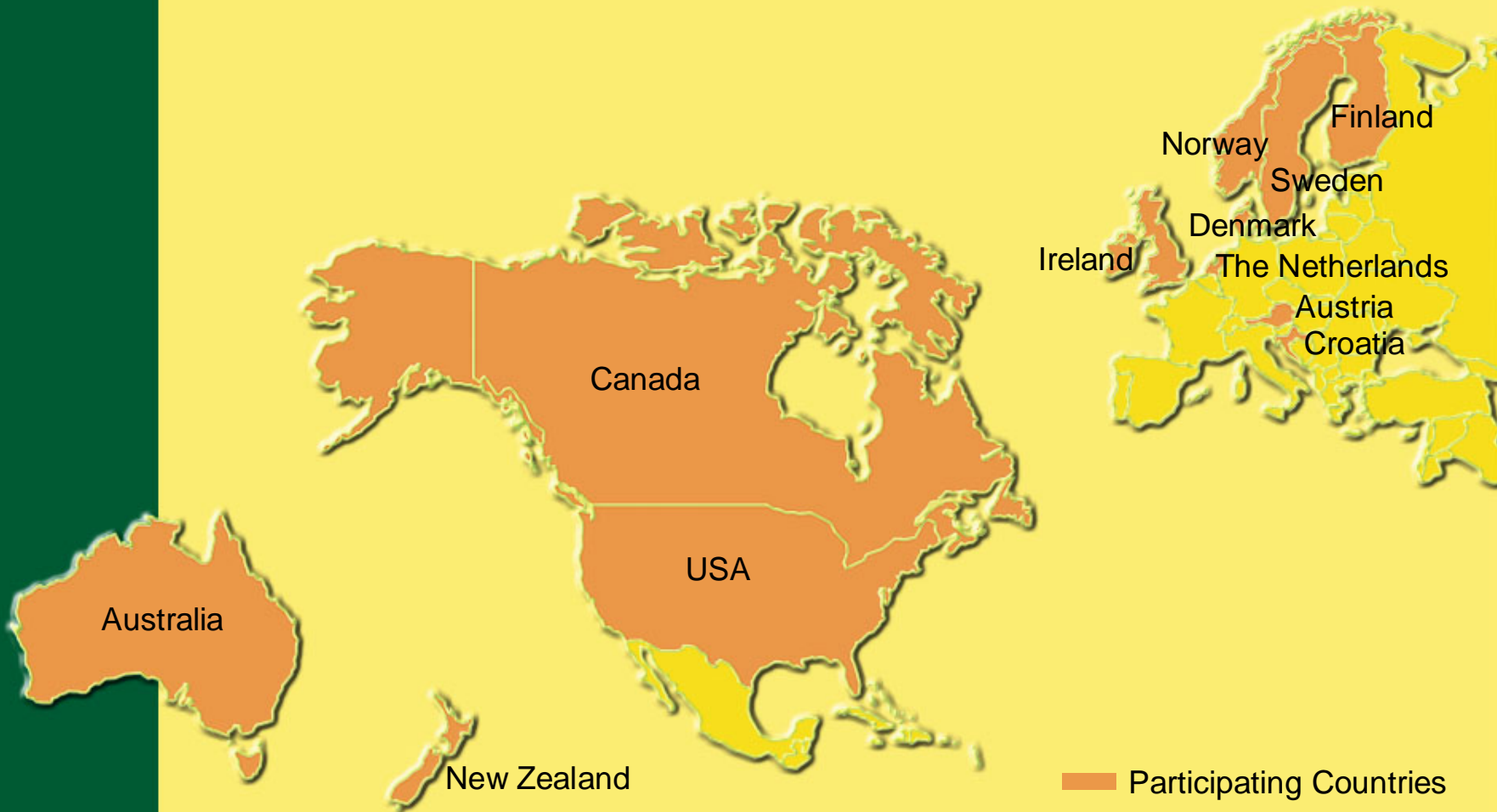


IEA Bioenergy

Task 38

Greenhouse Gas Balances of Biomass and Bioenergy Systems



- international network for coordinating national RD&D programs and exchanging information,
 - set up in 1978 by the IEA, currently 20 countries or organizations are members
 - series of Tasks, each with a defined work program
- **Mission:** To facilitate, coordinate and maintain **bioenergy research**, development and demonstration **through international cooperation and information exchange**

