

# Info Day & Brokerage Event

## BIOREFINERY JOINT CALL

Brussels, 16 September 2008

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for the four Themes concerned of the  
Cooperation Specific Programme



# Contents

- Concept in brief (1 slide)
- Context: Major Challenges (6 slides)
- Main related Policy Initiatives and Actions (3 slides)
- Joint Calls: general considerations (1 slide)
- Biorefinery and the 2009 WP of the four Themes involved (6 slides) :
  - 1) Food, Agriculture and Fisheries, and Biotechnology
  - 2) Nano-sciences, Nano-technologies, Materials and new Production Technologies
  - 3) Energy
  - 4) Environment
- Biorefinery Joint Call: General Aspects (4 slides)
- Call Main Topic: Collaborative Projects (3 slides)
- Associated Co-ordination and Support Action (3 slides)
- Documentation, Submission, Further Information (3 slides)



# The Biorefinery Concept

Wood, crops, grasses  
Forestry or Agricultural Residues  
Biological Waste  
Marine biomass

Heat, Electricity, Fuels  
Chemicals  
Materials

Biochemical  
and Thermo-chemical  
Conversion

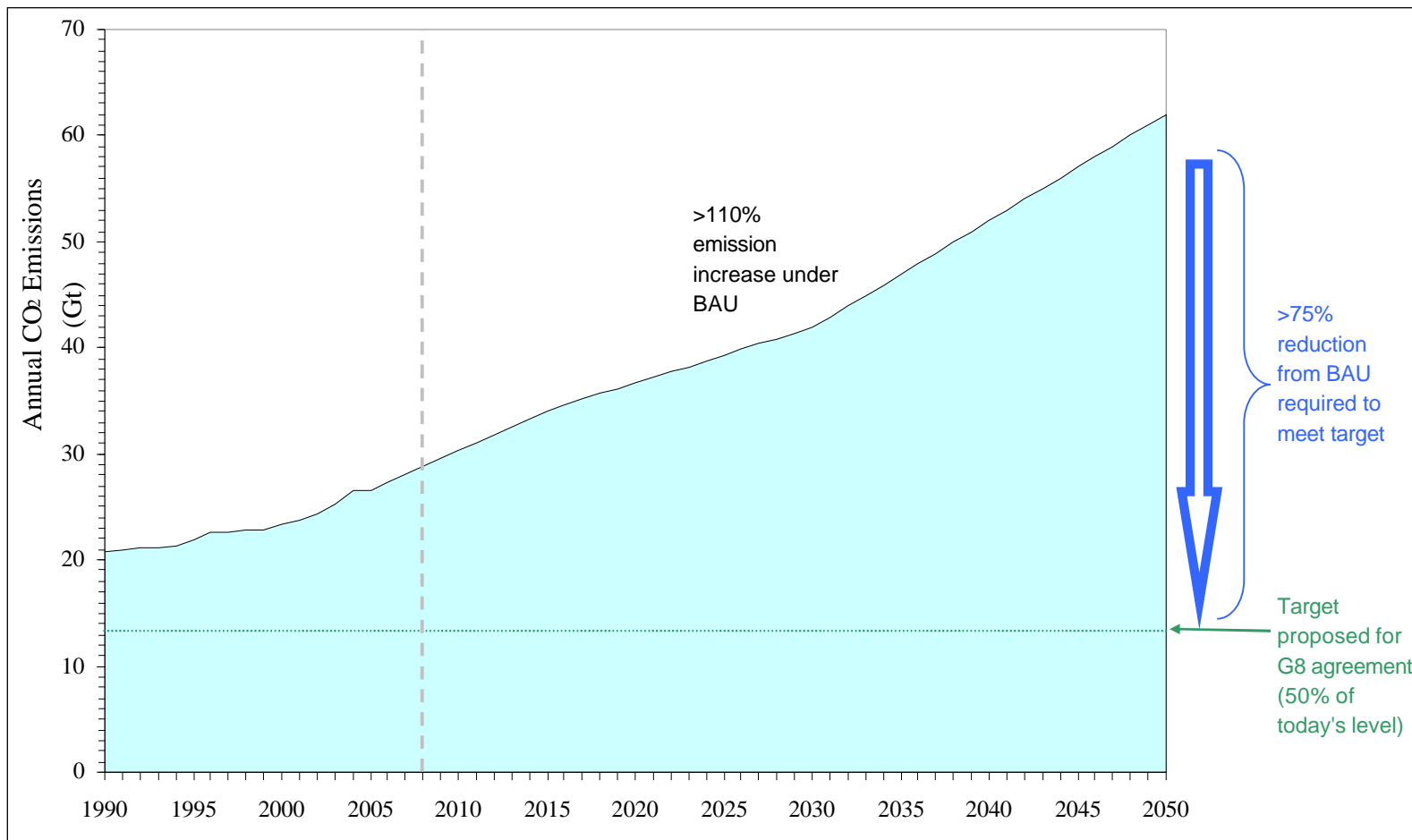


# Context: Major Challenges

- | Global warming and climate change (reduction of GHG emissions)
- | Sustainable, secure and affordable supply of energy and other resources
- | EU competitiveness, job creation and innovation



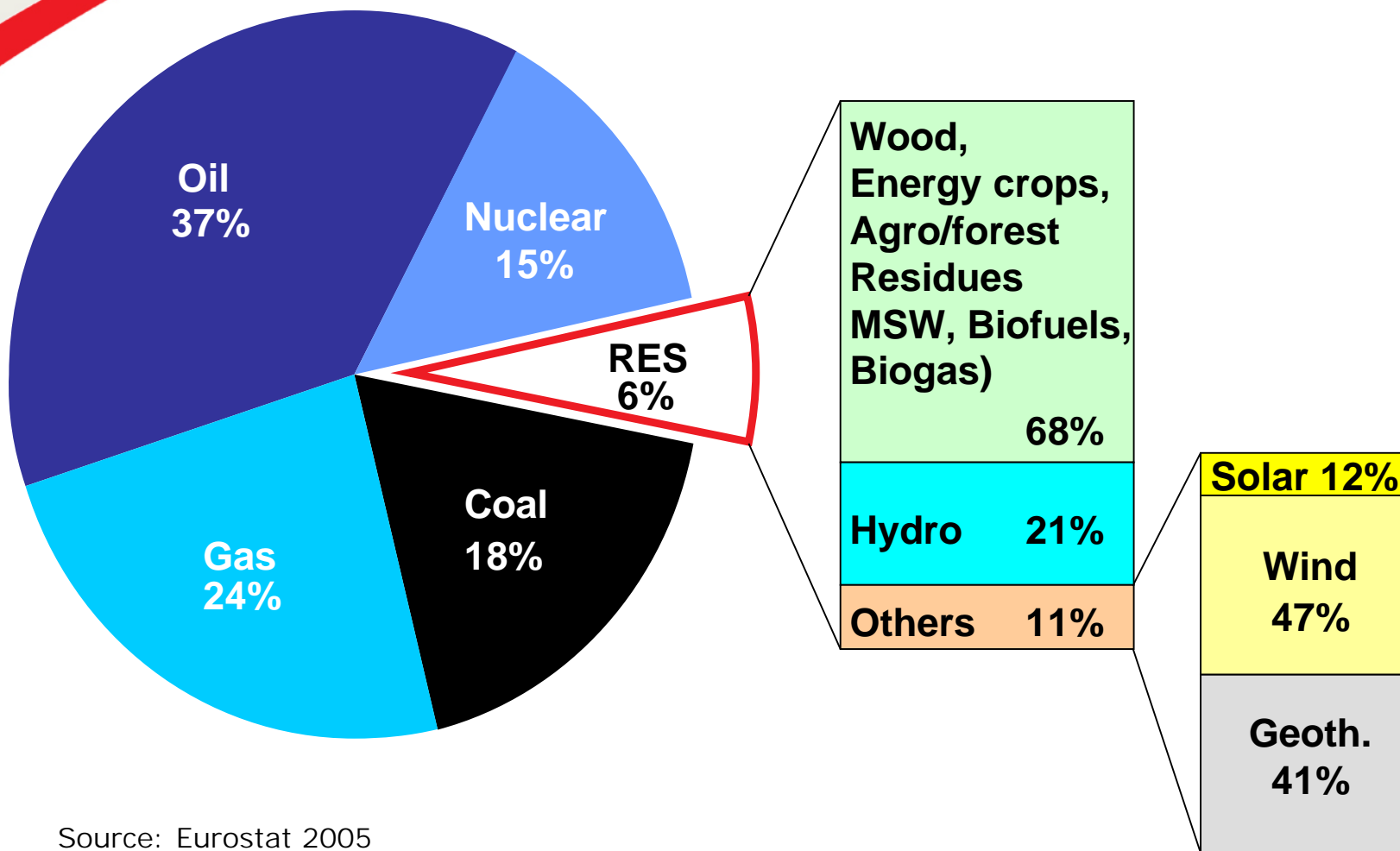
# CO2 Reduction: Required Changes are Massive



