

Status of Bioenergy and roadmap to the future

COP23, Bonn

Kees Kwant, Chair IEA Bioenergy

IEA Bioenergy TCP

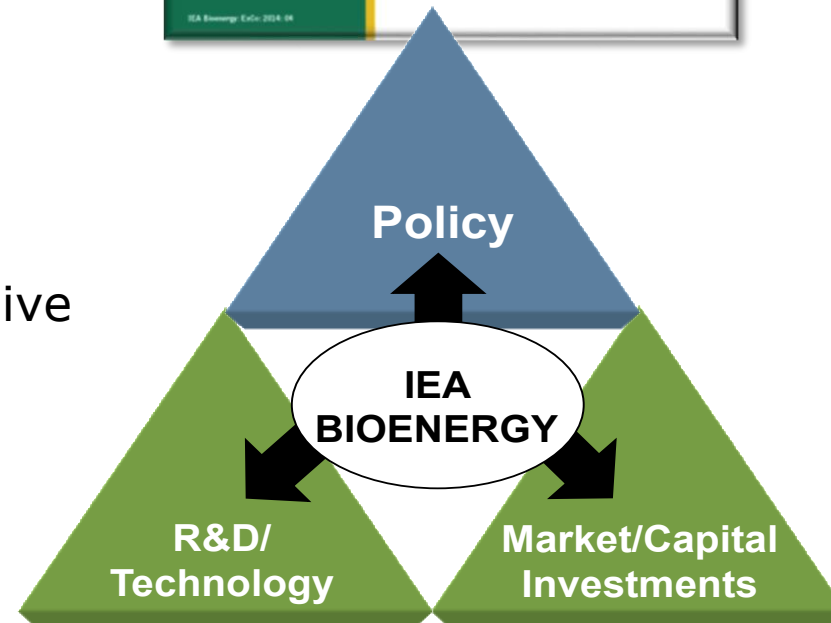
Technology Collaboration Programme (TCP),

functioning within a framework created by **IEA**

Goal: Facilitate the commercialisation and market deployment of:

- **environmentally sound,**
- **socially acceptable and**
- **cost-competitive bioenergy systems**

Key Role: Independent body to give clear and verified information on bioenergy



IEA Bioenergy TCP: Membership - 24 Contracting Parties

ASIA/OCEANIA/AFRICA

- Japan
- Korea
- Australia
- New Zealand
- South Africa

EUROPE:

- Austria
- Belgium
- Croatia
- Denmark
- European Commission
- Estonia
- Finland
- France
- Germany
- Ireland
- Italy
- Netherlands
- Norway
- Sweden
- Switzerland
- United Kingdom

