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Contribution of the EU agricultural policy to climate change mitigation

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UNFCCC-SBTA

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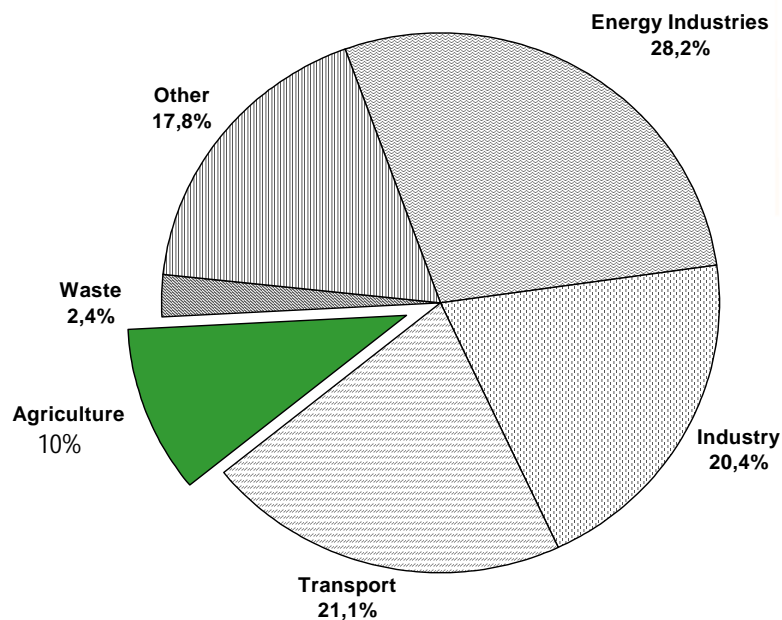
- ① **Contribution of agricultural sector to GHG emissions and the role of the CAP**
 - Recent trends 1990-2003
 - Projected trends
- ② **Integration** of climate change dimension into the CAP:
 - CAP reform
 - new rural development policy 2007-13

Agriculture: share of GHG emissions (EU-15)

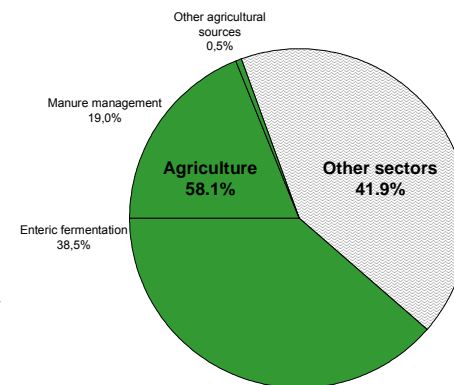


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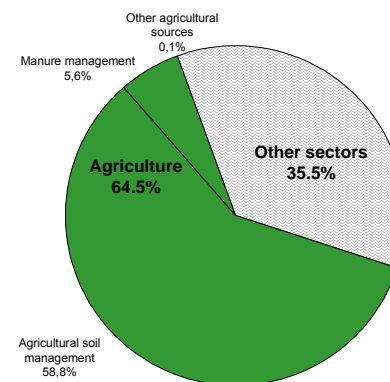
Total GHG



