

# Oppdatering fra europeiske arenaer

EBTP – European Biofuels Technology Platform

RHC – Renewable Heating and Cooling

EERA – European Energy Research Alliance



Judit Sandquist  
SINTEF Energi AS

# Hva er

- Teknologiplattformene EBTP og RHC

- Europeiske teknologiplattformene (ETPs) er industristyrte fora som **utvikler** både kort- og langsiktig **forsknings- og innovasjonsagendaer**.
- Oppgaven er **strategiutvikling, industri mobilisering, informasjonsutveksling**
- Sterk, pålitelig og uavhengig **kontakt organ for EU** kommisjonen
- Grunnet samme råstoff og delvis liknende utfordringer knyttet til selve biomassen, EBTP og RHC har signert MoU i løpet av 2014.

- EERA

- EERA er **forskningspilaren** i EU sin SET-plan. Oppgaven til EERA er å **fremme utvikling og markedsintroduksjon** av lavkarbon teknologiene ved å øke forskningssamarbeid gjennom Europa.



# European Biofuels

## TECHNOLOGY PLATFORM

Judit Sandquist - SINTEF Energi AS

Marika Andersen- Bellona

# HVA - MISJON



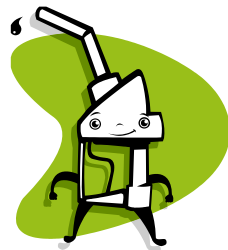
**European Biofuels**  
TECHNOLOGY PLATFORM

Plattformen var opprettet i 2006

Misjonen er å bidra til:

- utviklingen av **kostnødseffektive og konkurransedyktige biodrivstoff** verdikjeder i verdensklasse
- etablering av **levedyktig biodrivstoff industri**
- akselerering av **bærekraftig introduksjon av biodrivstoff** i EU landene

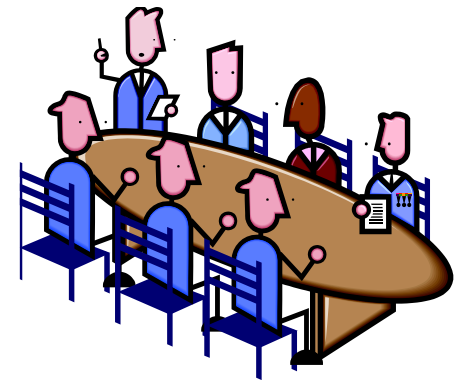
gjennom en prosess med veiledning, prioritering og promotering av forskning, teknologiutvikling og demonstrasjon.



