly less than that which has been pre-accredited.

The table below [2] shows that 51.3MW of hydro was pre-accredited in 2014. Most of that 51.3 MW would have been applied for in 2013 and will therefore have a pre-accreditation window ending in 2015. That capacity must therefore be commissioned in 2015. It is difficult to see how the industry could possibly achieve this sudden increase in construction activity given the limited size of the supply chain and other challenges in financing schemes and connecting them to the grid network.

Table 2 – FiT pre-accreditation processing in 2013 and 2014

Period	Processed pre-accreditations in the year		Un-processed at end of year		Comments
	(MW)	No. Schemes	(MW)	No. Schemes	
2013	8.5	46	67.2	234	Processing of un-processed applications took place throughout 2014.
2014	51.3	217	91.5	261	Processing of these applications will take place throughout 2015.

Source: OFGEM

The uncertain future

Following this surge in activity there is expected to be a sudden drop-off in the development of new schemes because the FiT Tariffs have degressed to a level which makes many schemes uneconomical. Early indications from the regulators suggest that this drop-off has already started, with the number of water licence applications in 2015 at the lowest rate since 2009.

This represents a collapse in the industry and follows the boom and bust scenario predicted shortly after the introduction of pre-accreditation and degression.

The table below [3] relates solely to the number of water abstraction (CAR) licence requests received by the Scottish Environmental Protection Agency (SEPA). The patterns shown here are also reflected in England and Wales. Another indicator of the drop in new activity is that SEPA disbanded a specialist team which deals with new hydro CAR applications at the start of this year.

Table 3 – Controlled Activities Regulation (CAR) licence applications received in Scotland⁷

	2010	2011	2012	2013	2014	2015
Jan	2	6	5	8	8	3
Feb	4	4	5	8	7	2
Mar	6	10	5	5	1	2
Apr	6	1	5	9	11	
May	3	7	7	10	3	
Jun	1	6	14	15	7	
Jul	4	6	4	23	9	
Aug	5	7	5	21	8	
Sep	1	3	6	18	5	
Oct	5	7	7	9	4	
Nov	9	13	11	7	6	
Dec	4	0	12	4	4	
Total	50	70	86	137	73	
Monthly average	4.2	5.8	7.2	11.4	6.1	2.3

4.0 What's so special about hydropower?

Along with many other renewable technologies, hydropower provides clean energy. However, there are many benefits to the UK from hydro in addition to clean energy:

- Hydro is a well-established, reliable and proven technology.
- Hydro is the least environmentally-intrusive of all renewables technologies.
- Hydro offers long-term generation for many years beyond the subsidy period.
- Hydro offers relatively predictable energy output, generally greatest in the winter months and therefore corresponding to higher energy demands. This predictability means hydro makes a valuable contribution to the UK energy generation mix.
- Most schemes have a 50-year design life which, with refurbishment, means 80+ years of operation and therefore the lowest lifetime cost to the consumer of any electricity-generating technology.
- Well over 50% of the cost of a new hydropower scheme is in its civil construction which is procured within the UK and often within the local community.
- BHA research suggests that UK-based turbine manufacturing companies have more than 60% of the market share.

⁷ Data provided by SEPA

- The majority of new small hydropower schemes are in remote rural areas, resulting in strong local community involvement and support, with many being developed by the community themselves.
- Another significant benefit of sustaining a UK hydro sector is that manufacturers and consultants can use this as a base to develop opportunities overseas. In order to be credible in an export market, the UK needs a flourishing home market.

The relatively small size and popularity of hydro projects mean that the technology is particularly well suited to community-backed projects. Numerous rural communities are trying to harness their local resource for the good of the people living there. To this end, many developer-driven projects have some level of community involvement. It is particularly unfortunate that community hydropower is at risk of becoming financially challenged just as local groups begin to show interest and appetite for developing their own schemes.

Both Community Energy England [CEE] and Community Energy Scotland are very supportive of this submission. CEE said:

“There are many additional benefits to community-owned hydropower schemes. As well as providing often much-needed community funds which may be used to alleviate fuel poverty they offer a local social investment opportunity; provide an excellent educational resource to communities; increase the amenity value for rivers and draw people to the river environment. Importantly, communities will not be able to grasp these opportunities without the changes highlighted in this report.

“In addition to the challenges posed in this paper to commercial schemes, community schemes face longer timeframes due to their higher level of volunteer and part-time group involvement. Raising finance often involves community share issues. In addition, the time to achieve abstraction, planning and DNO agreements is also necessarily longer.”

Hydro also has its own particular challenges distinct from other small-scale renewable technologies:

- Hydro is significantly more complex to develop and construct than other technologies.
- Regulation - hydro requires not just planning permission, but also a water abstraction licence.
- Equipment - hydro requires significant infrastructure including intakes, pipelines, powerhouses and tailraces, as well as access tracks.
- Bespoke design - each hydro scheme is site-specific and therefore needs to be individually designed to maximise the energy opportunity and minimise the environmental impact.
- Location - hydro requires ‘works in rivers’, usually in remote mountainous areas, making sites difficult to access and very sensitive to weather conditions.
- Time - because of these differences it takes much longer to develop and then construct hydro schemes.