CH₄



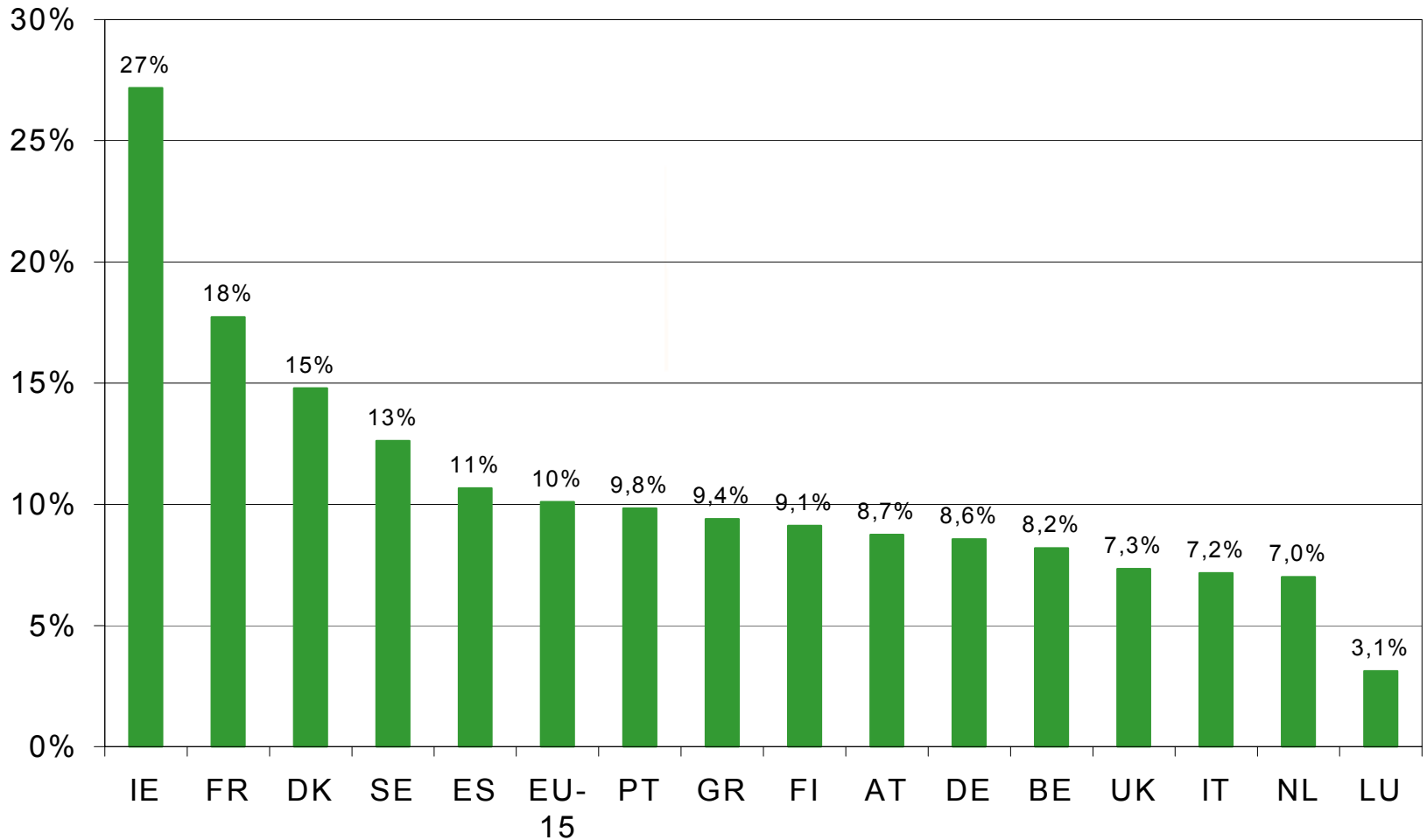
N₂O



Share of total national GHG emissions

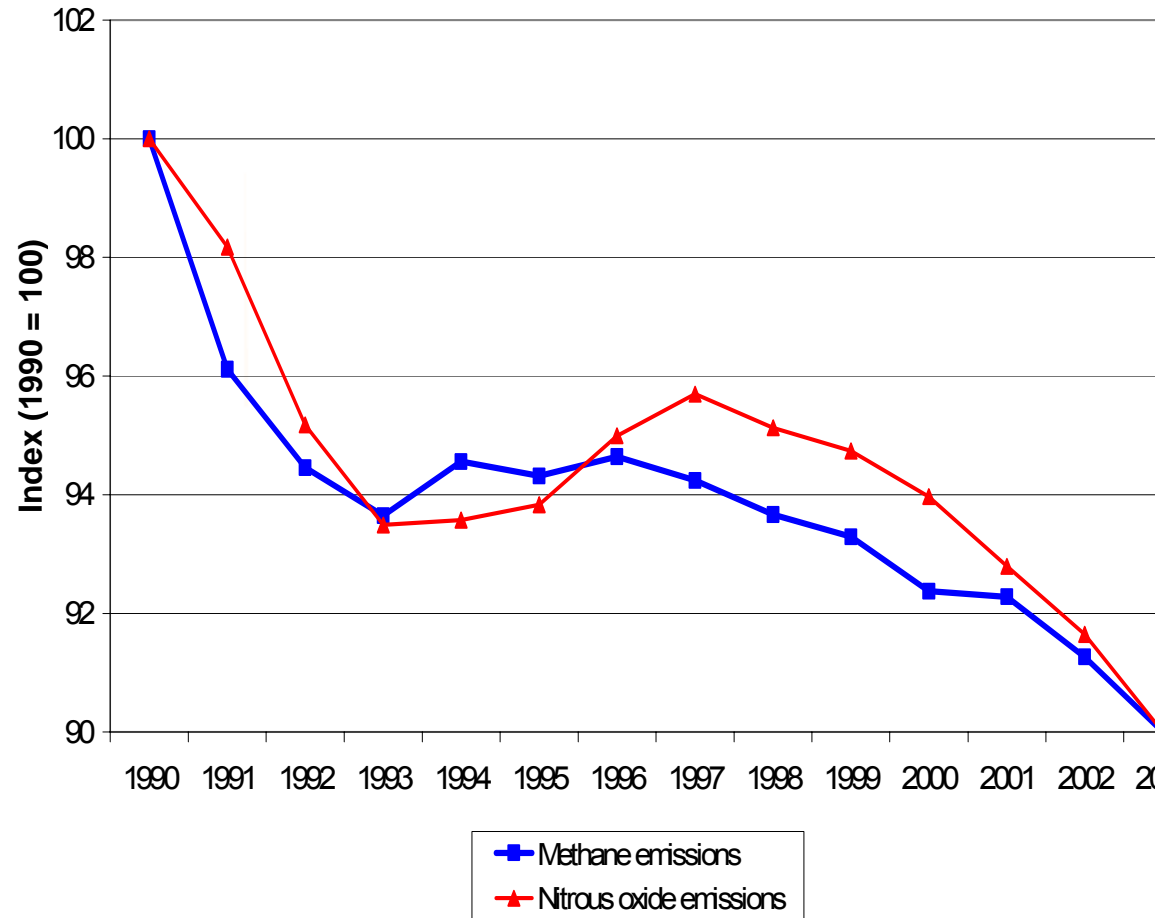


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Recent trends in CH₄ & N₂O emissions (EU-15)

