

R&D topics on conversion processes

Key messages from the SRA update

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R&D recommendations on conversion processes (1)

- **Key priority for commercial biofuel technologies: improve environmental (GHG, energy balance, water, inputs...) and economic performance**
- **For advanced biofuels (not yet commercially deployed), the focus is on:**
 - Ability to process a wide range of sustainable feedstocks while ensuring energy and carbon efficient process and selectivity towards higher added value products
 - Biofuels which perform at least as well as, but preferably better than existing ones. Full compatibility with existing fuel infrastructures at increasing blend rates must be aimed at
- **Conversion technologies targeting distillates for transport fuels deserve priority attention because of limited supply of current biodiesel/bio-distillates and because of increasing demand (heavy duty road transport, air, marine)**

R&D recommendations on conversion processes (2)

- **For advanced biofuels, activities on process optimisation/integration should focus on specific value chains such as those identified for the European Industrial Bioenergy Initiative, with ongoing pilot, demo and reference plant projects.**
- **Value chains leveraging on industrial synergies with existing facilities deserve priority attention as they might offer the best economic and industrial framework to manage the high risk/high cost of deploying promising new technologies, helping the transition from conventional to advanced biofuels.**

R&D recommendations on conversion processes (3)

- **New “tools” need to be further evaluated and developed/adapted for EU feedstock applications:**
 - Synthetic biology to produce “drop in” biofuels (biofuels with higher added value because of chemical and physical properties fully compatible with current fuel infrastructures)
 - Catalytic and chemical biomass conversion (i.e. catalytic conversion of sugars to furanics)
- **Aviation and marine fuels: no specific technical challenges for processing technologies, but mostly (downstream) fine-tuning of processes already developed for road transport fuels.**