

# IEA Bioenergy

## WEBINAR SERIES



### 'Green Gas'

June 2, 2016

2 pm Central European Time  
8 am Eastern Standard Time

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#### Presentation Summary:

Six European countries have committed to 100% green gas in the gas grid by 2050. The route to green gas includes for a number of technologies and feedstocks, which are expected to come on line sequentially. The industry starts with upgrading biogas produced from wet organic feedstocks. The second phase includes for gasification and subsequent methanation of woody crops. The third phase of the industry is the use of algae (both macro- and micro-) to produce gaseous biofuel. The 4th and final phase is gaseous fuel from non-biological origin; this is better understood as power to gas systems.

- Phase 1: Biogas production from slurries and crops is a readily available industry, which is in place in many countries. The presentation explains studies on co-digestion of grass silage and slurry and the potential resource in Ireland.
- Phase 2: The presentation examines the technology associated with satisfying renewable heat targets in Ireland.
- Phase 3: Algal biogas is a technology for the future. The presentation describes the cultivation of seaweed (macro-algae) in association with fish farms, the specific methane yields of a range of seaweeds, the variation in yield with season and how the ensiling process can both store the seaweeds and increase the methane yields. Micro-algae can be used as a means of upgrading biogas and can be cultivated on digestate reducing the required land spread area.
- Phase 4: The presentation explores how biogas can be used to facilitate intermittent renewable electricity through demand driven biogas systems (when demand for electricity is high) and Power to Gas systems (when demand for electricity is low). Biological methanation can be used to upgrade biogas to biomethane and in essence convert surplus electricity to a methane carrier.

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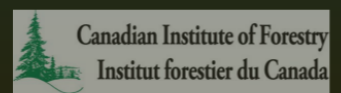
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