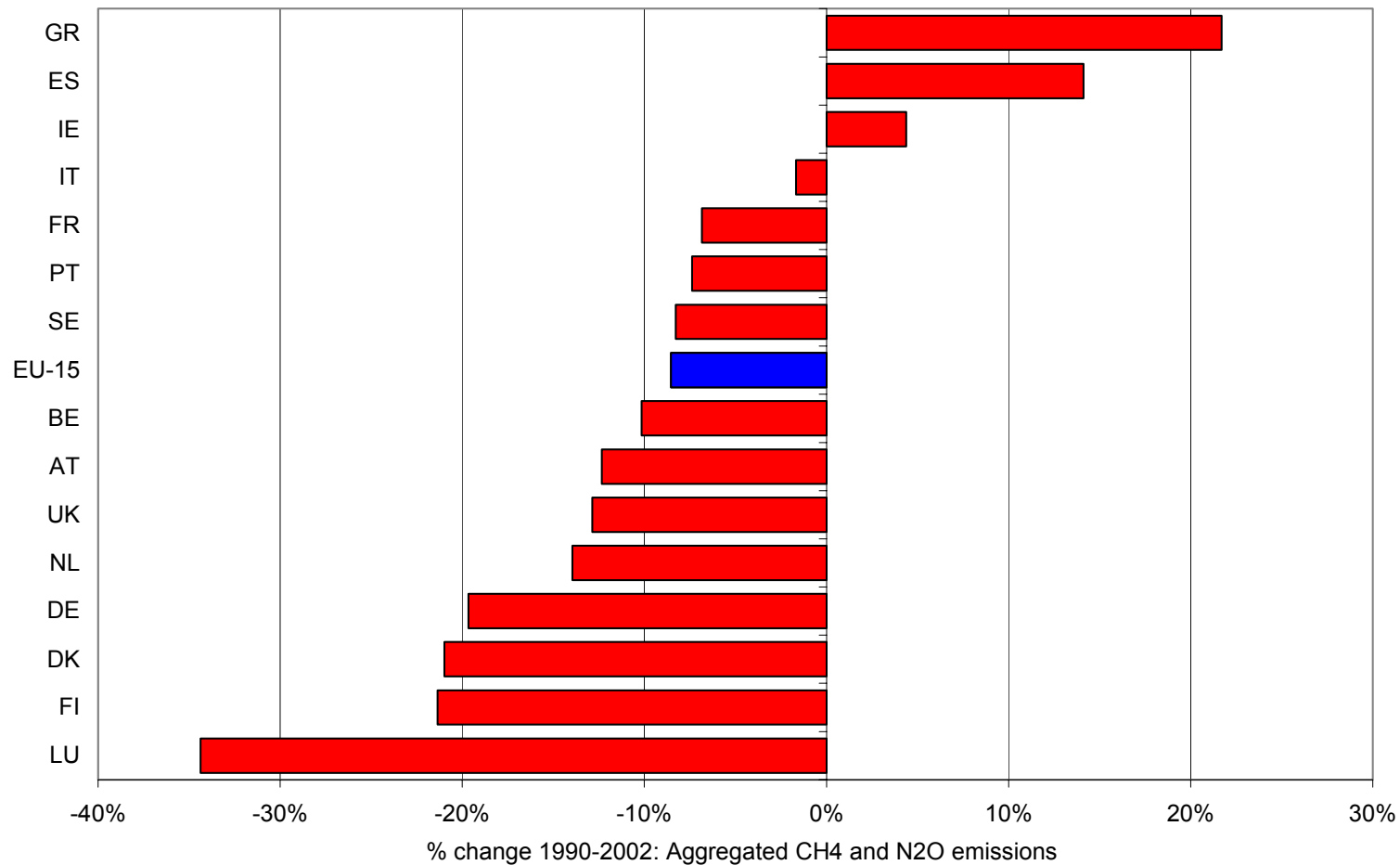
- ▶ Decline of emissions by **10%** (1990-2003)
- ▶ Main drivers: **CAP reforms** and water protection policy
- ▶ Resulting in: decreased **livestock numbers** and **fertiliser use**, and improved manure management