•Sources: IEA "Energy Technology Perspectives 2008"; Chair's summary from G8 environment minister's meeting; Kobe, Japan; May 24-26, 2008.



# EU Energy Mix: RES share has to increase

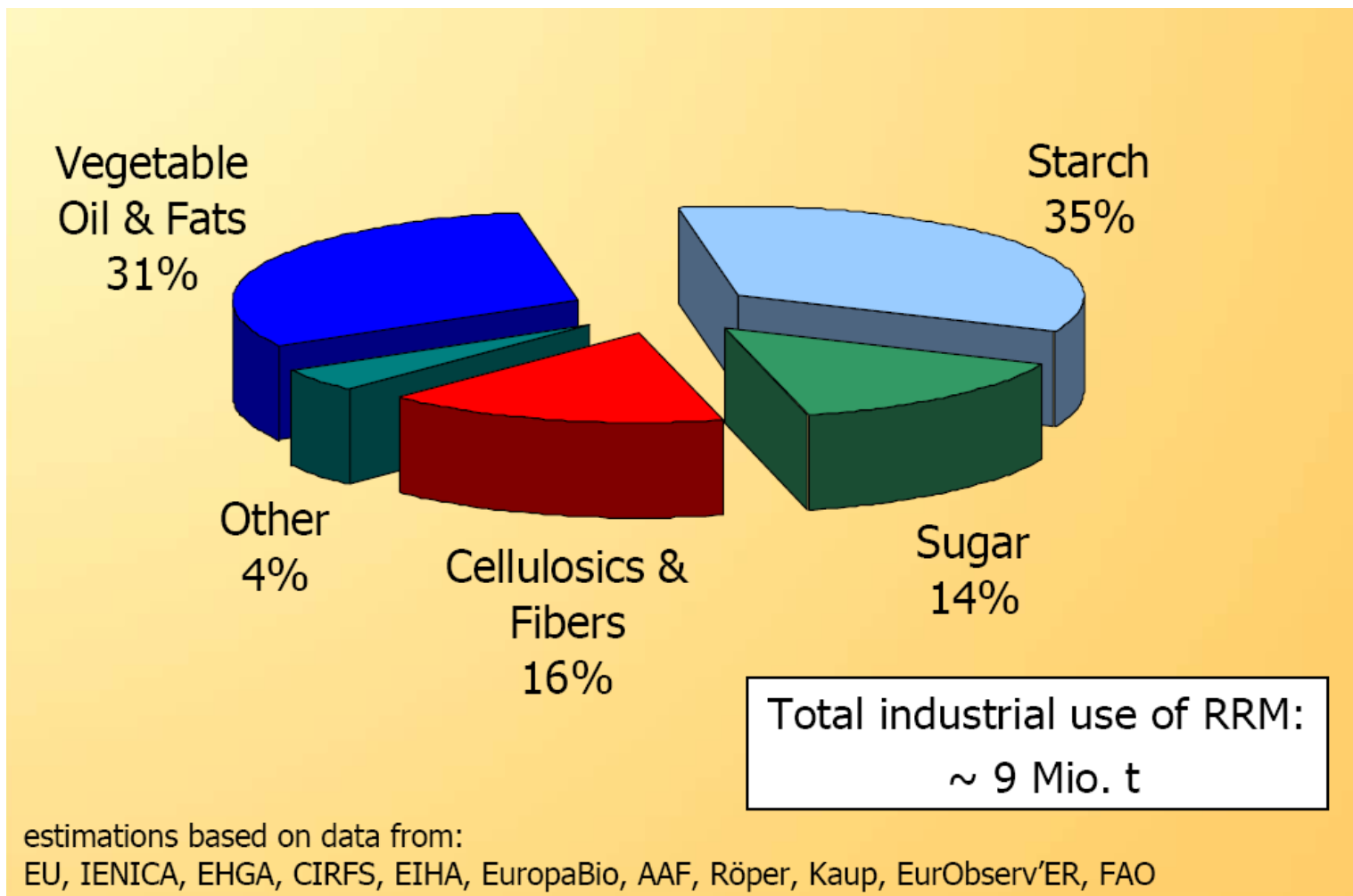


Source: Eurostat 2005

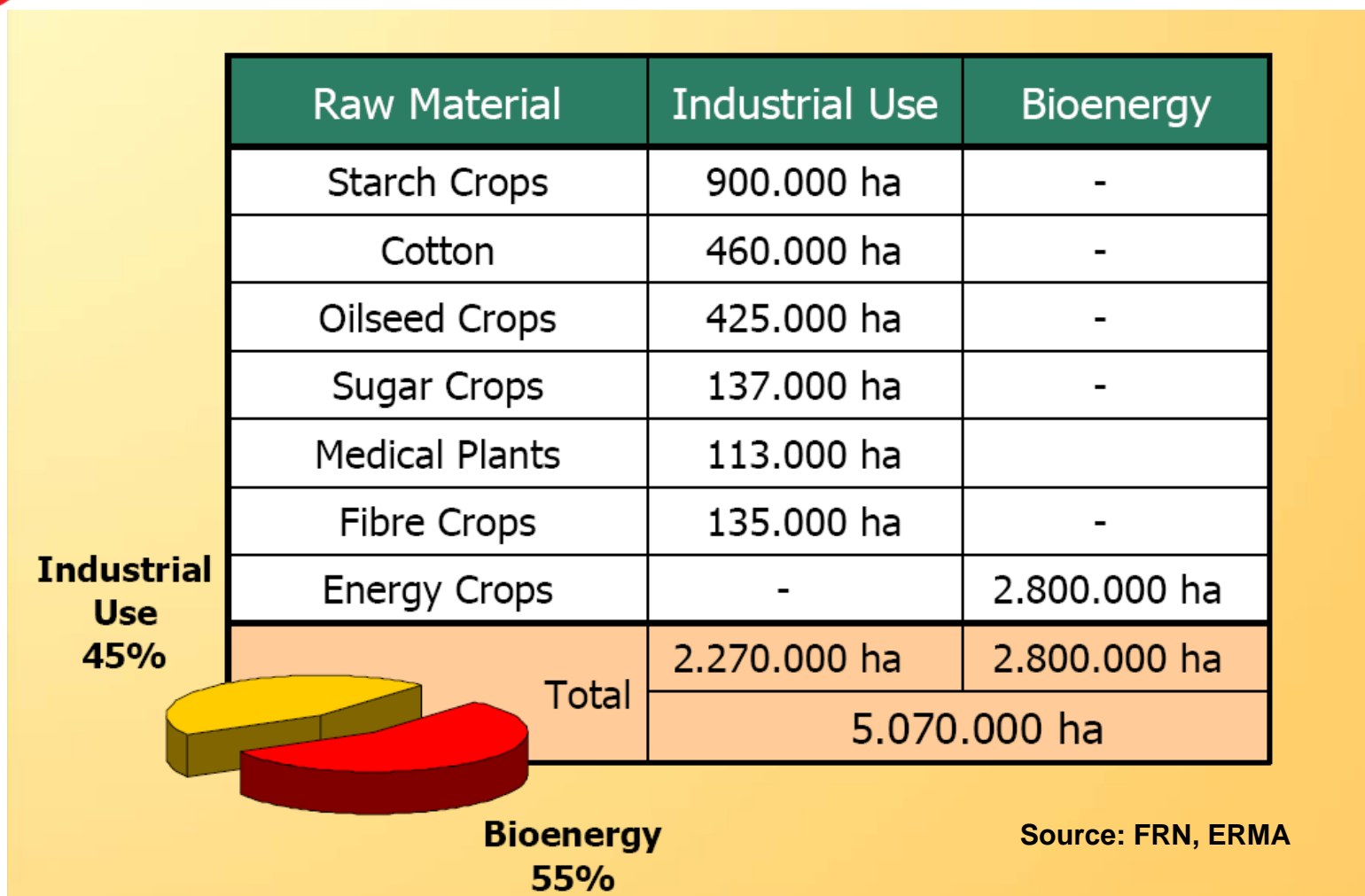
Note: Document not legally binding



# EU-25 Industrial Use (2003)

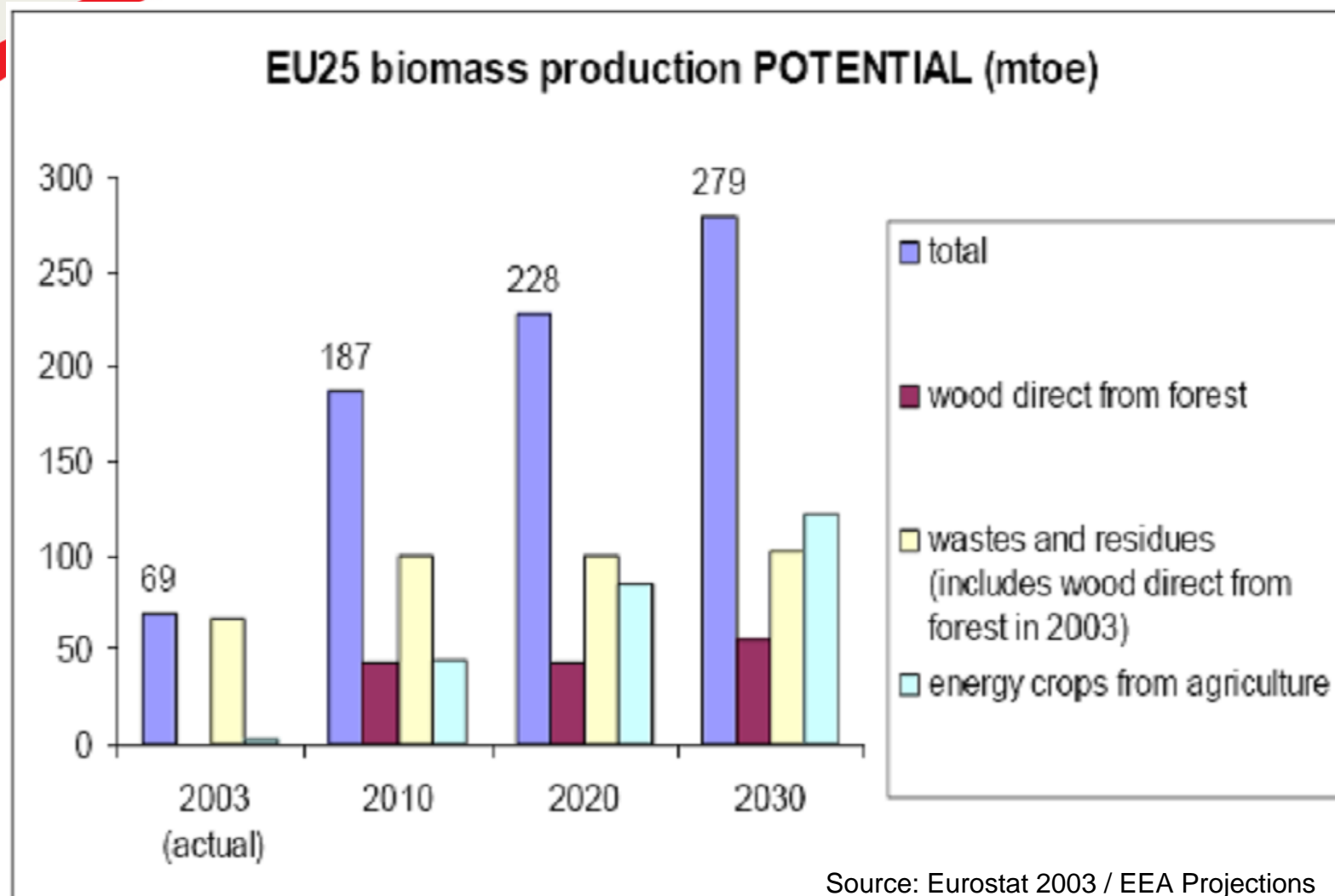


# EU-25 Non-Food Crop Land (2005)





# Availability of RR Materials



# EU Most Relevant Policy Initiatives (1)

- | **Lisbon Strategy (2000) and further adjustments (e.g. Wim Kok Report in 2004) :** Innovation as the motor for economic change; “learning economy”; social and environmental renewal
- | **Life Sciences and Biotechnology : a Strategy for Europe (2002) and related knowledge-based bio-economy (KBBE - 2005):** Transforming the life sciences knowledge into new sustainable, eco-efficient and competitive products
- | **Environmental Technologies Action Plan (ETAP- 2004) linked to the EU’s Sustainable Development Strategy:** Stimulate the development and use of environmentally friendly technologies inc. removal of barriers