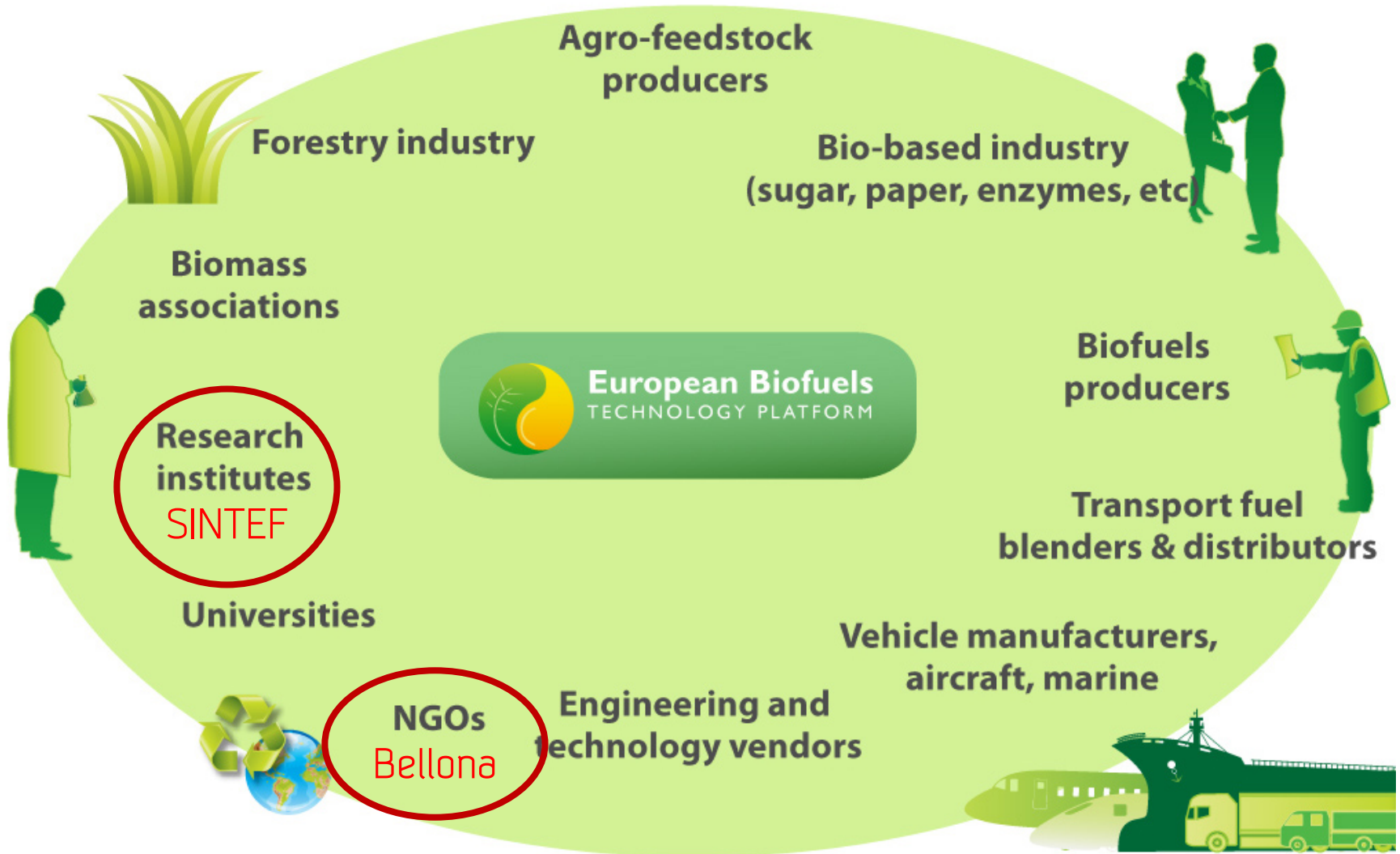
# Hvem - oppbygging



- Ledet av styringskomite, både SINTEF og Bellona deltar
- Arbeid utført i 4 arbeidsgrupper
  - biomasseressurser – biomasse tilgjengelighet
  - konvertering – konverteringsteknologier
  - sluttbruk – biodrivstoff distribusjon og anvendelse
  - politikk og bærekraft – biodrivstoffets innvirkning på miljø, økonomi og samfunn
- Sekretariat
- Aktører (stakeholders), mer enn 300 i dag



# Hvem – Styringskomite





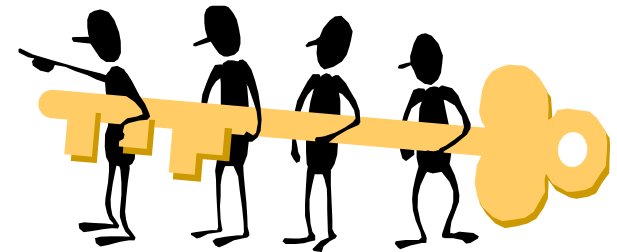
# Aktiviteter

- 3 styringskomitemøter per år – **umiddelbar mulighet for bidrag**
  - Rådgiving til EU, eksempler: til møtene kommer alltid 1-3 representanter fra EU for dialog
    - Avanserte biodrivstoff
    - EU biodrivstoff retningslinjer, målsetninger: biodrivstoff mål, herunder avanserte biodrivstoff
    - Forsyningssikkerhet