National trends CH₄ & N₂O emissions



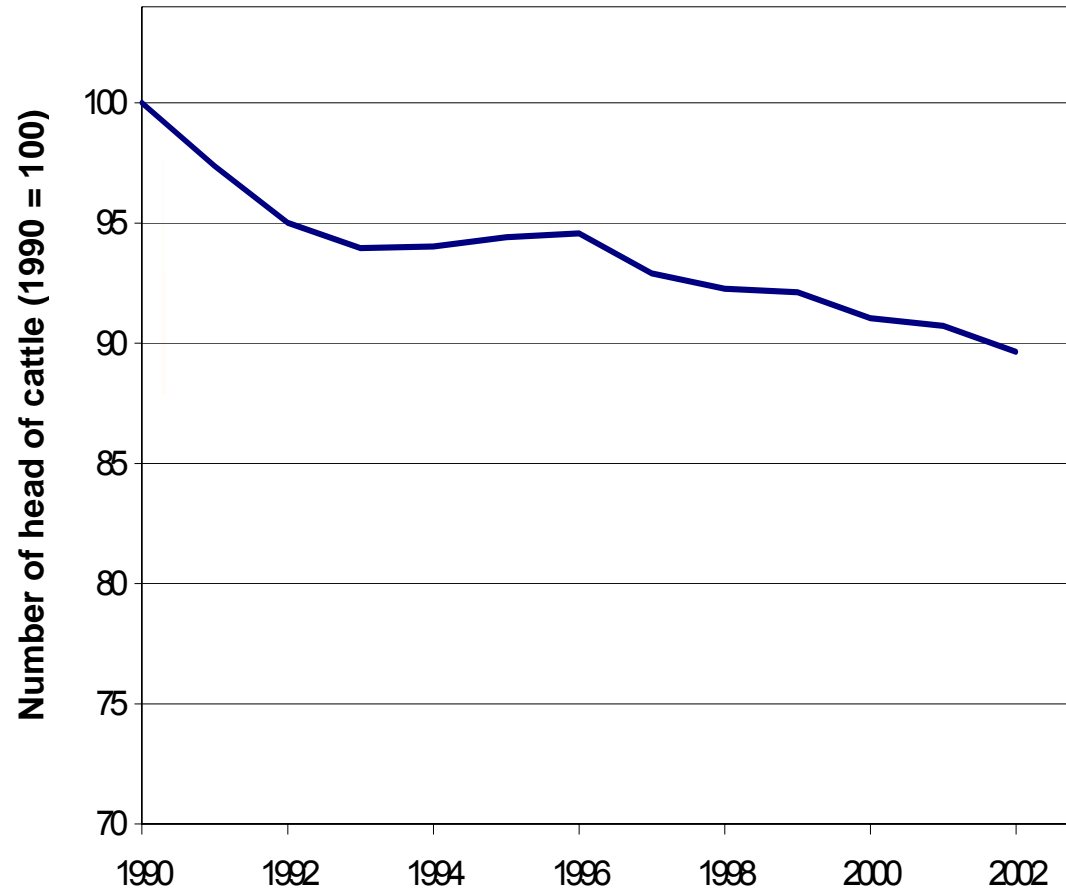
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Source: EEA, IRENA project