- | **Energy and Climate Package (2007):** Comprehensive set of policy actions and initiatives aimed at overcoming the energy and climate change challenges, inc. SET Plan (see below)



# EU Most Relevant Policy Initiatives (2)

- | **Lead Market Initiative (2007):** Foster the emergence of markets which are highly innovative, respond to customers' needs, have a strong technological and industrial basis in Europe and depend more than other on favourable framework conditions
- | **The Strategic Energy Technology Plan (2007):** Aligning technology development with energy policy goals, through notably, the strengthening of European research capacities (European Research Alliance) and the setting up of strategic public/private RD&D partnerships (European Industrial Initiatives, including one on Bioenergy)
- | **Renewable Energy Directive (2008):** Fixing a number of objectives and targets (notably the “3x20%” by 2020) and a number of “boundary conditions”: minimum 35 % GHG Savings; RE should be produced outside land with recognised high biodiversity or carbon stock value; 2nd generation count double; respect of sustainability criteria (still debated in EP and Council, will also apply to the Fuel Quality Directive)



# Necessity of Life Cycle Thinking in Policy and Business

- **Avoid shifting-of-burdens**
  - from one stage in a product's life cycle to another
  - among countries, acting in a global market
  - across different environmental and health impacts
  - from one generation to another
  - across different impacts (environmental, economic, social)
- **Need for a common assessment framework:**

The JRC in Ispra is finalising the “[International Reference Life Cycle Data System](http://lca.jrc.ec.europa.eu/EPLCA/overview.htm)” (ILCD) for good practice in LCA. This is a series of technical guidance documents on best attainable consensus on Life Cycle Assessment practice in data collection, modeling, analysis, interpretation, documentation, and review

<http://lca.jrc.ec.europa.eu/EPLCA/overview.htm>



# Joint Calls: Integrating Knowledge and Expertise

- | Joint calls stated in Cooperation Specific Programme (notably on the realisation of the interdisciplinary nature of the issues – as confirmed by ETPs)
- | A way to overcome challenges and support the implementation of EU policies
- | Several topics in discussion for joint calls, building on previous experience
- | **Biorefinery Joint Call**
  - Truly interdisciplinary and cross sectoral approach
  - Four DG RTD Directorates and DG TREN
  - Ø A challenge to both the EC and the scientific community



# EU FP7 Co-operation Specific Programme

## THEMES

1. Health
2. Food, agriculture and fisheries, and biotechnology (1.9 Billion €)
3. Information and communication technologies
4. Nanosciences, nanotechnologies, materials and new production technologies (3.5 Billion €)
5. Energy (2.3 Billion €)
6. Environment (including climate change) - (1.9 Billion €)
7. Transport (including aeronautics)
8. Socio-economic sciences and the humanities
9. Space
10. Security



# The Work Programme (WP)

- WP legal basis is the **Cooperation Specific Programme**, which sets the overall scope and objectives and, broadly speaking, the subjects to be covered
- WP may be revised annually (as required) and constitutes the basis of annual Calls for Proposals
- WP Terminology:

Æ Theme

Æ Activity

Æ Area (stable throughout FP7, but with flexibility)

Æ Topics (subjects open for proposals in the calls, only in the year in question) – Same in all four Themes regarding this joint call



