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## **Introduction**

BHSL Hydro is an innovative, indigenous Irish bioeconomy company with patented technology serving the agri residue and waste sectors. Our operations include pioneering the development, installation and operation of small scale fluidized bed combustion (FBC) systems that generate heat and electricity by combusting animal by-products such as poultry manure , sludge's and other wastes as fuel to create new smart and sustainable economic uses for these materials.

BHSL was founded as a result of increased issues with land spreading of poultry manure in the intense poultry production region of West Limerick. From the beginning, the business engaged closely with the regulatory authorities to ensure the on farm, remotely operated technology was not obstructed by out of date legislation. Today the company is fully licensed to sell and provide its service all over the world from this rural setting in Kantoher under the leadership of Irish Agri business icon ,Executive Chairman Denis Brosnan. Since our recent acquisition of Hydro International in Meath, the new merger now employs over 60 people in a range of support and operational roles. Jack and Declan O'Connor have been recognised for their contribution to Irish business and are nominated as finalist for this years EY Entrepreneur of the Year.

Research and Development is one of BHSLs great strengths. Developed and first deployed in Ireland, our FBC system has been operating successfully in the UK on large scale commercial poultry farms since 2010.



A Demonstration Project is currently underway on a poultry farm in the US State of Maryland to adapt and adjust BHSLs proven technology to production conditions there, supported by the Maryland Department of Agriculture and the University of Maryland. Our Research and Development operations are progressing a number of exciting opportunities to build on this proven track record to broaden and deepen our commercial activity and success in the bioeconomy

The recent acquisition of Hydro International whose waste water technology is also a global leader operating on municipal and commercial sites across Ireland and worldwide has broadened the scope for the company allowing it enter new market areas . Hydro customers include ABP Food Group, Kerry Group, Irish Water and Coca Cola, and specialises in designing and implementing waste water purification and effluent treatment systems, in particular using patented technology to extract water from effluent to a dry matter content which enables it to be combusted. Combining both technology and companies will enable BHSL/Hydro to generate additional value from a number of ABPs and wastes.

The purpose of this submission is to help inform the strategic policy choices to be made by Government to develop Ireland's bioeconomy. By sharing the experience and insights we have gained both locally and around the world BHSL Hydro hope to contribute positively, constructively and progressively to the creation of a national policy statement on the bioeconomy in Ireland providing an overarching policy framework that offers a appropriate perspective and drives developments.

In BHSL Hydro we feel we are already working to support Ireland's transition to a low-carbon economy. We have pioneered the technology that has opened up on site residue to energy opportunities and have worked closely with regulators in bringing about significant regulatory changes such as Reg 592/2014 the EU regulation that legislates on farm poultry manure to energy.



In this whole process we have provided the evidence of the potential for indigenous and inclusive innovation, industrial development, growth and employment, especially in rural areas through the sustainable and efficient use of renewable biological resources.

Investment in the bioeconomy is of course a prerequisite to Ireland meeting its national, EU and wider international commitments to environmental protection and sustainable development. BHSL Hydro combined has raised over €20m to enable the business to develop, grow and expand. Along the way opportunities have been taken to apply to EU and national funding programmes. However more investment is needed and the indication in the consultation that new incentives and supports are currently under consideration is especially welcome, such as the introduction of an Irish Renewable Heat Incentive Scheme.

## **Response**

The following is BHSL Hydro response to the questions posed in the *'Discussion Document for the preparation of a National Policy Statement on the Bioeconomy'* that are relevant to BHSL Hydro and so appropriate to answer:

***1/ Does the broad definition outlined adequately encompass the opportunities presented by the bioeconomy?***

BHSL Hydro is implementing the European Commission's definition of the objectives of a bio-based economy and so believes it adequately encompasses the opportunities the company takes advantage of.

**Suggestion:** BHSL Hydro would facilitate the Department if it wished to highlight our operations as an example of an indigenous Irish company already successfully operating a Bioeconomy business here and worldwide.

***2. How can a high-level policy statement on the Bioeconomy assist in progressing the development of the priority value chains identified?***



BHSL Hydro's business is a working example of the opportunities presented by the Bioeconomy as set out in the Action Plan for Jobs and the Action Plan for Rural Development. This is so because the technology and its support services that we have developed and are selling installing and operating:

- Reduces carbon emissions and ensuring more efficient resource and land-use, to support the transition to a low-carbon economy and sustainable primary production;
- Is an indigenous economic development, exporting and creating job including in rural areas;
- Promotes an indigenous sector in a post-Brexit environment;
- Helps to reduced dependency on natural resources and imported materials;
- Leverages the skills and process in existing research and technology sectors;
- Develops the national skills base and creates high-skilled engineering and science jobs;
- Contributes to global food security through the avoidance of competition between food and non-food use of biomass

However delivering these objectives and securing a “considerable” return on investment is a challenging task but BHSL Hydro is successfully doing so.

**Suggestion:** BHSL Hydro welcomes the comprehensive and in depth compilation of important information presented in this Discussion Document, but to really move up the value chain ,Ireland needs to prioritise facilitating and supporting companies that have the capacity to deliver ‘on site’ pre commercial demonstrations of technology that is leading edge in a global context and for which there is a proven need.

***3. What lessons can Ireland take from the European approach, including to the Circular Economy?***



BHSL Hydro note that the Discussion Document summarises the main purpose of EU Strategy as being to streamline existing policy approaches in this area around three pillars, namely (i) investment in research, innovation and skills, (ii) development of markets and competitiveness and (iii) reinforced policy coordination and stakeholder engagement. BHSL Hydro fully supports and can validate from its own experience the necessity and correctness of prioritising these objectives to accelerate the development of a growing extensive and successful circular economy.