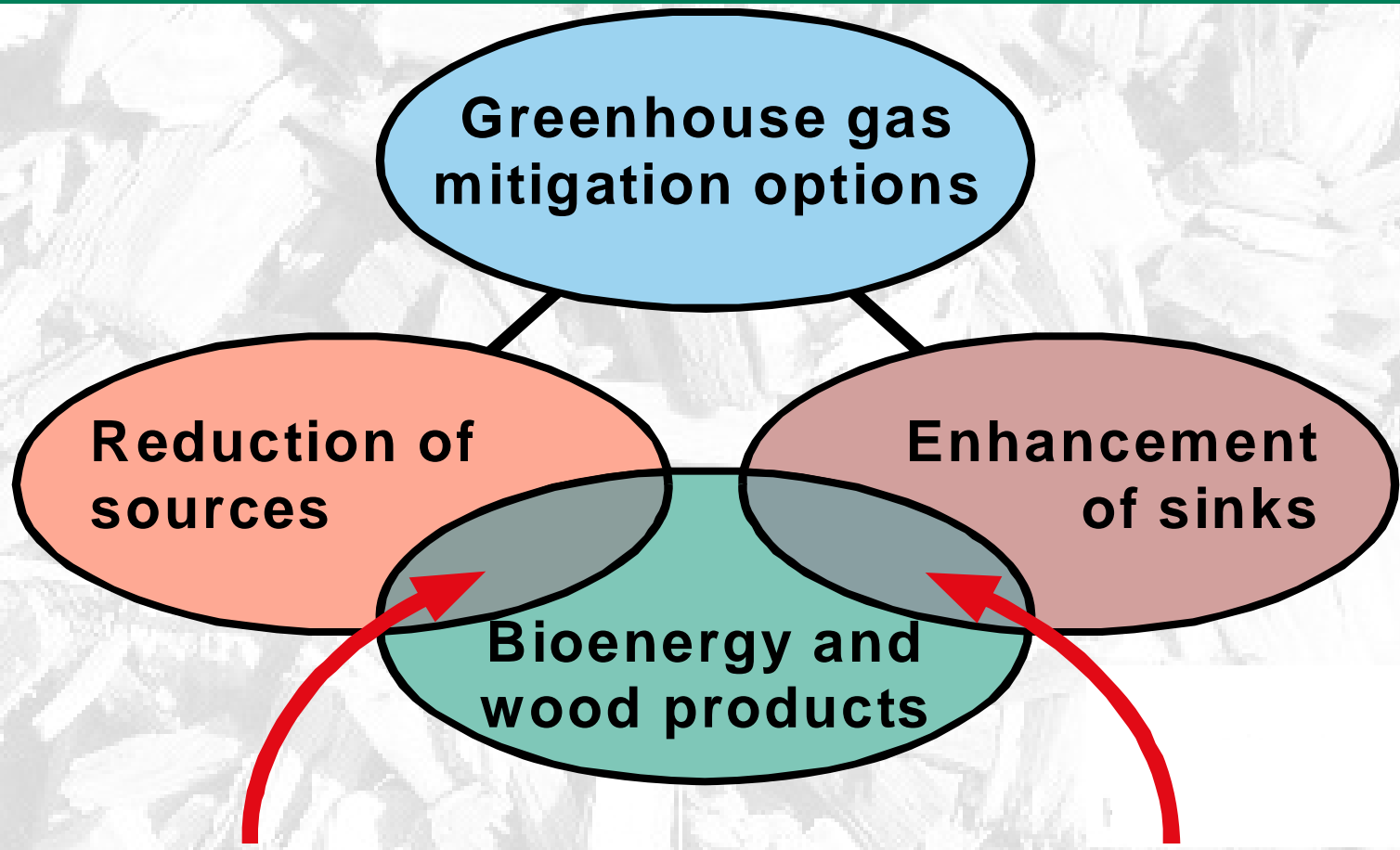
IEA Bioenergy Tasks

- **Biomass resources:** Forestry and agricultural products, municipal solid waste,
- **Biomass conversion:** Combustion, thermochemical and biochemical processes,
- **Bioenergy utilization:** Heat and power, transportation fuels,
- **Integrating research themes:** Techno- and socio-economic and environmental analyses, greenhouse gas balances, biomass trade.

Objectives Task 38

- Apply standard methodology to actual case studies
- Emphasis on systems analysis, overall atmospheric impact
- Aid decision makers in selecting most effective mitigation options
- Address policy relevant issues re GHG mitigation
- Promote international exchange of ideas, models and scientific results