Trends in EU-15 livestock units

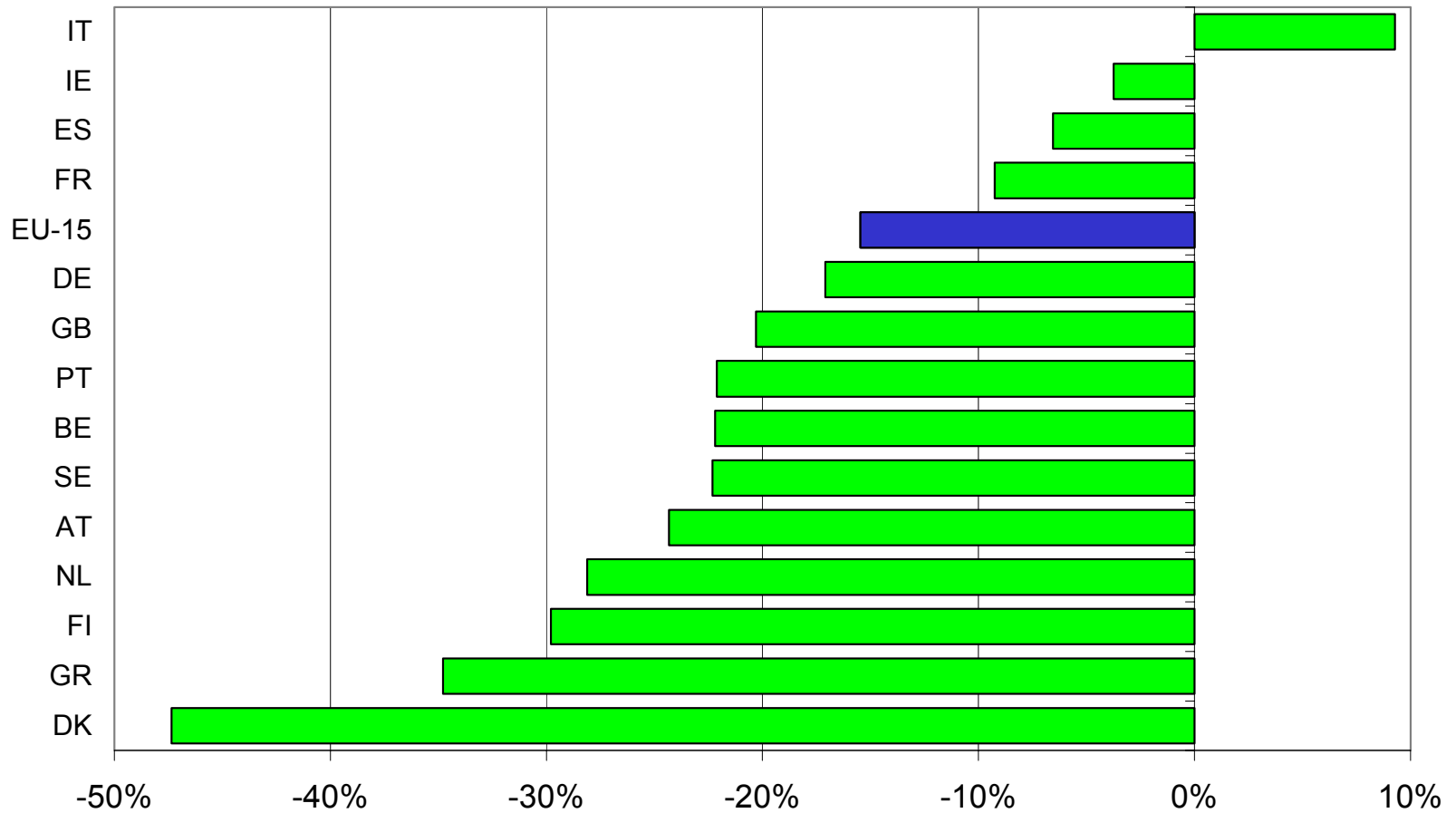
- ▶ **Decrease by 10 % of cattle between 1990-2003**
- ▶ **Decrease of dairy cattle by 26% and non-dairy cattle by 7%**



Trends in N use



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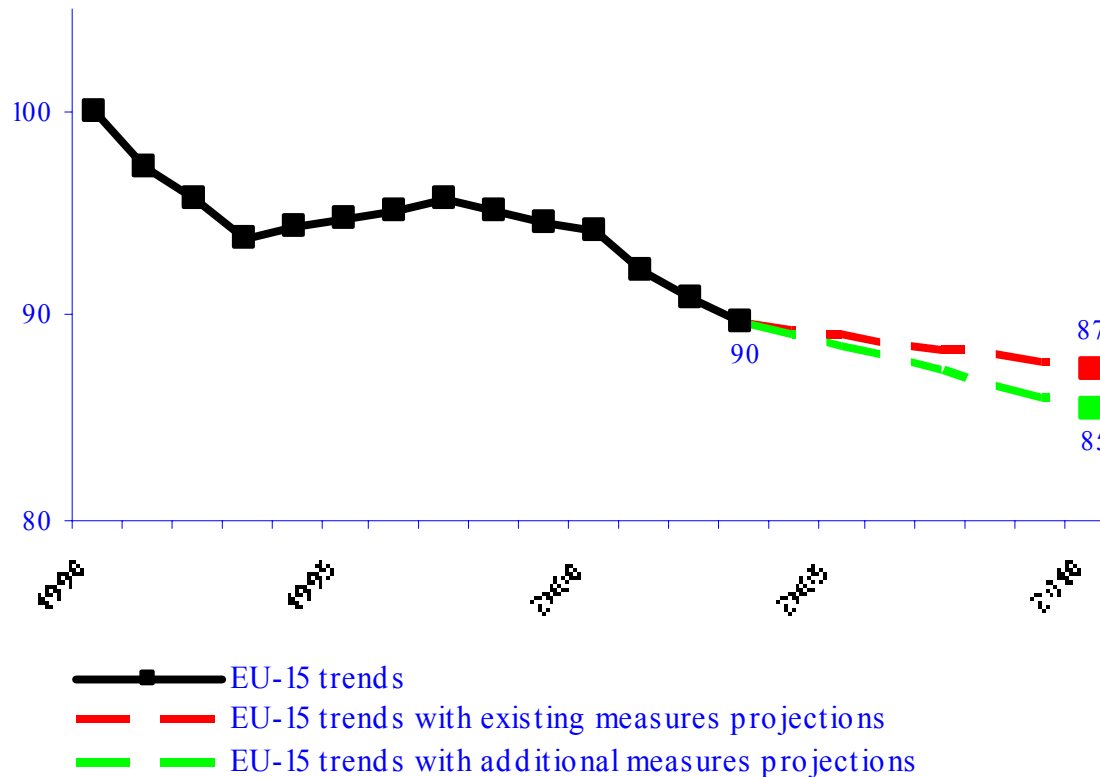


