

# Applicable Bio-CCUS concepts for member states 2030 – 2050 Technological and financial aspects of Bio-CC(U)S

Time: 10 May 2016, 10.00 – 16.30 Venue: Miljøstiftelsen Bellona

Visiting address: Vulkan 11, 0178 Oslo, Norway

You are warmly invited to the first IEA Bioenergy Task 41 workshop on Bio-CCUS. The workshop will be the first in a series of four workshops and hosted by Miljøstiftelsen Bellona. The workshop includes a site visit to the  ${\rm CO_2}$  capture test facility at the Oslo Municipality Waste to Energy Plant at Klemetsrud.

The workshop aims to give an update on the status of national plans and roadmaps for Bio-CCUS in member states and to identify the national possibilities and potential first business cases on a technical and economic level. We will also discuss the role of Bio-CCUS in EU towards 2030 and 2050. The event will give an excellent opportunity to get an updated status update on Bio-CCS activities and possibilities, and to highlight and disseminate work on Bio-CCUS which could contribute to increased awareness of the topic among stakeholders.

To register for the event, please use the following link:

https://ssl.eventilla.com/event/je8lJ

Registration is open until 2 May 2016. For further inquiries, please do not hesitate to contact Antti Arasto (antti.arasto@vtt.fi) or Kristin Onarheim (kristin.onarheim@vtt.fi).



### **IEA Bioenergy**

PROGRAM MORNING MAY 10

9.30 Coffee

10.00 Introduction and background

Welcome and HSE

Sirin Engen, Miljøstiftelsen Bellona

Introduction and workshop objective

Antti Arasto, VTT Technical Research Centre of Finland

Bio-CCS status and negative emissions after COP21

Daniele Poponi, IEA/ETP (TBC)

10.30 Status and national roadmaps for implementing

**Bio-CCUS** 

Bio-CCUS on a global perspective

Sabine Fuss, MCC

Bio-CCUS in Europe

TBC, Miljøstiftelsen Bellona

Finland and Nordic countries

Tiina Koljonen, VTT Technical Research Centre of Finland

Norway

Mario Ditaranto, Sintef Energy Research

The Netherlands

Joris Koornneef, TNO

UK

**TBC** 

**USA** 

TBC

PROGRAMN AFTERNOON MAY 10

12.00 Lunch

13.00 Applicable Bio-CCUS concepts and initiatives (TBC)

Oslo Waste To Energy Plant test facility Waste incineration pre-FEED study

Abengoa project

Production of algae from CO<sub>2</sub>

Ethanol from steel industry waste gases

Decatur bio-ethanol plant

14.00 Coffee and group work

First applications, business cases and flagships Role of Bio-CCUS in 2030 climate targets

Long-term vision and role of Bio-CCUS towards 2050

15.45 Discussion and conclusions from group works

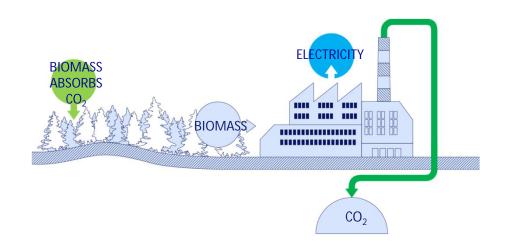
16.30 End of workshop

PROGRAM EVENING MAY 10

Dinner

PROGRAM MORNING MAY 11

10.00 Visit to Oslo Municipality Waste to Energy plant test facility for CO<sub>2</sub> capture at Klemetsrud



## IEA Bioenergy

#### **VENUE**

Host: Miljøstiftelsen Bellona

Visiting address: Vulkan 11, 0178 Oslo, 4<sup>th</sup> floor Contact person: Sirin Engen (sirin@bellona.no)

Tel. +47 97 79 45 47

#### HOW TO GET THERE?

#### From Oslo Gardermoen International Airport to Oslo center:

- Airport Express Train (Flytoget) to Oslo Central Station (Oslo Sentralstasjon). Departure every 10 minutes, travel time 20 minutes. Ticket one way 180 NOK (-20 €), available from yellow automats in the airport or swiping credit card at the turnstile (receipt download: www.flytoget.no)
- National Railway Service (NSB) from the airport to Oslo Central Station (Oslo Sentralstasjon). Departure every 20 minutes, travel time 20+ minutes. Ticket one way 92 NOK (~10 €), available from red automats in the airport (ticket sale onboard as well)
- Airport Express Coach (Stop: Oslo Central Station/Oslo Sentralstasjon)
- Taxi (not recommended, very expensive)

#### From Oslo Central Station to Bellona:

- Taxi
- Bus 54 or 34 (Stop: Møllerveien)
- Walking, ~15 minutes

#### BUS, TRAM AND METRO TICKETS

Download Ruter's (the local transportation provider) <u>apps</u> in order to buy tickets and check schedules. You can use the Ruter ticket app to buy tickets for the national railway service as well.

You can also buy tickets and travel cards from automats at the Central Station and at all metro stations in addition to the kiosks Narvesen, 7-Eleven, Deli De Luca and Mix. Find more info <a href="https://example.com/here/">here</a>.

Please note: It is nearly impossible (and a lot more expensive) to buy tickets onboard buses and trams, so always make sure that you have a valid ticket before boarding.

#### RECOMMENDED HOTELS

#### Scandic Hotel Vulkan

Address: Maridalsveien 13A, 0175 Oslo

1 250 NOK/night (~135 €)

Situated next door to the Bellona building

#### Comfort Xpress Hotel Youngstorget

Address: Møllergata 26, 0179 Oslo

950 NOK/night (~100 €)

#### Scandic Edderkoppen

1 100 NOK/night (~120 €)

Address: St. Olavs Plass 1, 0165 Oslo

All recommended hotels are within 10 minutes walk from Bellona