# Aktiviteter

- 1 plenumsmøte per år
- Informasjonsutveksling
- Samarbeid med relevante andre fora – rådgiving, informasjon:
  - European Road Transport Advisory Council - ERTRAC
  - BIC – Bio-based Industries Consortium
  - DG Move expert group on Transport Fuels
- Rapportvurdering, anbefaling, eksempel
  - ERTRAC 'Energy carriers for Powertrain' – avvist støtte

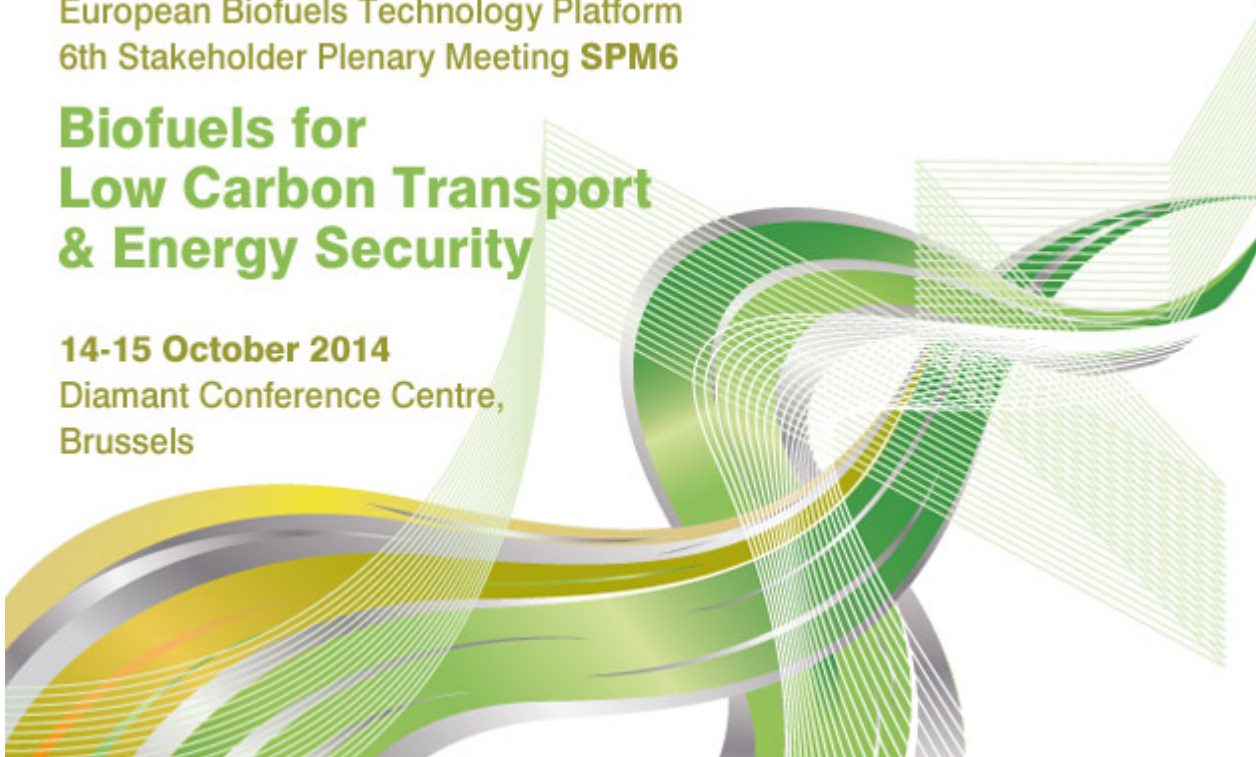




European Biofuels Technology Platform  
6th Stakeholder Plenary Meeting **SPM6**

## **Biofuels for Low Carbon Transport & Energy Security**

**14-15 October 2014**  
Diamant Conference Centre,  
Brussels



Presentasjonene er tilgjengelig på: <http://www.biofuelstp.eu/spm6/spm6.html>

## 13:35-15:00 Session 1: Low carbon transport and energy security - the role of biofuels in a 'low-carbon' energy system