% change in N applications 1990-2002 (EU 15 Member States)

Actual and projected EU-15 GHG emissions

- ▶ **Agricultural GHG emissions are projected to further decrease by 13 % below 1990 levels by 2010 with existing measures**
- ▶ **by 15 % with additional measures**
- ▶ **CAP 2003 reform: the main driver for a further decline in emissions**

GHG emissions (1990 = 100)



Source: EEA

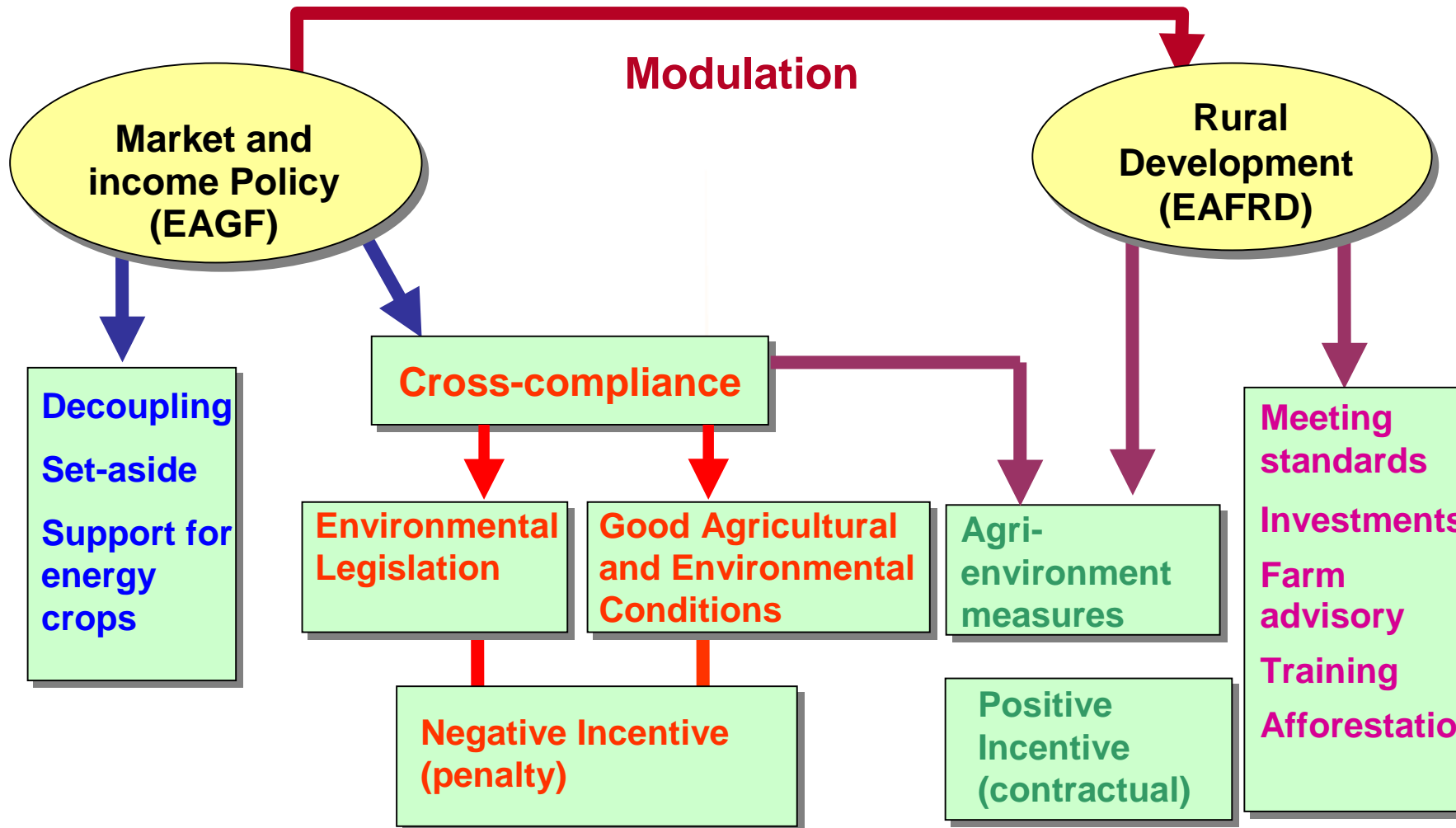


Integration of climate change dimension into the CAP

Environmental integration into CAP



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CAP 2003 reform (i)



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Measure	Expected effect
Decoupling: Single Farm Payment decoupled from production	Reduction of incentives towards intensive production (e.g., extensification, livestock, reduced fertiliser use)
Modulation: Reduction in direct payments. Amounts transferred to rural development	Increased budget for rural development → Stimulate the adoption of environmentally friendly production techniques

CAP 2003 reform (ii)



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Measure	Expected effect
<p data-bbox="45 329 527 377">Cross-compliance:</p> <p data-bbox="45 404 855 521">Direct payments conditional to the respect of :</p> <ul data-bbox="81 548 937 1138" style="list-style-type: none"><li data-bbox="81 548 937 727">▪ Statutory requirements from 19 Community Acts, including 5 environmental Directives<li data-bbox="81 754 937 1001">▪ Maintenance of agricultural land in Good agricultural and environmental conditions (GAEC)<li data-bbox="81 1029 937 1138">▪ Maintenance of permanent pastures.	<p data-bbox="991 329 1601 507">Incentive to comply with statutory environmental requirements, e.g. Nitrate Directive (reduced fertilizer use + improved practices)</p> <p data-bbox="991 665 1747 713">GAEC → soil conservation, e.g.</p> <ul data-bbox="991 740 1774 994" style="list-style-type: none"><li data-bbox="991 740 1774 926">▪ improved management of soil organic matter (crop rotation, reduced tillage)<li data-bbox="991 953 1510 994">▪ reduced soil erosion

CAP 2003 reform



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Measure	Expected effect
<p>Set aside: Maintenance of individual historical set-aside obligation (10 %) Maintenance in GAEC</p>	<ul style="list-style-type: none">▪ Less fertilizer use▪ Potentially increased carbon sequestration, in particular long term non-rotational set aside
<p>Non-food (energy) crops can be grown on set-aside land</p>	<p>Carbon substitution potential: promotion of biofuels</p>
<p>Energy crops support: 45 €/ha for energy crops</p>	

