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Bioenergy as a promoter for sustainable development and innovation in rural areas in Europe

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Outline

- Renewable energy policy
- Impacts on Rural Areas
- The contribution of the Common Agricultural Policy



Renewable energy policy

- Council conclusions March 2007



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All 3 sectors: electricity, transport, heating and cooling

Targets for 2020:

- ▶ **Overall target 20% of energy consumption**
- ▶ **Biofuels: binding 10% target**
- ▶ **A system for ensuring the sustainability of biofuels**
- ▶ **Differentiated national overall targets for renewable energy**

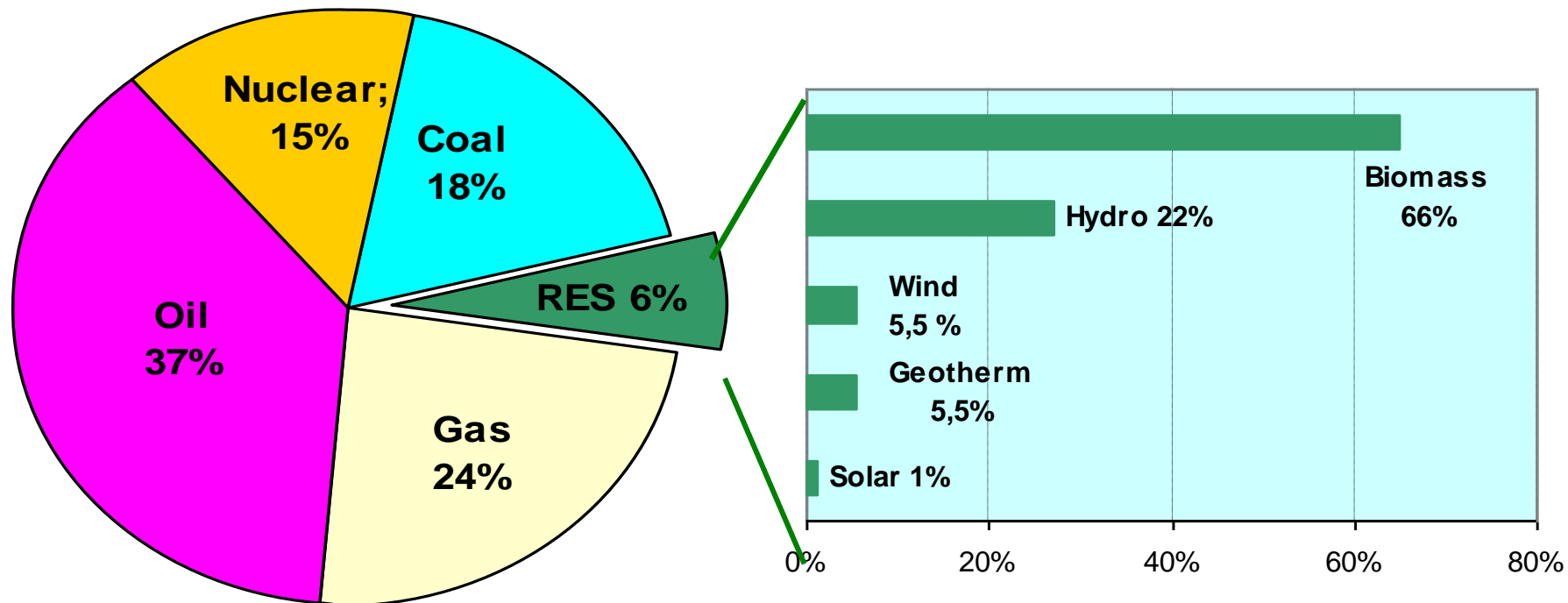
**New directive on the promotion of renewable energy,
adoption of Commission proposal 23.1.2008**



Breakdown of EU-25 gross energy consumption (2005)



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❖ 2007: EU-27 RES = 8.5%,
Biofuels : < 2%