# Relevant activity in “Food, agriculture and fisheries, and biotechnology”

**Sustainable production and management of biological resources from land, forest and aquatic environments**

**“Fork to farm”: Food (including sea-food), health and well being**

**Life sciences, biotechnology and biochemistry for sustainable non-food products and processes**





# Relevant activity in “Nanosciences, nanotechnologies, materials and new production technologies”

**Nanosciences and  
Nanotechnologies**

**Materials**

**New production**

**Integration of technologies  
for industrial applications**



# Relevant Activity in “Energy”

*Note : 10 “activities” implemented jointly by DG RTD and TREN*

Hydrogen and fuel cells

CO2 capture and storage  
technologies for zero  
emission power generation

Renewable  
electricity  
generation

Clean coal  
technologies

**Renewable  
fuel production**

Smart energy  
networks

Renewables  
for heating and cooling

Energy savings  
and energy efficiency

Knowledge for energy policy making

Horizontal Programme Actions



# Relevant activity in “Environment including climate change”

Climate change, pollution and risks

Sustainable management of resources

**Environmental Technologies**

Earth Observation and Assessment tools for sustainable development

Horizontal Actions



# Biorefinery Joint Call: Modalities Overview

- I **Topics description** identical in the four thematic work programmes
- I **Formal opinion** of Specific Configuration of the Programme Committee "Cooperation" based on agreement of the four Thematic Configurations of the PC
- I **Submission** of ONE proposal to only ONE of the four Themes referred in the call fiche (free choice)
- I **Task Force** - logistical aspects, joint evaluation and S&T follow-up, notably assessment of periodic and final reports
- I **Administrative/financial/legal/ contractual matters**  
Lead DG and Directorate and a single Authorising Officer (based on TF assessment of project reports)
- I **Report** to the four Thematic Configurations of the PC on the evaluation outcome and later on progress of projects



# Biorefinery Joint Call: Task force

## I Task force supervisor

- Zoran Stancic, DG RTD Deputy Director General for scientific matters

## I Leading DG, Directorate and Single Authorised Officer

- DG RTD Directorate K "Energy", Raffaele Liberali, Director

## I Task Force members

- Alfredo Aguilar, Maria Fernandez, Piero Venturi (DG RTD/E)
- José-Lorenzo Vallés, Frédéric Gouardères ( DG RTD/G)
- Andrea Tilche, Michele Galatola, Peter de Smedt (DG RTD/I)
- Bruno Schmitz, Maria Georgiadou, Jose Ruiz Espi (DG RTD/K)
- Stefan Tostmann, Kyriakos Maniatis, Anthi Charalambous (DG TREN/D)



# Biorefinery Joint Call: Budget

## I Total € 57 Millions EC contribution

- Theme 2 - Food, Agriculture and Fisheries, and Biotechnology - € 10 M
- Theme 4 - Nano-sciences, Nano-technologies, Materials and new Production Technologies - € 7 M
- Theme 5 - Energy – € 30 M
- Theme 6 - Environment (Including Climate Change) – € 10 M
- **Up to** 100 % of management costs and 50 % of demonstration costs, 75% of RTD costs for SMEs



# Biorefinery Joint Call : Overall Aim and Topics

- I **Aims at** the research, development and integration of innovative technologies to prove the viability of advanced biorefineries taking into account the entire value chain and sustainability issues
  
- I **Two topics / Two Instruments / Two Budgets**
  - Ø Collaborative Project (CP) « Sustainable Biorefineries » - € 55 M
  - Ø Co-ordination and Support Action (CSA) « Enhancing exchange of information, synergies and cross-fertilization between projects in the field of Biorefineries » - € 2 M



# CP “Sustainable Biorefineries”: Scope

- | Sustainable processing of biomass into building blocks for production of bio-based chemicals, materials, second generation biofuels, power and heat
- | Address the entire value chain, from production of feedstock to end product
- | Integrated multi-disciplinary approach, notably by involving the development of thermo-chemical and biochemical technologies
- | Demonstrate performance, sustainability and feasibility at least at pilot scale in an integrated approach
- | Demonstrate the part of the biorefinery complex that is closer to the market at industrial pilot plant scale
- | Assess for the entire value chain the environmental, economic and social sustainability, including: competition for food and biomass resources, GHG net balance, impact on water and land use, etc.