**Moderator:** Sandrine Dixson-Declève, Vice-Chair of the EBTP Steering Committee, ISEE

- **The EU 2030 framework and energy security**  
*Andreas Pilzecker, European Commission DG Energy*
- **A harmonised Auto-Fuel biofuel roadmap for the EU to 2030**  
*Ausilio Bauen, E4Tech*
- **IEA perspectives on the role of biofuels in a low carbon energy**  
*Charles Esser, IEA*
- **JEC Biofuels and Well-to-Wheels analyses**  
*Heather Hamje, Concawe*

## Session 2: Europe and beyond - perspectives from the global biofuels industry

**Moderator:** Tomas Kåberger, Chair of EBTP Steering Committee, Chalmers University of Technology

- **Biofuels development in Europe: UK experience of the Renewable Transport Fuel Obligation and policies to promote the development of waste-derived and advanced biofuels**  
*Jonathan Hood, Low Carbon Fuels, Department for Transport*
- **Biofuels experiences in China**  
*Liping Kang, Innovation Center for Energy and Transportation (iCET), China*
- **Is there a better way to incentivise advanced biofuels in the EU?**  
*Raffaello Garofalo, European Biodiesel Board*
- **Biofuels development in Canada and the US**  
*Don Smith, BiofuelsNet Canada*

## Session 3: The road to success: steps towards commercial advanced biofuels

**Moderator:** Kai Sipilä, Co-Chair of the EBTP Working Group 'Conversion process', VTT

- **Large-scale chemical conversion of oils and residues in Rotterdam**  
*Petri Lehmus NesteOil*
- **Presentation on the FUTUROL pilot demonstration on cellulosic ethanol**  
*Frédéric Martel, Procethol*
- **NER300 Project: Maabjerg Energy Concept**  
*Niels Henriksen, DONG Energy*

## Day 2: 15 October 2014

### Session 4: Biofuels value chains - technology advances

**Moderator: Markku Karlsson**, *Vice-Chair of the EBTP Steering Committee, Finnish Forestry Industries Federation*

- **Overview of advanced biofuels technologies**  
*Dina Bacovsky, Bioenergy 2020+, Austria*
- **Biorefinery for production of advanced wood-based biofuels**  
*Sari Mannonen, UPM Biofuels*
- **The use of algae for the production of advanced biofuels**  
*Dominik Behrendt, FZ Jülich, Germany, Aufwind Project*
- **Advanced biofuels and new feedstocks**  
*Sören Eriksson, Preem*

### Session 5: Advanced biofuels end-use for road freight, air and shipping:

**Moderator: Ingvar Landälv**, *Co-Chair of EBTP Working Group 2 'Conversion process', TU Lulea / Chemrec AB*

- **State of the art on aviation fuel**  
*Inmaculada Gomez Jimenez, ITAKA - Initiative towards Sustainable Kerosene for Aviation*
- **Fuel and technology alternatives for commercial vehicles**  
*Nils-Olof Nylund, VTT, Finland*
- **The use of biofuels in the maritime sector**  
*Per Stefenson, Stena Rederi AB*

### Panel discussion on biomass mobilisation and sustainability

#### **Presentation on biomass mobilisation and sustainability**

*Calliope Panoutsou, Imperial College London*

#### **The panel:**

- *Calliope Panoutsou, Imperial College London (discussion leader)*
- *Ausilio Bauen, E4Tech*
- *Luc Pelkmans, VITO*
- *Udo Mantau, University Hamburg*



Øyvind Skreiberg- SINTEF Energi AS

# The RHC technology platform

- The European Technology Platform on Renewable Heating and Cooling, officially endorsed by the European Commission since October 2008
- Mission:  
The RHC-Platform's mission is to provide a **framework for stakeholders** to define and implement an **innovation strategy** to increase the use of Renewable Energy Sources (RES) for Heating and Cooling, and to **foster growth and market uptake**.