❖ 2020: EU-27 RES = 20%,
Biofuels : 10%



Energy demand for biomass: 20 % scenario for 2020



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- **Maximum biomass contribution needed: 230 Mtoe**
 - **With 15 % of imports, maximum contribution from EU: 195 Mtoe**
 - **Maximum contribution from agricultural crops: 63 Mtoe**
 - **Maximum contribution from other than agricultural biomass 132 Mtoe**
-

➤ **Biomass sector will grow, but renewable energy from other sources will grow faster**

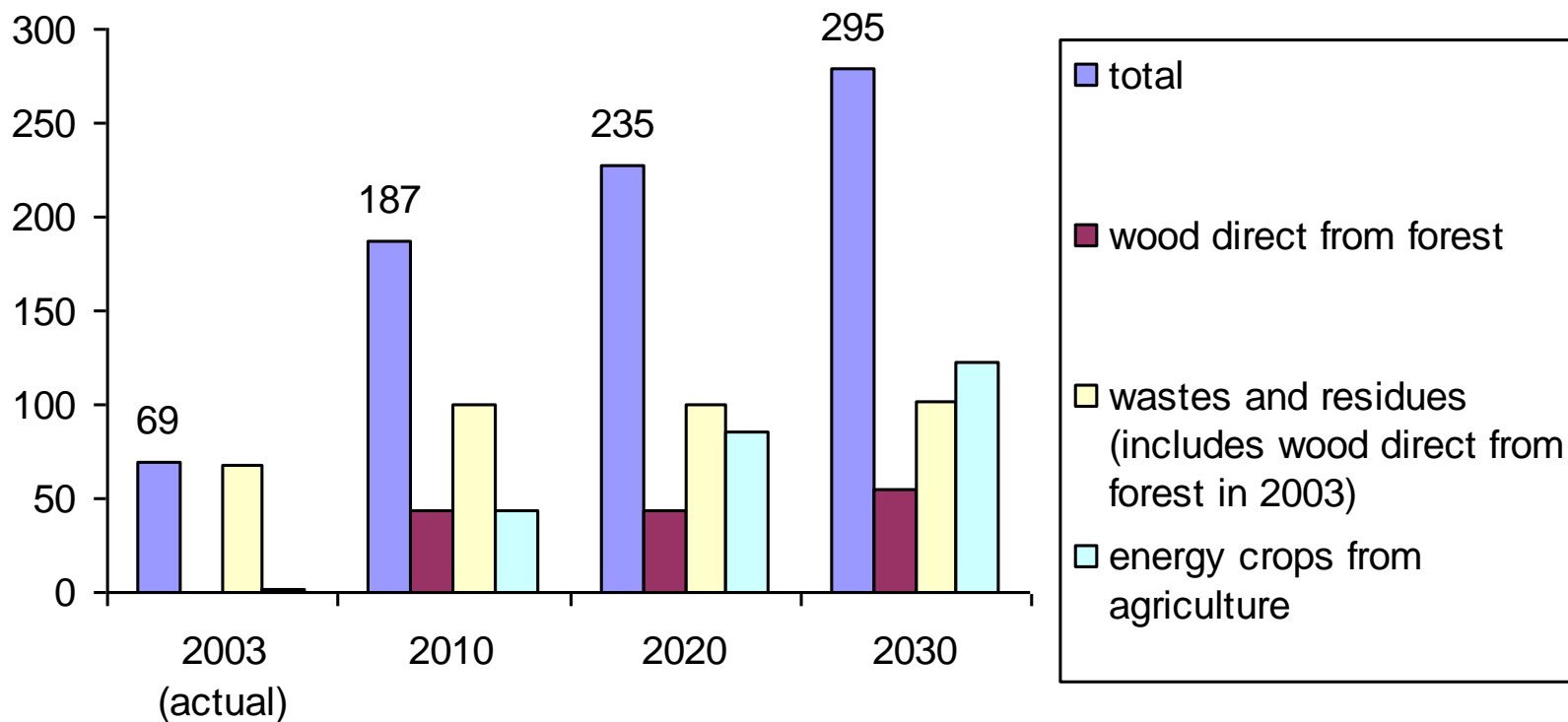


EU-25 biomass production potential



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EU25 biomass production POTENTIAL (mtoe)