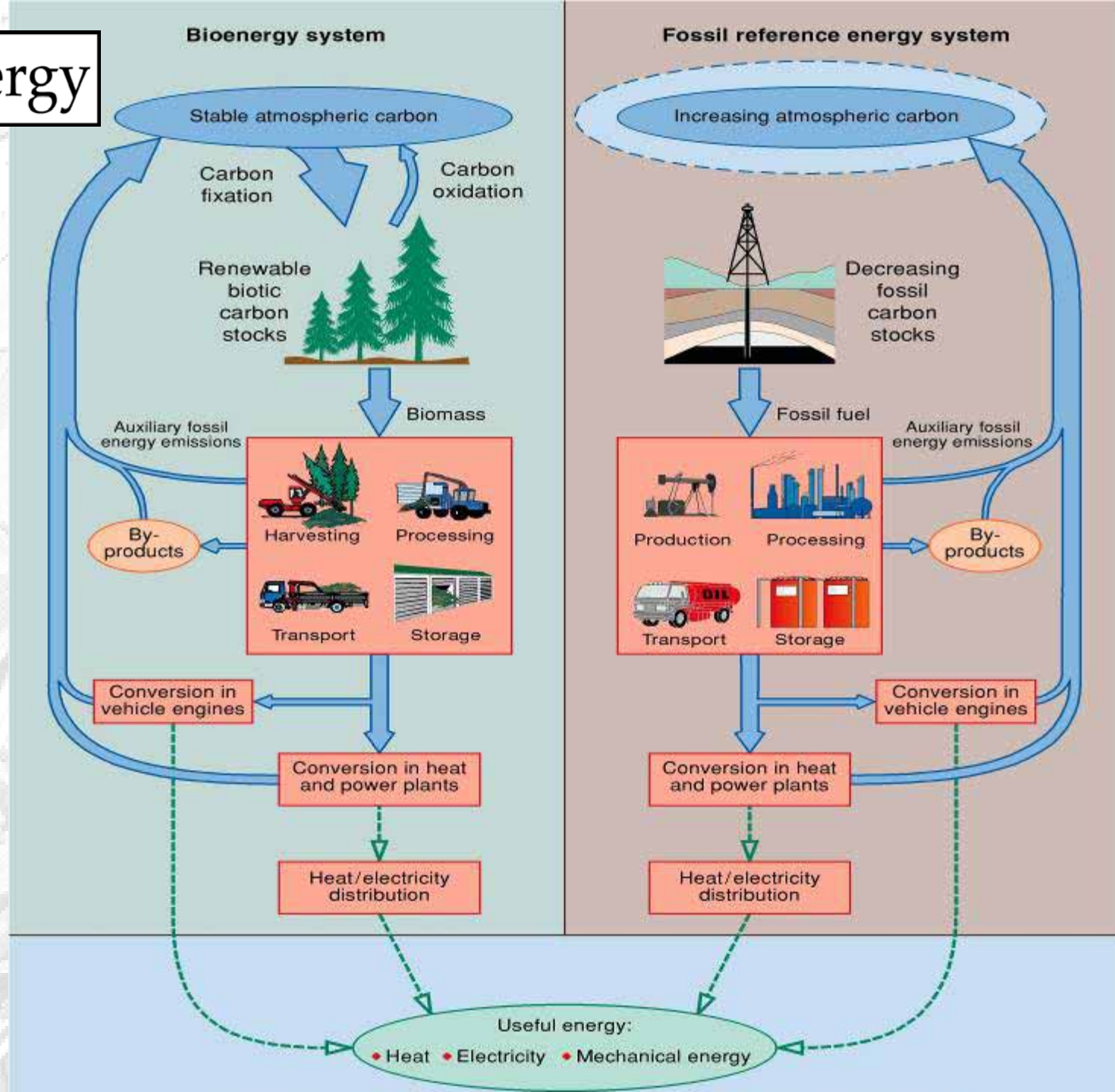
Role of Bioenergy and Wood products in GHG mitigation



- Fossil fuel substitution
- Product substitution
- etc.

- Afforestation and harvest
- Durable wood products
- etc.

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Case Studies – GHG balances

- **Australia:** co-firing biomass with coal; wood fired power plant using timber plantations;
- **Canada:** pyrolysis plant for bio-Oil production using sawmill residues and thinnings;
- **Finland and Sweden:** use of timber for housing construction and wood residues for energy;
- **Ireland:** peat use for energy
- **New Zealand:** bioenergy CHP plant using sawmill residues;
- **UK:** small scale heating systems using conventional forestry and Miscanthus;
- **Croatia:** biodiesel in the Joint Implementation context;
- **USA:** anaerobic digestion

Case studies 2004-2006

- **Australia:** Utilising **Char from biomass pyrolysis** as a soil amendment in agricultural systems;
- **Austria/Croatia:** Dedicated energy crops for **biogas** production in Austria and JI assessment in Croatia;
- **Canada:** Use of **pellets** (from **mountain pine beetle** infested wood, hybrid poplar and sawmill residues) to produce bioenergy ;
- **Denmark:** a South African CDM project on thermal energy from biomass fired CHP plant including a socio-economic analysis (in cooperation with Task 29);
- **Ireland:** Use of **MSW** for energy production arising from thermal treatment (in cooperation with Task 36?);
- **Netherlands/USA:** GHG balance of biofuels produced via gasification (**second generation biofuel**);

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www.joanneum.at/iea-bioenergy-task38