**Secretariat**  
EUREC, ESTIF,  
AEBIOM, EGEN

**RHC-Platform Board**  
15 Members,  
including President  
and 3 Vice-Presidents

**Stakeholders Group**  
All members  
Annual meeting

## Technology Panels

**Solar Thermal  
Technology  
Panel**

Steering  
Committee

**Biomass  
Technology  
Panel**

Steering  
Committee

**Geothermal  
Technology  
Panel**

Steering  
Committee

**Cross-Cutting  
Technology  
Panel**

Steering  
Committee

## Horizontal Working Groups

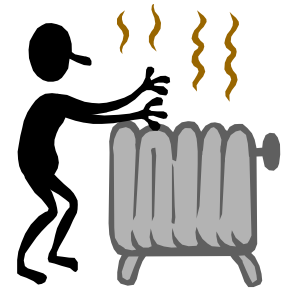
HWG on Common Vision

HWG on Strategic Research and Innovation Agenda

HWG on Common Implementation Roadmap

# The RHC technology platform 2020 objectives

- Increase the **biomass heat market share** in Europe
- **Double the biomass fuel supply** in comparison with 2008 by developing **standardized and sector oriented sustainable biomass fuels**
- 50% **reduction for real life emissions** and a 20% **increase of real life efficiency** of small scale biomass central heating systems
- Substantial improvement of the **fuel flexibility** of biomass technologies
- Increase in **load flexibility** of industrial scale boilers
- **50% reduction of emissions for industrial scale boilers**
- **Substantial increase in electrical efficiency** of large combined heat and power plants





# The RHC technology platform

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## Biomass Technology Roadmap

European Technology Platform  
on Renewable Heating and Cooling



**RHC** Renewable Heating & Cooling  
European Technology Platform



Co-funded by  
the European Union



# The RHC technology platform

## Cross-Cutting Technology Roadmap

European Technology Platform  
on Renewable Heating and Cooling

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**RHC** Renewable  
Heating & Cooling  
European Technology Platform





# EERA Bioenergy

# EERA Bioenergy - structure



Juan Carrasco (left) being congratulated by Kai Sipilä on the announcement of Juan's new appointment as Joint Programme Coordinator of EERA Bioenergy.

New Chair in EERA Bioenergy JP (2014)



SINTEF coordinates

## SP5 scope

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This Sub-Programme aims at improving **competitiveness** of **stationary bioenergy** for different scales, technologies and systems. All the main products, **heat, power and cooling** are included. It addresses three major themes:

- Residential/domestic heating and cooling, including micro-CHP (WP1) - **SINTEF**
- Industrial and municipal combined heat, power and cooling (WP2) - VTT
- Utility multifuel operation (WP3) - ECN

- **Questionnaire** for collection of country specific input regarding biomass challenges and opportunities
  - Stationary bioenergy-related information about the members (political regulations, production, feedstock, etc.)
  - Beneficial to get to know each other better (e.g. find potential partners)
  
- **Creation of an eRoom**
  - Archiving presentations, data sheets, various strategic documents and an event calendar updated on a regular basis