Sources: Eurostat (2003) / European Environmental Agency (projections)



Economic Impacts (1)

- The European Union is the global leader in renewable technologies, which account for a turnover of €20 billion and employ 300,000 people (2006)



Economic Impacts (2)

- Commission's Institute for Prospective Technology Studies (IPTS):
- A 14% share of biofuel by 2020 would lead to additional 144 000 jobs in the EU
- EU GDP would be an estimated 0.23% higher



Economic Impacts (3)

- A 20% renewable energy share will increase GDP by 0.5% and
- employment would grow by around 0.3% which amounts to about 650 000 additional jobs



Economic Impacts (4)

- Impact on employment in rural areas positive, in particular for
- Direct, local use of bioenergy (biogas, vegetable oils used *in natura* as fuel, solid biomass for small-scale heat/power generation)
- less so for biofuels



Innovation in Rural Areas driven by...

- The whole Energy and Climate Package!
- Overall targets and specific targets for biofuels, for 2nd generation biofuels
- GHG savings requirements
- Energy efficiency requirements
- Research and technological change
- Investment subsidies (Rural Development – Health Check!)



The contribution of the Common Agricultural Policy

- Two pillars...and a Health Check



The CAP's contribution, « 1st Pillar »

- Energy crop premium: 45 €/ha on a maximum guaranteed area of 2.0 mio ha
- Possibility to grow non-food crops on set-aside land
- Decoupled payments for food, feed and bioenergy production = providing bioenergy without any specific aid



The CAP's contribution, « 2nd Pillar »

- Financial support for investments, Rural Development measures



Renewable energy in Rural Development : axis 1 (competitiveness)



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| Measure | Possible actions |
|--|--|
| Farm modernisation | Support to: <ul style="list-style-type: none">▪ Investments for on-farm production of renewable energy (biogas, oilseed crushing)▪ Plantation of multi-annual energy crops (e.g., herbaceous grasses, short rotation coppice)▪ Investments in manure storage facilities |
| Added value of agricultural and forestry products | <ul style="list-style-type: none">▪ Support for biofuels processing▪ Small scale processing of wood (chips, pellets; only micro-enterprises) |
| Improvement of the economic value of forests | <ul style="list-style-type: none">▪ Pre-commercial thinning, pruning, species composition▪ Infrastructure for forestry |



Rural Development : axis 2 (agri-environmental measures)



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| Measure | Possible actions |
|---|---|
| Afforestation of agricultural land | Afforestation for <u>environmental purposes</u> (protection of environment, natural hazards, climate change mitigation) <ul style="list-style-type: none">▪ Does not exclude sustainable use/harvesting of forest materials▪ Plantation costs of afforestation with fast growing trees (< 15 years) can be supported |



Rural Development : axis 3 (diversification)



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| Measure | Possible actions |
|--|---|
| Diversification into non-agricultural activities | Renewable energy production and use on farms / for local energy supply |
| Support for business creation (micro-enterprises) | Building installations/infrastructure of renewable energies from agricultural/forest biomass for local energy provision (electricity, heating) |
| Basic services for the economy and rural population | Installations of renewable energies for local energy provision |



Health Check of the CAP

Communication from the Commission 20.11.2008,
legislative proposals 20.5.2008

Main policy questions:

- How to adjust to new market opportunities?
- How to simplify the Single Payment Scheme?
- How to respond to new challenges? Climate change, bioenergy, water scarcity, risk management



