



DYNAMIX

Decoupling growth from resource use  
and its environmental impacts

# Policy mix on agricultural land use and related environmental impacts

## Targets and policies

*Daniela Russi (IEEP), Maria Elander (IVL), Clunie  
Keenleyside (IEEP), Mary Ann Kong (Bio Intelligence  
Service), Martin Nesbit (IEEP), Graham Tucker (IEEP),  
Evelyn Underwood (IEEP), Robin Vanner (PSI),  
Stephanie Wunder (Ecologic Institute)*

## OUR APPROACH TO THE LAND USE SECTOR

- **Consumption drives impacts both in the EU and beyond.** We have mainly looked at consumption and production separately; there seem to be limited opportunities for tackling both consumption and production impacts together – is this correct?
- Targets therefore also focus **separately** on production and consumption – are there alternative approaches to targets which could take a holistic view of impacts?
- Targets and measures for **consumption** are aimed mainly at managing down **over-consumption** (particularly waste), and **focusing consumption on lower-impact products** (reduced consumption of meat and dairy protein, or conventional biofuels).
- Targets and measures for **production** are focused on **reducing environmental impact** of production; but with some risk of reduced yields.

# TARGETS - CONSUMPTION

2030	2050
<b>Food habits</b>	
<ul style="list-style-type: none"> <li>• <b>Reduction of the per capita intake of protein for adults by 20%</b> compared to 2009</li> <li>• <b>Reduction of the proportion of protein intake from meat, dairy products and eggs at not more than 35%</b> of the total per capita protein intake</li> <li>• <b>Shift towards consumption of meat with lower land requirements</b> - beef should not exceed 10% of total meat consumption</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Reduction of the total protein consumption</b> to the recommended levels (0.66 g protein / kg body weight).</li> <li>• <b>Reduction of the proportion of protein intake from meat, dairy products and eggs to 25%</b> of the total per capita protein intake</li> <li>• <b>Shift towards consumption of meat with lower land requirements</b> - beef should not exceed 5% of total meat consumption</li> </ul>
<b>Food waste</b>	
<ul style="list-style-type: none"> <li>• <b>60% reduction of avoidable food waste</b> in the EU compared to 2010 levels</li> <li>• <b>Maximum 30% higher generation of food waste per capita than the EU-wide average</b> in all Member States</li> </ul>	<ul style="list-style-type: none"> <li>• <b>85% reduction of avoidable food waste</b> compared to 2010 levels</li> <li>• <b>Maximum 15% higher generation of food waste per capita than the EU-wide average</b> for all MS</li> </ul>
<b>Bioenergy</b>	
<ul style="list-style-type: none"> <li>• <b>Drastic reduction of the EU consumption of conventional biofuels</b></li> <li>• <b>Mitigation of the environmental impacts</b> associated with conventional biofuels</li> <li>• Use of <b>biofuels from more sustainable sources</b> over conventional biofuels (e.g. agricultural and forest waste and residues) – but to be used only to a limited extent</li> </ul>	<p><b>Sustainable and holistic management of European bio-resources</b> in order to deliver the highest GHG savings possible and to ensure that waste and residues are employed in an appropriate way to meet a range of objectives (e.g. reducing GHG emissions and maintaining soil fertility)</p>