Rural Development Policy 2007-2013



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- ▶ New European rural development policy for the period 2007-2013
- ▶ Three **core objectives**:
 - 1) Increasing the **competitiveness** of the farm and forestry sector through support for restructuring.
 - 2) Improving the **environment** and the countryside through support for sustainable land management.
 - 3) Improving the **quality of life** and promoting **diversification** of economic activities in rural areas.

Climate change dimension



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► Rural Development Council Regulation 1698/2005 (September 2005) (recital 31)

“(...) Key issues to be addressed include (...), climate change mitigation including the reduction of greenhouse gas emissions, (...).”

► Community Strategic Guidelines for Rural Development (COM(2005)304) (chapter 3.2)

“The resources devoted (...) should contribute to three EU level priority areas: biodiversity (...), water, and climate change. The measures available should be used to integrate these environmental objectives and contribute to (...) the Kyoto Protocol targets for climate change mitigation.

Rural Development : axis 1 (competitiveness)



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Measure	Potential
Modernisation of farms (farm investments)	Potential for energy savings (e.g. energy-efficient equipment and buildings) and fertilizer use & management (spreader, storage)
Adding value to agricultural and forestry products (processing industry)	Investments linked to processing and marketing products, development of new products, processes, technologies (e.g., renewable energies)
Cooperation for development new products, processes & technologies	Cooperation between farmers and the industry for promoting introduction of new technologies & innovation (e.g., renewable energies)
Improving and developing infrastructure	Support for operations related to land improvement, energy supply systems

Rural Development : axis 1 (competitiveness)



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Measure	Potential
Training	Targeted training to environmental issues
Set-up and use of farm advisory services	Better knowledge about environmental aspects of farm management (statutory management requirements and GAEC)
Set-up of farm management and relief services	Potential for energy savings (e.g. access of farmers to modern machinery)
Meeting standards: support to help farmers to adapt to new mandatory standards based on Community legislation	Proper implementation of environmental legislation and compliance, e.g., Nitrates Directive