AMERICA'S

- Brazil
- Canada
- United States

IEA Bioenergy TCP

Budget in 2017:
1,76 Million US\$

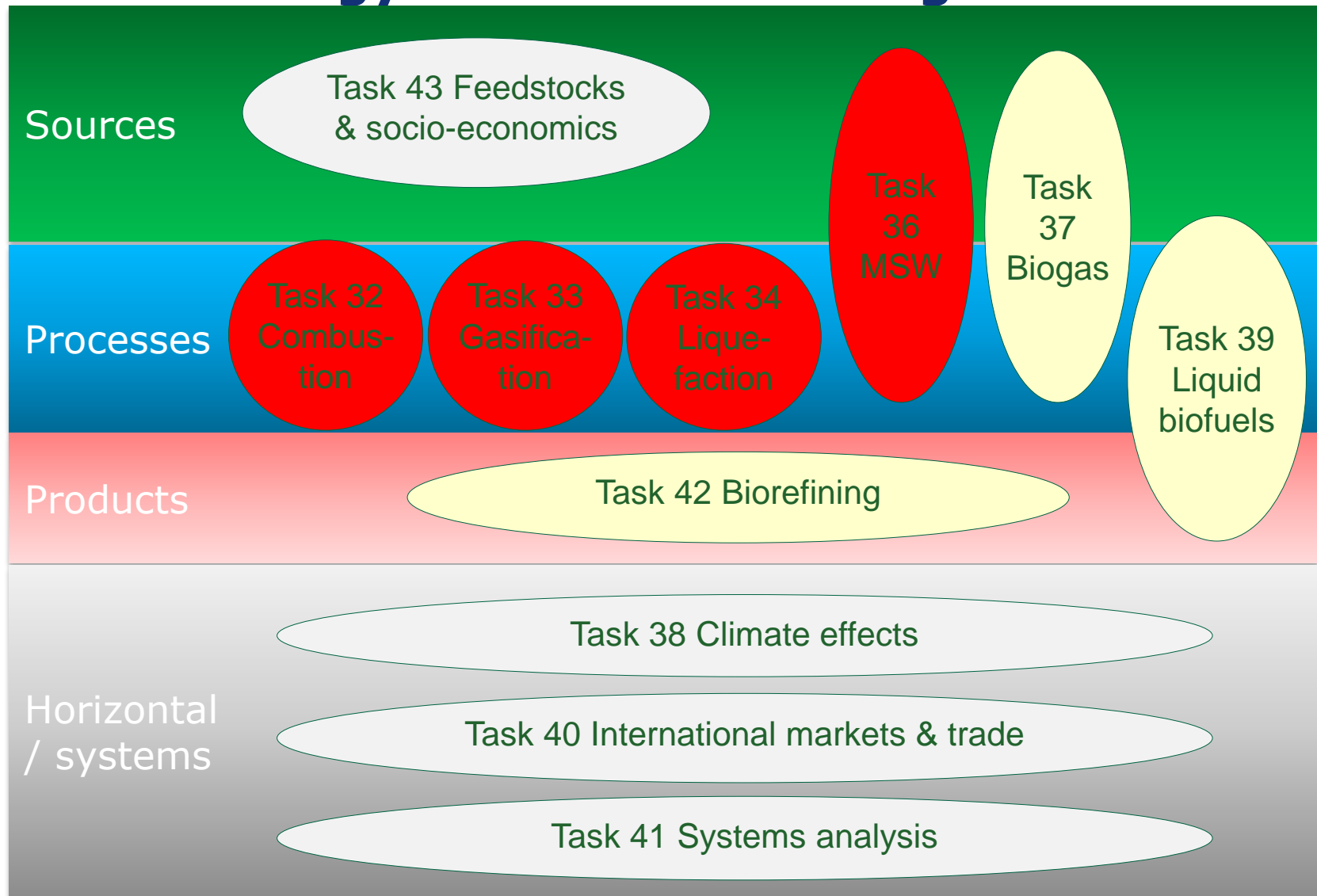