For example, in the Discussion Document reference is made to a European Investment Bank (EIB) study reviewing access to finance conditions for bio-based industries that BHSL Hydro can confirm captures a number of the challenges that we have direct experience of overcoming including:

- *Issues accessing private capital.*
- *Regulation and market and demand framework conditions perceived as both the most important drivers and incentives and presenting the biggest risks and challenges for project promoters and financial market participants (ie to invest in the Bioeconomy)*

The EIB Study makes a number of recommendations as being essential including the establishment of an effective stable and supportive regulatory framework for the bio-economy at the EU level. BHSL Hydro certainly fully supports this ambition and encourages the Government to also do so.

However for fast growth and innovative commercial companies such as BHL Hydro, another recommendation in the study is more relevant to commercial sustainability. The first order issue for such companies is having the means to stay with a pre-commercial development with evident market potential long enough for this supportive regulation to be put in place. So it would certainly be supportive to: *Develop a new EU risk-sharing financial instrument dedicated to BBI and BE, potentially taking the form of a thematic investment platform that can meet the funding needs of BBI and BE projects and mobilise private capital* (6.2 (3) P 108).



Having referenced the Study it is presumed the Department has already considered this recommendation. And it may be it is already being discussed internally with the relevant parties in this State in a position to progress its implementation both at EU level and here in Ireland. But BHSI Hydro certainly believe the lesson of the need for appropriate and target support that enables companies to raise their own investment funding, and encourages investors to provide sufficient capital, is essential for the ambitions set out in this document to be achieved.

**Suggestion:** the implementation of this recommendation for a risk sharing financial instrument for bio projects in the circular economy that have reached the pre-commercial demonstration stage and have attracted market interest and/or partnerships is actively progressed as a strategic priority to ensure the strategic opportunity for Ireland to lead are fully realised.

***4. Given the cross-sector nature of the bioeconomy, how can a national policy statement best support development?***

The Discussion Document contains a comprehensive set of 'reasons why' there should be a national policy statement to support development of the bio-economy. BHSI Hydro fully concurs with the case that is made.

**Suggestion:** the Government demonstrate their commitment and send a clear positive and concrete signal to the sector and produce this Statement by end of 2017.

***6. How can a national policy statement support local and regional cooperation around the use of renewable biological resources?***

***7. How can waste policy, including an examination of the definition of waste, best support developments in the bio and wider circular economy?***

For BHSI Hydro tackling Q 7 is essential to overcoming the central challenge to developing a sustainable answer to Q 6. As the Document recognises the 'definition of waste' is kernel to making progress on the utilization of a significant number of potentially renewable biological resources.



In making the case for an EU Regulation on the use of animal by-products as fuel for combustion in on site units BHSL acquired considerable in depth knowledge of, and exceptional expertise in, this fundamental EU wide legal and regulatory issue. The result is a deep understanding of the complexity this document refers to when it says consultation with the industry *“in relation to use of animal by-products for further valorisation as opposed to being considered as waste highlight(ed) the type of regulatory challenges and efforts made to overcome regulatory barriers”*.

But this is a complexity that can and must be worked through and resolved for the circular economy to fulfil its potential and the targets that will be set by the National Strategic Framework to be met.

**Suggestion:** a high level conference organised in Ireland on these regulatory complexities where the best legal minds and experts in this arena are invited to share their views on how the case law of the EUCJ can be interpreted to support the commercial developments the national framework will seek to encourage and facilitate. And to take account of Brexit and its possible implications in a island of Ireland context an expert on the relevant decisions in the UK Courts should also be invited to speak

#### ***8. How can we stimulate market demand for bioeconomy products? What is in it for the consumer?***

An Irish RHI has been under discussion for some time and an announcement on its introduction is said to be imminent. Structured and implemented to effectively target generating measureable gains in carbon reduction, it is the incentive necessary to drive and stimulate accelerated demand for new small scale on site energy generation from Bioeconomy fuels. And the development deployment and commercialisation of the services that will install commission and operate the necessary CHP plants.





Delivery of this essential incentive is how this stimulation will happen for those bio resources that can be combusted safely and economically in small scale on site installations.

While not mentioning RHI the document does refer to other incentives. A possibility that does not seem to have been included is to use planning laws, levies and other policy tools to have the infrastructure of piping necessary to deliver locally generated heat to some of the substantial number of new builds that will be constructed in the next decade thereby incorporating these developments and their residents into the Bioeconomy.

**Suggestion:** the National Planning Framework currently being finalised encourages the installation of local heat only transmission infrastructure where there is sufficient new build to make this economical.

***9. What is the most appropriate mechanism to coordinate development and monitor progress?***

BHSL Hydro agrees the Strategic National Policy Statement should also set out the structural framework to oversee sectoral implementation and guide the long-term development of the Bioeconomy. It should also point to a framework for implementation at sectoral level developed through the Action Plan on Rural Development.

**Suggestion:** the Framework includes a list of actions with delivery deadlines.

**Conclusion**

BHSL Hydro compliments the Economic Division of Department of Taoiseach on taking this important initiative to provide new impetus, direction and support for the development of the Bioeconomy in Ireland.





Because we are operating in the Circular Economy we can see the soundness of what is proposed and the merit of compiling the valuable information already gathered from other stakeholders across all elements of this emerging entity. The result is an evidently better informed and directed discussion on next steps.

So it is hoped that the comments set out in this submission along with the suggestions offered are a helpful contribution to taking those next steps, firstly by completing and publishing a National Policy Statement on the Bioeconomy this year.

Yours Sincerely

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