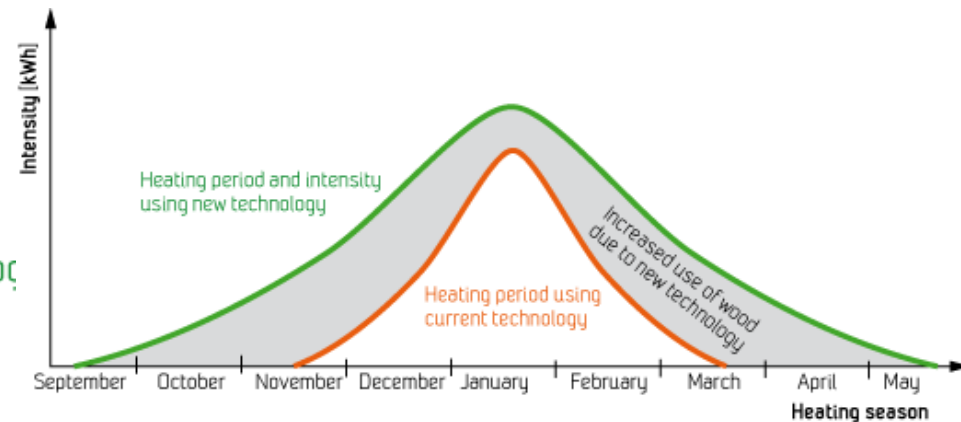
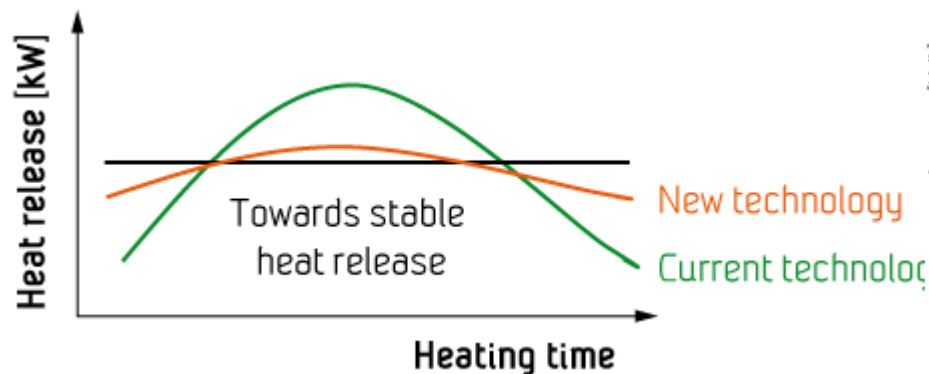


- **Integrated Research Program (research & network) – 2013**
  - Instrument combining large FP7 collaborative projects with Coordination and Support Actions
- **European Cooperation in Science and Technology (COST) (network) – 2014**
  - Cooperation among scientists and researchers across Europe
- **"Pilot project" (research) - 2015**



## Tomorrow's residential buildings, i.e.:

- Wood and pellet stoves
  - Low-load wood stoves with more stable heat release and improved emission or efficiency performances
  - Down-scaled pellet stoves or improved part load operation pellet stoves
- Wood and pellet boilers
- Micro CHP and hybrid systems



- Role of **biomass CHPC plants** in renewable energy system as a **storable energy** source
  - Biomass and bioenergy will present great potential when considering its integration in the renewable energy system containing large share of wind and solar power
- **Smart thermal grids**
  - System integration
- Chemical thermodynamic **modelling of ash behaviour** (melting and corrosion properties)
  - Optimization of combustion processes



## Priority activities 2015 – WP3 (ECN)

- **Repowering** (not relevant for Norway)
  - 100% coal replacement by biomass. Focus on policy measures and strategic decisions in the power industry.
- **Stationary energy Islands in Biorefineries.**
  - Heat and power generation requires adjustment of equipment or even new technology in biorefineries

- EERA SP1 - Thermochemical
  - Lite aktivitet generelt
  - Workshop hos ECN (Petten) i november 14.
    - Termisk forbehandling av biomasse: pyrolyse, torrefiering, HTL
    - Identifisering av flaskehalser/forskningsbehov
  - Planer om å søke nettverksmidler i 2015
- EERA SP2 – Sugar plattform
  - Innspill til rapporter i forhold til **eksisterende infrastruktur** for konvertering og nedstrømsprosessering.
  - Ikke fysiske møter for hele SP i 2014, men møter mellom grupperinger og videomøter
  - Planer for 2015: se på en felles forskningsinfrastruktur i Europa og **revitalisere strategien**

# EERA SP3: Biofuels from algae

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- De fleste medlemmene i SP3 kommer fra forskningsmiljøer som fokuserer på **dyrking og prosessering av mikroalger** til bioenergi.
- Det to mest aktive partnerne på **makroalger er SAMS** (The Scottish Association for Marine Science) **og SINTEF**, og disse instituttene jobber nå sammen for å konkretisere prosjektideer og finansieringsmuligheter innen makroalge-biomasse, bioenergi og bioraffineri.
- Vinteren 2014 ble det valgt **ny koordinator** for SP3, dette ble Maria Barbosa, Wageningen University, Nederland. Hun har mikroalger som arbeidsområde.
- Workshops og møter ble arrangert



Teknologi for et bedre samfunn