Tasks: 11

Task participation: 98

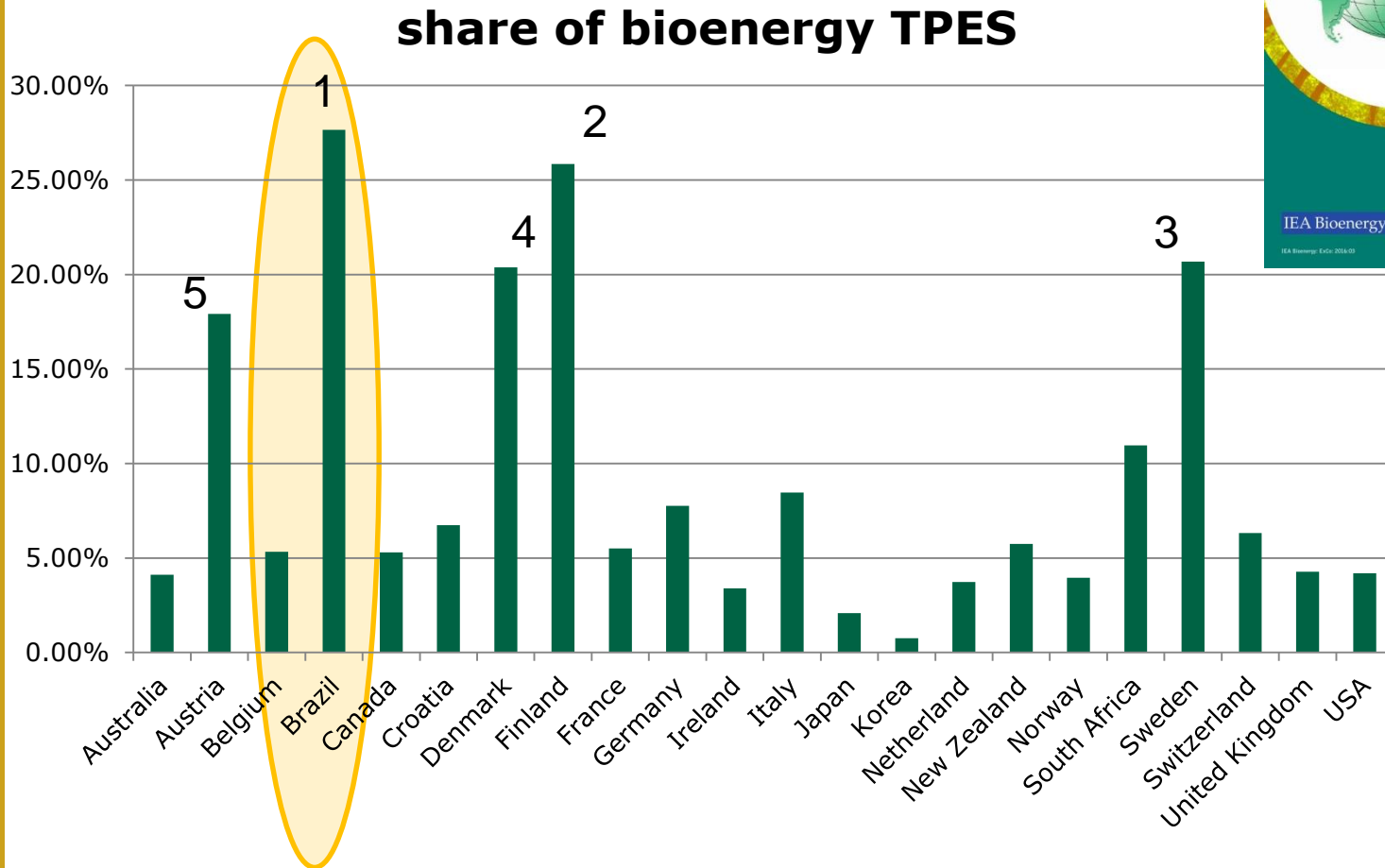
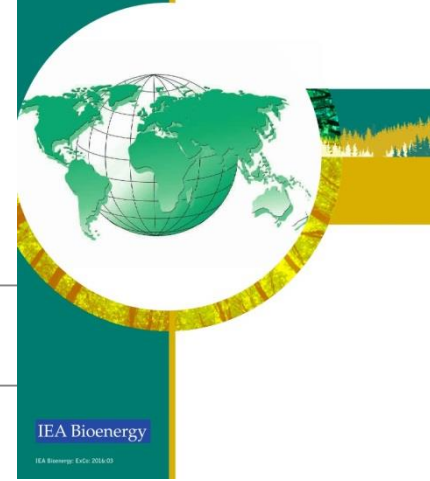
Direct participation:

> 200 persons

IEA Bioenergy Technology Collaboration Program



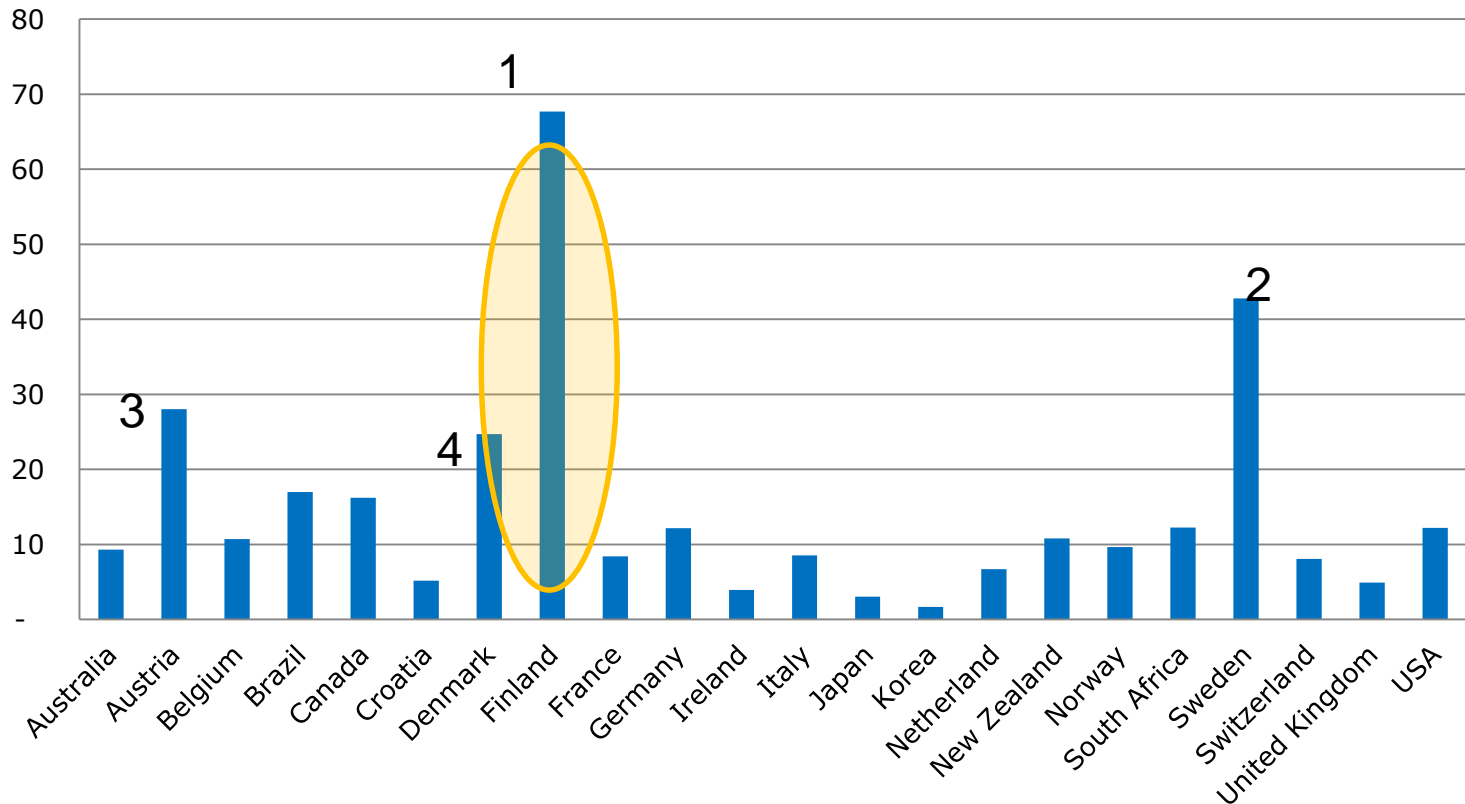
Present Status: Bioenergy share of TPES:



Report available at: www.ieabioenergy.com/publications/iea-bioenergy-countries-report-23-09-2016/