Health Check – Market orientation

- CAP « 1st pillar » instruments
- Examination whether/to what extent production based (coupled) instruments still needed
- Energy crop scheme: Mandatory targets will stimulate demand and high prices encourage production
- Obligatory set-a-side: A tool for managing (limiting) supply, original purpose has lost its relevance but environmental benefits must be preserved



Health Check: Energy Crop Premium (1)

- Energy crop premium to be abolished, i.e. no decoupling, no integration into SPS
- Premium does not provide any economic incentive to increase production (equivalent to 15 €/t rapeseed, current market value is 450 €/t)
- Red tape = costs incurred by farmers
- Premium proved to be of very limited efficiency
- Main driver for production is the dynamic market development (due to political targets)



Health Check: Energy Crop Premium (2)

- Abolishment will not have an impact on production of biomass for energy
- No impact on crop rotation expected
- No land abandonment expected
- Therefore no environmental impacts and
- No impact on farmers' income



Health Check: Compulsory Set-aside (1)

- Abolish compulsory set-aside, payments to be integrated into SPS
- 3.7 million ha of compulsory set-aside, including 0.8 million ha for non-food (2007)
- Regional disparity: only in EU-15, mainly France and Germany



Health Check: Compulsory Set-aside (2)

- Impact of abolishing compulsory set-aside:
- Half of the area will come into production, i.e. 1.5 to 2.0 mio ha.
- Neutral for the supply of biomass, demand is main driver
- EU production expected to increase by about 1%, prices to decline, but overall positive impact on farmers' income
- How to retain environmental benefits?



Health Check – Meeting new challenges

- Rural development = The best way to finance new measures
- Increase funds for rural development: Increased modulation: reduction of direct payments and transfer of money to the RD budget
- Renewable energy and climate change are Community priorities for 2007-2013: Obligation for Member States to take them into account in their programming



Bioenergy and Rural Areas



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- Dynamically growing demand drives production
- High production potential in Rural Areas
- Positive economic and social impacts in rural areas
- Innovation in rural areas driven by the need to make them more sustainable: Mitigation of Climate Change, renewable energy, energy efficiency
- Investments into bioenergy production and use supported by strengthened Rural Development measures
- Environmental sustainability of production is ensured by cross-compliance and by agro-environmental measures



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Thank you for your attention



Annex 1: Agricultural land use for energy in the EU



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| (Million hectares) | 2004(EU-25) | 2006 (EU-25) |
|--------------------------------------|-------------|--------------|
| On set-aside area | 0.6 | 1.0 |
| With energy crop premium | 0.3 | 1.3 |
| Without specific support (estimated) | 0.5 | 1.4-1.6 |
| Total area | 1.4 | 3.7-3.9 |

| Of which | % |
|---------------|-----|
| Rapeseed | 75 |
| Wheat | 3 |
| Other cereals | 5 |
| Sunflower | 2 |
| SRC | 1 |
| Grasses | 2 |
| Other | 12 |
| Total | 100 |

Energy crops : 3 - 4% of the EU-25 arable area



Annex 2: Land use needs for 10% biofuel production in 2020



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- ▶ Estimations for a scenario with 30% of 2nd generation
- ▶ Impact on land use relatively modest: 17.5 Million hectares
- ▶ About 15% of EU-27 arable land

| | Area (Mio ha) | % Area for biofuels |
|--|---------------|---------------------|
| Oilseeds for biodiesel | 2.9 | 3% |
| Cereals for bioethanol | 12.3 | 10% |
| Sugar beet for bioethanol | 0,6 | 1% |
| Short rotation coppice & straw (BTL) | 1.7 | 1% |
| Total area for biofuel production | 17.5 | 15% |
| non-biofuel arable production | 91.6 | 80% |
| idle arable land | 4.7 | 4% |
| Total arable land | 113.8 | 100% |
| <i>Share of imports</i> | | 20% |
| <i>Share 2nd generation</i> | | 30% |