# TARGETS - PRODUCTION

2030	2050
<p><b>Biodiversity</b></p> <p>To achieve the EU 2020 Biodiversity Strategy targets, and in particular:</p> <ul style="list-style-type: none"> <li>• Target 1: To <b>halt the deterioration/improve the status of all species and habitats</b> covered by EU nature legislation</li> <li>• Target 2: To <b>establish green infrastructure and restore at least 15% of degraded ecosystems</b></li> <li>• Target 3:               <ul style="list-style-type: none"> <li>- To maximise areas covered by <b>biodiversity-related measures</b> under the CAP</li> <li>- To establish <b>forest Management Plans</b> or equivalent instruments for all forests that are publicly owned and for forest holdings above a certain size that receive funding under the EU RDP</li> </ul> </li> <li>• Target 6: to <b>step up EU contribution to averting global biodiversity loss</b></li> </ul>	<p>To achieve <b>the long- term targets of the EU Biodiversity Strategy</b> (<i>‘By 2050, EU biodiversity and the ecosystem services it provides – its natural capital – are protected, valued and appropriately restored for biodiversity’s intrinsic value and for their essential contribution to human wellbeing and economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided’</i>) and by the <b>CBD</b> (by 2050 <i>‘biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people’</i>)</p>
<p><b>Soil quality</b></p> <ul style="list-style-type: none"> <li>• To <b>identify soils at risk from degradation</b></li> <li>• To prioritise the risks and areas identified at MS/regional level and prepare <b>national soil action plans</b></li> <li>• To <b>prevent ploughing, drainage, burning of (vegetation on) or afforestation of peat soils</b></li> <li>• To convert all arable land on <b>drained organic (peat) soils</b> to land</li> </ul>	<ul style="list-style-type: none"> <li>• To implement <b>national soil action plans</b> at Member State/regional level.</li> <li>• To <b>convert all agricultural land on drained organic (peat) soils to land management which will ensure these soils function as long-term carbon sinks, including by rewetting</b></li> </ul>

# TARGETS - PRODUCTION

**2030****2050****Water**

In all river basins where agriculture is the main source of diffuse pollution (as required by the WFD):

- To ensure a **good ecological and chemical status for most surface water bodies**
- To ensure a **good quantitative and chemical status for groundwater bodies**

In particular:

- To ensure that the **agricultural abstraction rates from aquifers are less than replenishment rates**, and that **abstraction rates from surface waters** are kept within **sustainability limits**
- To ensure that the **nutrient concentration in each water body is compatible with the conservation of ecosystems**
- To **limit the use of chemical pesticides** in order to ensure that they do not have a negative impact on water ecosystems

To reach a **good status for all EU surface and groundwater bodies**, including the ones that have not managed to reach the target by 2030:

- **Water abstraction of groundwater do not exceed the recharge levels; extraction of surface water is not above the thresholds needed for ensuring sustainability of aquatic ecosystems**
- **The nutrient cycle in agriculture is closed**, ensuring **no leaking of nutrients** into water bodies, and **that pesticides are only used within sustainability limits**

# PRELIMINARY SET OF POLICIES

Consumption side:

- Food habits:
  - **Increased VAT** on meat products
  - **Public canteens** to supply recommended dietary limits and have vegetarian days
  - **Targeted information/education campaigns** on changing diets
  - **Sectorial agreement** with large food retailers to display recommended healthy dietary limits of meat and dairy products
- Food waste:
  - **Review of eat-by labelling**
  - Development of **food redistribution programmes**
  - **Clear guidance** on how to store products in retail
  - Food waste **campaign**
- Bioenergy:
  - Strengthening of the **biofuel feedstock sustainability criteria in the RED** and their extension to incorporate **indirect impacts of land use change**; future renewables legislation with **no targets on biofuels**

# PRELIMINARY SET OF POLICIES

## Production side:

- Stronger and more effective **environmental and climate dimension for EU land management in future CAP reforms** – GHG emissions, soil quality, water quantity and quality, biodiversity
- **Revised emissions levels in National Emissions Ceilings Directive (NECD)** to reduce eutrophication; measures for **better management of the nitrogen cycle on farmland** (higher fertiliser use efficiency, improved crop and manure management that reduce emissions, low-protein animal feeding, improved manure storage)
- Increased **irrigation water prices** to cover at least full supply costs; link prices to m<sup>3</sup>
- Strengthen **pesticide reduction targets** under the Pesticides Directive, and ensure guidance to farmers on integrated pest management
- **Improved implementation of EIA** on permanent grassland conversion, afforestation, and other agricultural developments

# PRELIMINARY SET OF POLICIES

## Production side:

- Increased **management plans/measures for Natura 2000 sites**
- Promotion of **PES** (payment for ecosystem services) programmes financed by private actors
- Establishment of **soil legislation** which provides a mandate for cost-effective tackling of soil problems, and protection of soil functions
- Development of a **LULUCF** (land use, land use change, and forestry) **regulation** setting targets for net carbon emissions from the land use sector
- Promotion of the **research, monitoring and data collection and systematisation** that is needed to improve the environmental performance of the agricultural sector