Ranking on bioenergy per capita

bioenergy TPES / capita

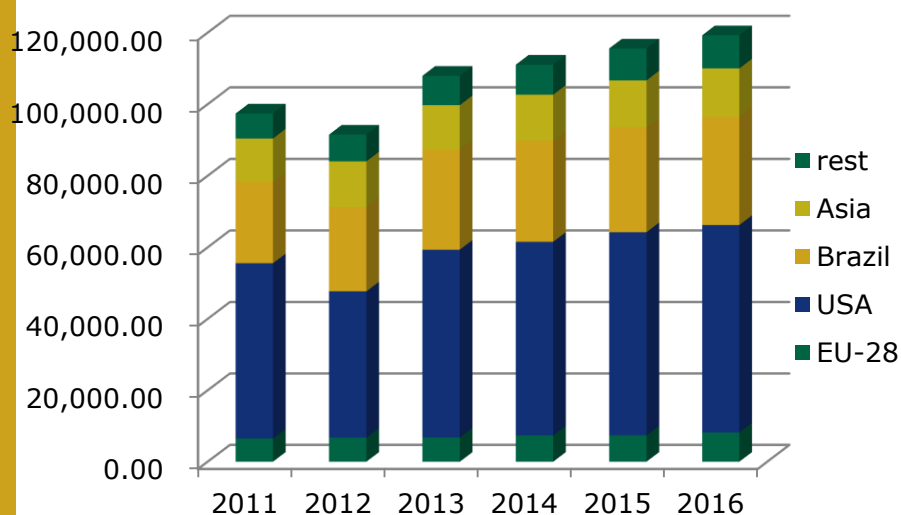


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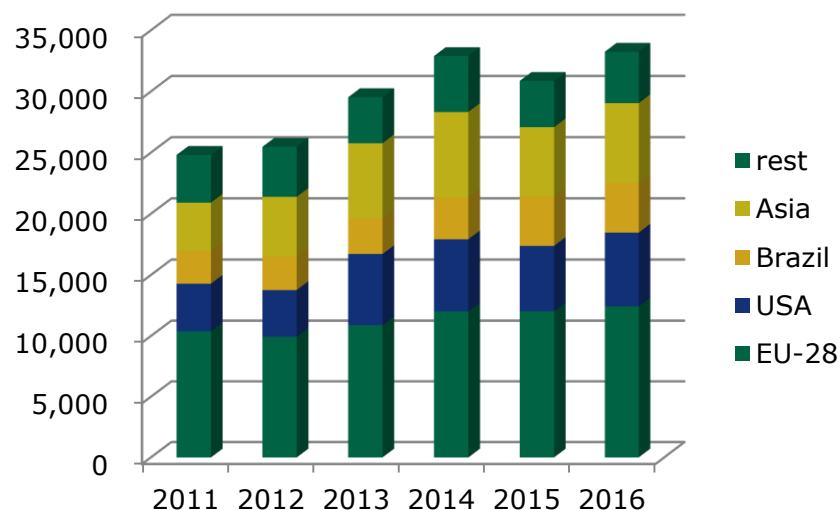
Biofuel Development

- Information collected by Task 39

Bioethanol production [ML]



Biodiesel production [ML]



Advanced biofuel development

■ Lignocellulosic biofuels

■ USA:

- *DSM-Poet*

- *DuPont*

■ Europe:

- *Italy, Crescentino*

- *Finland, ST1,*

■ Brasil

- *GranBio*

- *Raizen*

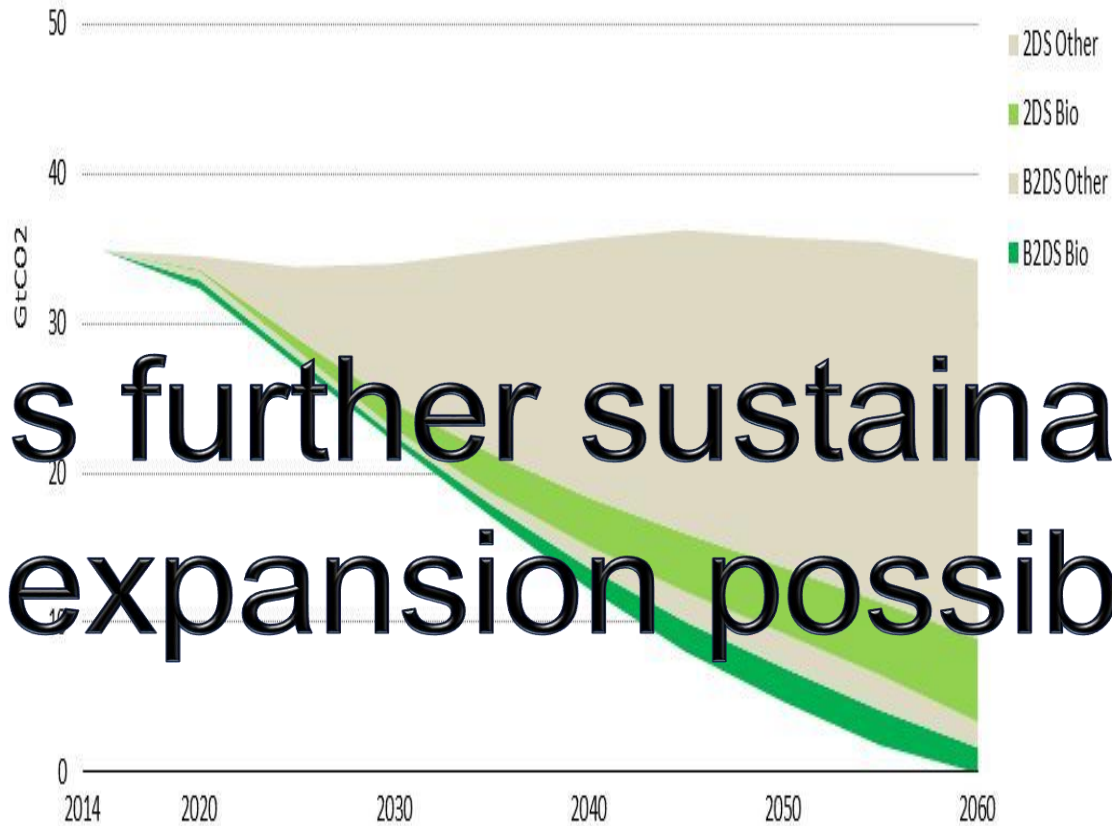


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■ Political Support through: Fuel Standards/

Role of Bioenergy



Is further sustainable expansion possible?

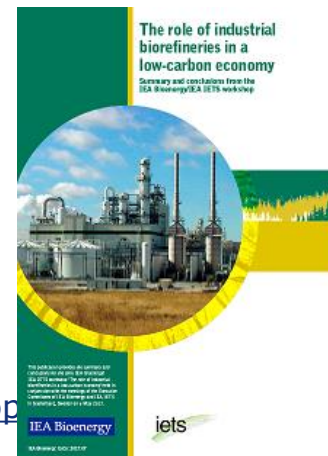
Source: ETP 2017

Bioenergy to provide almost 1/5 of cumulative carbon savings - an essential component

Joint View: Bioenergy for sustainable development



- Bioenergy Contribution to:
 - **UN Sustainable Development Goals**
 - **Paris Agreement** on Climate Change
 - => advancing climate goals, food security, better land use and sustainable energy for all
- Options for **sustainable bioenergy expansion**,
 - sustainable intensification and landscape planning, sustainable forest management, with better information and digitalisation
 - using waste and organic residues (respecting soil conditions), restoring degraded or marginal lands
 - reducing losses in the food chain
- **Multi-functional land use**
- Bioenergy is **part of a larger bioeconomy**.
 - -> Biorefineries: integrated production systems
 - <http://www.ieabioenergy.com/publications/bioenergy-for-sustainable-development>



IEA Bioenergy Roadmap to the future

- Exploit immediate opportunities
 - Landfill gas, biogas, waste treatment, industrial residues, heating market
- Innovate and commercialise new technologies
 - Densification (Torrefaction, pyrolysis, ..)
 - Advanced biofuels
 - System integration into biorefineries
- Develop sustainable biomass supplies
 - Smart Agriculture, efficiency improvement
 - Sustainability Governance
- Mobilise investment
- A Concerted International action



A collaborative way forward

-> Current high-priority themes

- Sustainability and Communication
- Biomass resources and mobilisation
- Market deployment
- Integration into the energy system (with other renewables) & the biobased economy
- Implement the IEA Bioenergy Roadmap

Vision:

- IEA Bioenergy TCP : → **central working force** with:

Mission Innovation Biofuel Challenge for R&D strategy and financing

Biofuture Platform: Vision and political support

GBEP: sustainability assessment

FAO: Food and Agriculture (MoU)

IRENA & SEforALL/ Below50: global outreach, **collaboration with industry**



Conclusion

- Country specific approach
 - (climate, resources, markets)
- Innovation
 - Smart agriculture, improved efficient production
 - Advanced conversion in biorefineries
 - Products, chemicals and energy
 - Supportive Sustainability Governance
 - Long term view, incentivise good practice
 - Communicate to policy and public (Biofuture Vision!)
 - Markets for low carbon products and fuels
 - > Carbon pricing, Biobased Procurement
 - > Business Case



*Thank you for
your attention*

IEA Bioenergy



Contact Details

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