Rural Development : axis 2 (environment)



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Measure	Potential
<p>Agri-environmental measures</p> <ul style="list-style-type: none">▶ Payments cover commitments for farm practices beyond the baseline▶ Baseline = cross-compliance + additional minimum requirements for fertilizer and pesticide use + other national mandatory requirements	<p>Core instrument to stimulate adoption of measures with a mitigation potential: e.g.</p> <ul style="list-style-type: none">▪ Reduction of fertilizers▪ extensive livestock▪ soil conservation techniques▪ planting of hedgerows▪ conversion of arable land to permanent pastures
Afforestation	Increase in forest cover

Rural Development : axis 3 (diversification)



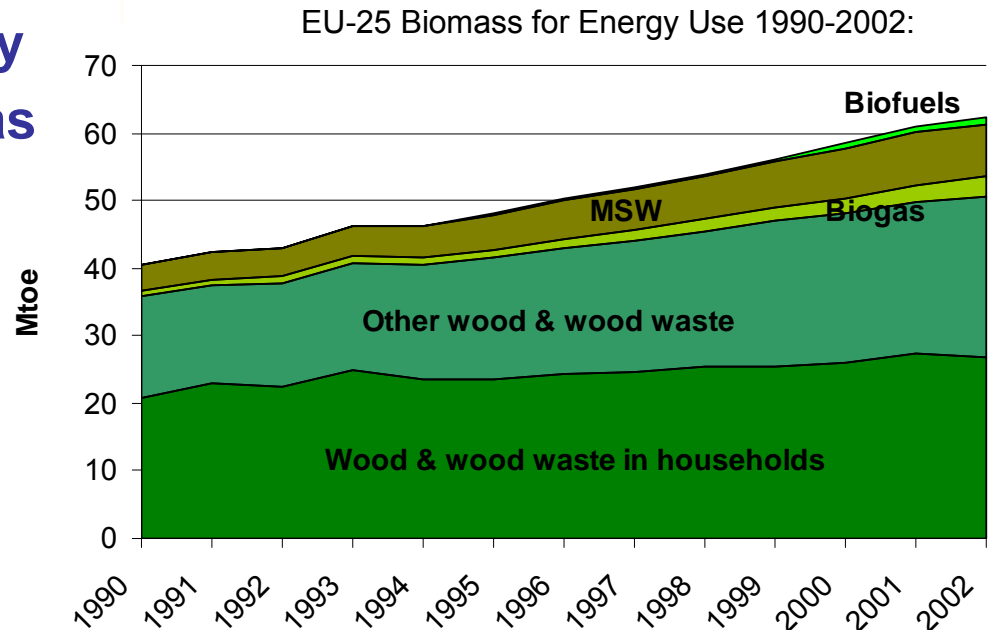
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Measure	Potential
Diversification into non-agricultural activities (beneficiary: farms)	Possibilities for supporting biogas installations on the farm, biomass plants for local production of renewable energy (biofuels, electricity and heating)
Support for the creation and development of microenterprises (beneficiary non-agricultural sector)	Building renewable energy infrastructure (e.g. wind parks)

- ▶ **Cost-effective **measures** with highest emissions reduction potential:**
- ▶ **Set-aside**
- ▶ **Efficient **fertilizer** application (e.g., spreader maintenance, precision farming)**
- ▶ **Better manure **management** and **storage****
- ▶ **Bio-energy** production:
 - **Biofuels**
 - **Biogas**

Biomass for energy

- Reasons for extending **biomass use**:
 - GHG emissions
 - EU targets for renewable energy: 12% of gross energy consumption, 21% of electricity from renewable energy and 5.75% of bio-fuels, by 2010
 - Security of fuel supply
 - Benefits for rural areas
- **Policy instruments** enhancing biomass use are :
 - CAP reform 2003
 - Biomass Action Plan
 - Strategy for Biofuels



Concluding remarks



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- ▶ Agriculture has **opportunities** to further reduce its GHG emissions, and produce renewable energies
- ▶ GHG emissions from agriculture will continue to decrease, mainly due to the **2003 CAP reform**
- ▶ The **new rural development policy (2007-2013)**: combating climate change is one of the **priorities**

- ▶ Climate change impacts are a **real concern** for sustainable development of agriculture and forestry
- ▶ EU Council and Commission have recognised the **need to prepare for and adapt** to climate change, to complement mitigation policies
- ▶ Positive effects, but mostly **adverse** impacts
- ▶ Potential loss of production **potential** in certain areas, benefits in others
- ▶ Impacts of extreme weather events → important **income losses**
- ▶ Significant **structural** changes and **investments** needed: **adaptive measures**



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