5.0 What are the problems with FiTs for hydro?

Whilst the introduction of the FiT originally benefited the development of small scale hydropower in the UK, there have been a number of consequences that will have a significant impact on the future development of the sector, which include:

1. Tariff levels and degression

Tariff degression of 25% to date with a further 20% expected during 2015, driven by the link with pre-accreditation, has resulted in the acceleration of hydro scheme development as many developers see that future tariff levels will not support their schemes. Developers, landowners and communities have been forced to rush to pre-accredit schemes. As a result it is likely that many of the pre-accredited schemes will not be built. A risk for those which are being constructed is that they miss the pre-accreditation window resulting in a 'cliff edge' reduction in support level. In addition, the tariff has now fallen to a level where very few new schemes will be developed.

2. Grid delays

There is no grace period for grid delay. There will be a concentration of grid connections required at the end of the pre-accreditation windows (likely to be in December, ahead of tariff degression triggers).

This coincides with the period when grid and network operators, resources are usually stretched by weather-related events. December 2014 saw most of Scotland's SSE grid connection teams working on the west coast re-connecting properties following storm damage. There is a significant risk that schemes will miss their pre-accreditation window, and see a dramatic reduction in their tariff through no fault of the developer.

3. Pre-accreditation window

The two-year pre-accreditation window is too short given the number of uncertainties such as securing financial close, Ofgem processing delays, completion of weather-dependent construction and delays to grid connections. This creates deadlines with significant financial penalties, which bring extra pressure to complete projects on time. The rapid development caused by degression has caused a peak in scheme construction over the next two years to which the supply chains are struggling to respond. This also introduces increased risk of inefficiencies and suboptimal practices in order meet the deadlines, often at times of poor weather, thus increasing the environmental and health and safety risks on sites.

6.0 What are the solutions?

We know that the work is underway by DECC for the review of the FiT in 2015. The hydro sector along with other small-scale renewable technologies, will work with DECC to ensure that the review is completed in a manner that avoids any unforeseen consequences for the whole renewables sector, and hydropower in particular. We would like DECC to seriously consider implementing the following measures:

Changes to tariff bands and their degression triggers

There is an urgent need for changes to the structure of tariff bands and degression trigger capacities. This is largely about allowing a finite amount of money to be used more efficiently. These changes are to:

1. **Tariff** - The hydro industry requires an immediate upwards revision of the tariff to a level which will stimulate further development. Much like in support for nuclear and tidal lagoon technologies, there is a strong case for analysing the costs to the consumer over the life of the project given the longevity of hydro schemes.
2. **Degression** - There is consensus across all the FiT technologies that a tariff degression mechanism which provides gradual, predictable changes to tariff levels is required, rather than the unpredictable and steep cuts the sector currently faces. This could include a combination of :
 - a. Adjusting degression trigger capacity levels.
 - b. Basing degression solely on installed rather than pre-accredited capacity.
 - c. Introducing a mechanism to credit back pre-accredited capacity for the purposes of degression if it is not commissioned within the pre-accreditation window.

Validity period for tariff guarantees

There is an urgent need for the time period covered by preliminary accreditation guarantees to be managed in a fairer and more consistent way. The changes include:

3. **Grace period** -There is consensus across the FiT technologies that a grace period is required on the pre-accreditation window for grid connection delays where the project would have commissioned on time, but for delays that are not the fault of the developer. Grace periods have been introduced in the RO for a number of circumstances, so these would provide a useful precedent.

The introduction of a grid delay grace period is relatively straightforward, with full consensus across all small-scale renewable technologies. We therefore request a fast track review to cover this proposal to ensure implementation for both new and existing projects before the end of 2015.
4. **Pre-accreditation window** - Change the pre-accreditation window to ensure there is sufficient time to achieve financial close and efficient construction. This could be achieved by a combination of either:
 - a. Increasing the window by 6-12 months to ensure that there is still sufficient time for financial close even if there is an accreditation delay.
 - b. Starting the pre-accreditation window at the point of granting preliminary accreditation, rather than at the point of application. With delays of up to 3-4 months (sometimes longer) in granting preliminary accreditation, the current system is not delivering the length of tariff guarantee that was originally intended. It is also unfairly favouring developers that are awarded pre-accreditation earlier than others. Many financiers will not allow financial close until pre-accreditation is awarded. This changed approach would also create staggered build-out deadlines, therefore

preventing DNOs, equipment hire companies and installers all rushing to complete projects by a single date and therefore risking the project failing to be completed in the pre-accreditation window.

7.0 Conclusions

This submission highlights the vital and urgent need to make important changes to the FiT scheme to ensure that the UK's hydro industry continues to support jobs and investment across the UK, while also contributing towards the UK government's renewables and climate change targets.

In order to ensure hydro has a long term future in the UK, contributing to the wider renewable mix at the lowest lifetime cost to the consumer of all the renewable technologies, the government should ensure the following changes are made:

1. **Tariff** - Revise the hydro tariffs to a level which will stimulate further development.
2. **Degression** - Adjust tariff degression mechanism to ensure gradual tariff levels changes.
3. **Grace Period** - Introduce a grace period for grid connection delays **[This specific change to be fast-tracked, as previously requested, outside the time frame of the main FiT review]**
4. **Pre-accreditation window** - Ensure sufficient time for efficient construction.

Let's not forget that hydropower is the world's leading renewable energy source and the oldest method of harnessing clean power. The first watermills were used over 2,000 years ago, so now is not the time to confine such a legacy to the renewables scrapheap.

The British Hydropower Association, Scottish Renewables and other renewables organisations and their members strive to ensure that the potential and associated economic benefits of hydropower are fully realised.

It is essential that there is genuine government understanding of the current issues and a willingness to provide the support required to secure the future of the industry.

28th April 2015