# CP “Sustainable Biorefineries”: Impact and Other Aspects

- | Contribute to European competitiveness and wealth by supplying wide range of bio-based products and energy in an economically, socially and environmentally sustainable manner
  - | New competences, job opportunities and markets
  - | Contribution to EU policy implementation, i.e. Lead Market Initiative, SET Plan, Energy & Climate Package
- 
- | Relevant industrial participation is essential
  - | Funding of a limited number of large, multi-disciplinary collaborative projects meeting the required level of integration, while remaining of a manageable size
  - | Specific Guide for Applicants for proposals under this topic
  - | Partners will be required to conclude a consortium agreement prior to grant agreement



# CP" Sustainable Biorefineries" Evaluation procedure

- I A two-step procedure
- I Remote evaluation with consensus session in Brussels
- I Stage 1 proposals Deadline : 2<sup>nd</sup> December 2008 17:00 pm
  - Ø Evaluation criteria: S/T Quality & Impact
  - Ø Limited size: 20 pages, A4, 11 points, 15 mm margin
  - Ø Criterion marks from 0 to 5 with the possibility of 0.5 point scores
  - Ø Thresholds: S/T 4/5, Impact 3/5, overall 8/10
  - Ø Evaluation planning: remote December 2008, consensus January 2009
- I Stage 2 proposals Deadline : 5th May 2009 17:00 pm
  - Ø Evaluation criteria: entire set (S/T Quality, Implementation, Impact)
  - Ø Hearings may be organised
  - Ø Criterion marks from 0 to 5 with the possibility of 0.5 point scores
  - Ø Thresholds: S/T 4/5, Implementation 3/5, Impact 4/5, overall 12/15
  - Ø Evaluation planning : remote May / June 2009, consensus June 2009
  - Ø Evaluation results: by end of July 2009



## CSA “Enhancing Exchange of Information, ...” : Scope

- | Promote coordination of on-going research at European and national levels across Biotechnology, Energy, Industrial Technologies and Environment on distinctive features of the biorefinery concept
- | Overcome fragmentation and develop cross-thematic synergies, identifying gaps and overlaps, defining research priority needs and infrastructure
- | Information exchange in any aspect of the entire value chain (the feedstock, conversion processes, end-products), the energy efficiency, the economic, socio-economic and environmental performance, as well as other sustainability issues



# CSA “Enhancing exchange of information, ...”: Impact and other aspects

- | Identification of most relevant activities and their complementarities / synergies
  - | Facilitate and enhance the cooperation between key researchers in academia and industries
- 
- | Relevant industrial participation is essential
  - | Networking and exchange activities with relevant international programmes
  - | Up to one project may be funded
  - | Specific Guide for Applicants for proposals under this topic
  - | Partners will be encourage but not obliged to conclude a consortium agreement



# CSA “Enhancing exchange of information, ...” : Evaluation procedure

- | A one-step procedure
- | Deadline : 2<sup>nd</sup> December 2008, 17:00 pm
- | Remote evaluation with consensus session in Brussels
- | Evaluation criteria: S/T Quality, Implementation and Impact
- | Criterion marks: from 0 to 5 with the possibility of 0.5 point scores
- | Thresholds: S/T 3/5, Implementation 3/5, Impact 3/5, overall 10/15
- | Evaluation planning: remote December 2008, consensus January 2009
- | Evaluation results: by March 2009



- **Relevant general documents readily available include:**
  - EC Rules for participation
  - Rules for submission, evaluation, selection, award
  - Standard model grant agreement
  - Guide for beneficiaries
  - Guide to Financial Issues

All documents listed above and additional ones can be found at:

[http://cordis.europa.eu/fp7/find-doc\\_en.html](http://cordis.europa.eu/fp7/find-doc_en.html)

- **Further call-specific documents :**

These are available on the following site:

<http://cordis.europa.eu/fp7/dc/index.cfm?fuseaction=UserSite.FP7CallsPage>



**Call published on 3 September 2008  
with  
submission deadline  
2 December 2008  
at 17:00 (Brussels local time)**

**Gateway to information  
<http://cordis.europa.eu/en/home.html>**

**Functional mailbox :  
[RTD-BIOREFINERY-JOINT-CALL@ec.europa.eu](mailto:RTD-BIOREFINERY-JOINT-CALL@ec.europa.eu)**



## Other Information Events & Further Information Sources

### **Info days organised by the Energy Theme on 24-25 September 2008**

#### **Gateway to information**

[http://cordis.europa.eu/fp7/energy/events\\_en.html](http://cordis.europa.eu/fp7/energy/events_en.html)

[http://ec.europa.eu/research/energy/index\\_en.htm](http://ec.europa.eu/research/energy/index_en.htm)

Thank you for your attention

