GOWLING WLG

# THE FUTURE OF BIOENERGY IN CANADA AND THE UK

An interview with the UK co-leader of our Energy team and the Canadian leads of the new BioEnergy Group

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Articles

In the midst of a global energy transition, Gowling WLG's lawyers track the emergent technologies that will shape the future of energy in Canada and the UK. Among these technologies are combustible biofuels like biomass and biogas. To explain both the importance of and the challenges to these technologies, the co-leaders of Gowling WLG's BioEnergy Practice Group . Alison Gray (AJG), Alex Sadvari (AS), and UK co-leader of the Energy team . Gareth Baker (GB) . answer questions from Gowling WLG Associate Chris Hummel.

## Q: First of all, what technologies are encompassed by the term "bioenergy"?

AJG: Basically this term encompasses fuels produced from naturally occurring biological processes. For example, decaying biomass (vegetation and other organic materials, including in landfills) produces biogas, which can be cleaned up (typically using absorption or scrubbing techniques) to produce methane . natural gas . and that is what we then call renewable natural gas (RNG).

AS: The biomass itself can also be used as a biofuel to produce energy. Biomass from the forestry and pulp and paper industry including leftover wood, forest residues and sawdust can also be combined into energy-dense pellets to produce energy through combustion. However, these biomass pellets are somewhat controversial due to the carbon emissions from their combustion.

GB: In the UK, anaerobic digestion is the most commonly occurring technology. The "product" left over (consisting of left over indigestible material and dead micro-organisms) is known as digestate. It has value. It is rich in nutrients and can be used as a fertilizer.

## Q: Turning to "biogas", where does it come from and why is it important right now?

AJG: Biogas is a renewable fuel produced by the breakdown of organic matter, such as food and animal waste. Biogas is an important tool in combatting climate change because it uses as a fuel the methane naturally generated from the breakdown of the waste produced by humans and animals. That methane would otherwise ultimately be released to the atmosphere, so burning it as a fuel, displaces burning other fuel and thus reduces overall GHG emissions. This naturally generated fuel can be used in a variety of ways, including as fuel for vehicles, as well as for heating and generating electricity.

## Q: Are these bioenergy technologies already operating in Canada and the UK?

GB: Yes. In the UK, plants are typically categorized as follows:

- Agricultural . plants using agricultural feedstock (manures, slurries, crops and crop residues);
- Waste - plants using waste (local authority, commercial and industrial streams) as feedstock.

The end-use of the biogas varies typically as follows:

- Combined Heat and/or Power (CHP) . an anaerobic digester generating biogas which is burned on-site to generate heat, power or both.
- Bio-methane to Grid (BtG) . an anaerobic digester generating and upgrading biogas, to derive bio-methane for injection into the transmission or distribution system.

AJG: In Canada there are a number of biogas projects currently in operation. For example, in British Columbia, there are a number of RNG projects that are now active and in development. These projects use biogas produced at landfills and upgrade it so it can be injected into the natural gas distribution system. Similar projects are active in Ontario, where both landfill and agricultural biogas is used. Municipalities in B.C. and Ontario are turning their landfill generated biogas into fuel used for busses or to run municipal vehicle fleets, displacing the use of gasoline and thus reducing overall greenhouse gas emissions.

## Q: What are the barriers to bioenergy development in Canada and the UK and can they be navigated?

AS: Like most new energy sources, one of the major barriers is cost, but that is coming down. Given the ability to clean raw biofuel into more pure methane (which is what natural gas is), there is existing infrastructure into which this fuel can be added, for delivery and combustion, so that is certainly an advantage.

GB: In the UK, the most significant barrier is typically the availability of predictable flows of waste, of a consistent composition, guaranteed over a long-term period, within a small radius from the generator and from a credit-worthy counterparty.

## Q: How does bioenergy integrate with other sectors of the energy economy?

AJG: Bioenergy can easily be integrated into current, more traditional energy systems, including heating and transportation fuel and electricity generation.

## Q: Are Canada and the UK ready for more bioenergy development?

AJG: In Canada, absolutely. The full potential of bioenergy as a renewable alternate source of energy has not yet been reached. Bioenergy has much to offer various economic sectors in Canada, including agriculture, and the municipal and waste management sectors among others.

GB: The UK has undergone a reasonable wave of development, particularly in the Anaerobic Digester space. According to market sources, there are now over 550 operational anaerobic digestion plants in the UK (the typical scale of projects is 250

kilowatts to 2 megawatts), including over 85 BtG plants, and a further 331 anaerobic digestion projects under development. A reduction in the availability of subsidy incentive mechanisms (typically the Renewable Heat Incentive and/or power-related incentives (historically either under the Renewables Obligation or under a Feed-in Tariff)) provides some new challenges and one would expect at least a short term dip in project development rates.

## Q: What kind of expertise does Gowling WLG intend to bring to this sector?

AJG: Our lawyers in Alberta, British Columbia Ontario and Quebec have extensive experience in the energy sector across the country. We have helped clients navigate the commercial and regulatory energy landscape for decades, being involved in providing advice on a wide spectrum of energy projects from corporate transactions, tax driven structures, regulatory schemes and compliance requirements, Indigenous issues, environmental issues and litigation matters.

GB: In the UK, we are advising on projects across the whole of the value chain . planning, permitting, land rights, construction agreements (Engineering, Procurement & Construction and Operations & Maintenance), fuel supply, digestate supply and off-take arrangements - as well as Mergers & Acquisitions, structuring and project finance.

A couple of examples of recent transactions we have closed include:

- The sale of Codford Biogas Limited (owner of an anaerobic digester plant) to JLEN (the listed environmental infrastructure fund)
- Advice on a €60 million biogas investment by Pioneer Point Partners to Stream BioEnergy Limited (a leading developer and operator of anaerobic digestion plants)

## Q: So, why start a bioenergy practice group now?

AJG: The energy transition is upon us. At Gowling WLG we are excited by the opportunities it presents for our clients, and we want to be part of the change to a cleaner, greener more sustainable energy future. We know that there will be all kinds of opportunities and contributions to be made to businesses and society and large, and we are aiming to be part of that exciting future.

Learn more about Gowling WLG's dedicated BioEnergy Group.

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# Featuring


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