SUSTAINABLE BIOMASS: SEIZING CANADA'S UNIQUE OPPORTUNITY

Written Submission for the Pre-Budget Consultations in Advance of the Upcoming Federal Budget

By: Drax

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List of Recommendations

Recommendation 1: That the Government includes biomass in Investment Tax Credits to ensure Canada remains competitive. Failing to do so will hinder the sector's decarbonization efforts, impact investment and jobs in Canada, and negatively affect other industries which rely on bio-based fuels to replace fossil fuels.

Recommendation 2: That the Government ensures flexibility in the Investment Tax Credit for CCUS to allow BECCS projects to fully participate and invest in new technologies to meet emissions reduction targets.

Recommendation 3: That the Government ensures BECCS is properly accounted for in support frameworks for carbon removal technologies***.***

Recommendation 4: That the Government set up an inter-departmental working group to explore the use and effectiveness of different technologies – including BECCS – as innovative and instrumental options to bolster forest health, commercial use of biomass for clean energy and job creation in Canada.

Recommendation 5: That the Government support sustainable biomass as a critical component of Canada's climate strategy, forestry goals, and future bioeconomy.

Recommendation 6: That the Government conduct a national study of available biomass resources. These standardized data and metrics could underpin regulations to ensure the development of robust carbon credit markets and project assessment.

Recommendation 7: That the Government establish a benefit program for using residues removed for wildfire management or for fuel switching/deployment of biomass.

The Drax global portfolio of sustainable biomass

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Drax believes the backbone of a net-zero economy is a zero-carbon power system. This means renewable power generation must be maximized. Investment in technologies such as sustainable biomass, carbon capture and energy storage can balance and stabilize the electricity grid and enable more intermittent renewables to come online.

Drax is the largest renewable power generator in the United Kingdom, providing power to millions of homes and businesses. At Drax Power Station in North Yorkshire, over the last five years, we have successfully trialled Bioenergy with Carbon Capture and Storage (BECCS), to produce carbon-negative electricity following the conversion of four units at the power station to operate using sustainably sourced biomass in place of coal. It is here that we successfully proved we can capture carbon dioxide emissions from electricity generation using a 100% sustainable biomass feedstock.

BECCS is the only technology available that can produce 24/7 reliable renewable power whilst also permanently removing carbon dioxide from the atmosphere. Now we are ready to go further by using BECCS at scale and become a carbon-negative company. Drax has set a target to deliver 14 million tons of negative CO2 emissions per year, including 6 million tons from new-build BECCS projects internationally, by 2030.

Working on both sides of the Atlantic, Drax is focused on enabling a zero-carbon, lower-cost energy future. Drax has also announced one of the world's largest carbon removals sale agreement which will be realized through future BECCS projects in North America.

With the right policy framework, we believe that Canada could be an ideal location for a BECCS facility, given its access to one of the world's greatest fibre baskets, well-established sustainable forestry sector, and suitable geology for CO2 storage.

BECCS is vital to energy security, Canada's commitment to net zero and its Global Carbon Management Challenge commitments. Supporting BECCS deployment in Canada would kick start a whole new sector of the economy, creating green growth on an even greater scale, creating additional jobs, and investing in rural economies unlike what we have previously seen.

However, as with other first of a kind technologies, it is critical that the government sends positive signals with favourable government policy frameworks to attract investment for the development and execution of clean energy technologies like BECCS, and to ensure the scale-up of technologies are in line with net-zero objectives.

The market competitiveness of Canadian industries is also impacted by the policies and programming of other jurisdictions. The US Inflation Reduction Act (IRA) and the $1.7 trillion omnibus spending bill in the US have recognized the crucial role of forest bioenergy in delivering net zero and have instructed federal agencies to establish clear policies for renewable energy resources.

Strong incentives, lower prices, and faster processes to access capital in the US negatively affect Canada's competitiveness and willingness to invest.

Changes to the Clean Technology Investment Tax Credit (ITC) to include electricity generated through power installations that utilize forest biomass, alongside credits for solar photovoltaic, small modular nuclear reactors, concentrated solar, wind, and water will be crucial. In addition, it is important to provide tax credit incentives for industrial facilities that use self-generated low-carbon heat from forest biomass to heat their operations or for forest biomass district heating systems.

Failing to do so will hinder our sector's decarbonization efforts, impact investment and jobs in Canada, and negatively affect other industries, such as steel, which rely on bio-based fuels to replace fossil fuels.

Incentivizing BECCS, a zero-carbon power system

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Recommendation 4: That the Government set up an inter-departmental working group to explore the use and effectiveness of different technologies – including BECCS – as innovative and instrumental options to bolster forest health, commercial use of biomass for clean energy and job creation in Canada.

The IRA also positions the US very favourably for carbon capture and storage investment and development. There are opportunities for Canada to replicate, or even improve upon the US and the current CCUS ITC.

BECCS is unique in its dual objectives of both capturing carbon and producing renewable electricity, thus the infrastructure which captures the carbon is fully integrated with the infrastructure for power production at the facility. An allowance for the application of the tax credit to an entire BECCS facility is needed to truly incentivize this technology. Without this flexibility, the credit instead favours facilities which strictly capture carbon – missing the opportunity for accompanying renewable power production. Likewise, developing a mechanism or support framework to support carbon removal projects that provides incentives per ton of carbon removed and permanently stored would be a critical factor for companies like Drax looking to deploy CDR technologies in Canada.

BECCS facilities are providing the same benefits as other carbon removal technologies, such as Direct Air Capture (DAC), but go a step further to also produce renewable energy. BECCS and DAC are the only two engineered solutions that remove carbon from the atmosphere, and BECCS is the *only* solution that also produces, rather than consumes, renewable power.

Yet, BECCS is not incentivized at the level of DAC, despite the significant investment costs to scale up this first-of-its-kind technology and the operational costs to produce renewable electricity.

Carbon markets are not yet mature and are unable to provide a revenue stream for permanent high-quality carbon removals or cannot provide price certainty to make most removals projects investable. Setting BECCS at the same level of support as other CCS technologies would go a long way towards removing barriers and ensuring that incentives are commensurate with the climate and energy benefits that will be achieved. Likewise, setting a national carbon removal target by 2030

would be a significant step forward to ensure that these critical technologies are deployed on time. The carbon management challenge to be announced at COP28 represents a unique opportunity for Canada to position itself at the forefront of CDR technologies.

As highlighted, current policy frameworks do not appropriately recognize the full benefits of BECCS. Drax recommends the creation of an inter-departmental working group that explores the use and effectiveness of BECCS in delivering Canada's national climate targets. This would provide the ideal platform to:

- examine how BECCS would contribute to Canada's greenhouse gas emissions reduction.
- examine the role that BECCS plays in providing reliable and resilient renewable energy production.
- assess how BECCS plants would encourage economic development.
- develop metrics on the benefits that BECCS would have on forest health, the forestry sector, clean energy production, and wildfire mitigation.
- determine how existing federal policies may facilitate the establishment of Canadian BECCS plants.

Sustainable biomass is a vital part of Canada's future bioeconomy.

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Canadian biomass plays a leading role in wildfire management and supporting countries worldwide with decarbonization and guaranteeing energy security. Drax pellets produced in Canada represent 11% of the UK's renewable and secure electricity, playing a vital role in keeping the lights on for millions of homes and businesses. Wood pellets are also creating new opportunities for forest health, renewable energy, and economic stability are a critical part of Canada's future bioeconomy.

Canadian pellets produce up to 90% less CO2 emissions when combusted than coal. Pellets are made from the recovered residues and waste from harvesting and sawmilling, or low-quality logs that cannot be used for any other purpose. Forests in Canada are not harvested for biomass, they are harvested for high-value timber used in construction. 80% of the material used to make pellets at Drax is sawmill residues – sawdust, wood chips and bark left over when the timber is processed. The rest is lower-quality material collected from the forest which would otherwise be burned to reduce the risk of wildfires and disease.

The fibre for the pellets produced must adhere to Drax's sustainability policy, which is aligned with rigorous frameworks set by both the Canadian and UK government. Drax ensures our biomass is sustainable and compliant with relevant legislation through Sustainable Biomass Program certification, alongside proactive supplier engagement, other third-party certification schemes and our own audits and checks.

We have an environmental, social and economic responsibility to ensure we constantly drive improvements along our supply chain, from forestry practices in the locations where raw materials for compressed wood pellets are sourced to the point they enter our power generating units or are sold as a renewable heat fuel.

Pellets produce different types of high-value fuels and biomaterials. There are considerable residues left over from sawmilling and harvesting activities that often do not have a market. The biomass industry can use this material more efficiently by converting it to a homogenous, dense, and clean fuel. It's a win-win all around for forest health and air quality.

About Drax

Drax Group is a UK-headquartered global, vertically integrated, renewable energy company with over 3,400 employees across North America and the UK. Enabling a zero-carbon, lower-cost energy future is Drax's purpose.

Drax owns and operates a portfolio of flexible, low-carbon and renewable electricity generation and is the world's largest producer and generator of sustainable bioenergy. It is the UK's largest source of renewable electricity. We are proud of our environmental, social and economic contribution to the communities where we operate. A new independent analysis shows that Drax contributes around CA$1 billion towards the Canadian economy and supports 10,400 jobs.

Our pellets provide a sustainable, low-carbon fuel source that can be safely and efficiently delivered through a global supply chain. With 10 pellet plants across British Columbia and Alberta, Drax plays an important role in the Canadian circular economy. Working with our Indigenous partners, we can help Canada achieve emissions goals and enable a zero-carbon lower-cost energy future.