

**SHERPA - Rural Science-Society-Policy Interfaces**



## **Climate Change and Land Use**

**SHERPA Annual Conference**

**31<sup>st</sup> January 2023**

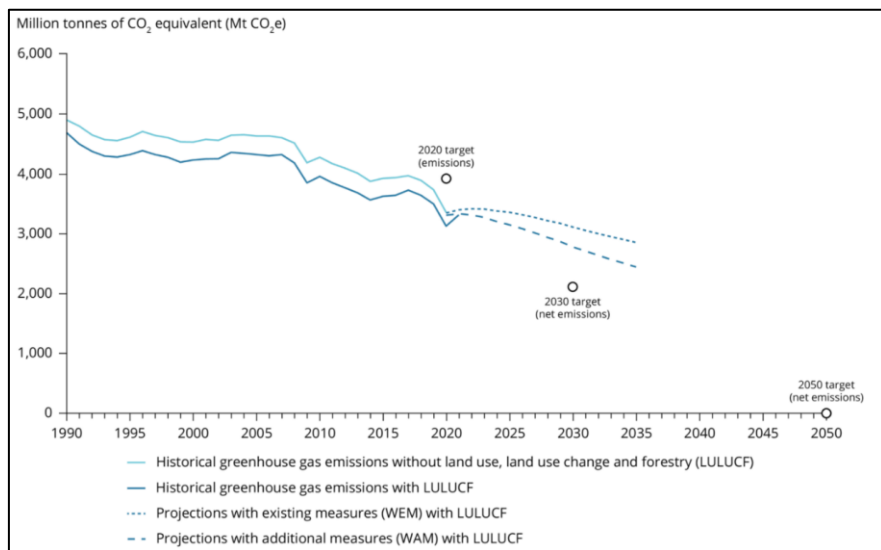
**David Miller and Colleagues in Participating  
Multi-Actor Platforms**



**@ruralinterfaces**



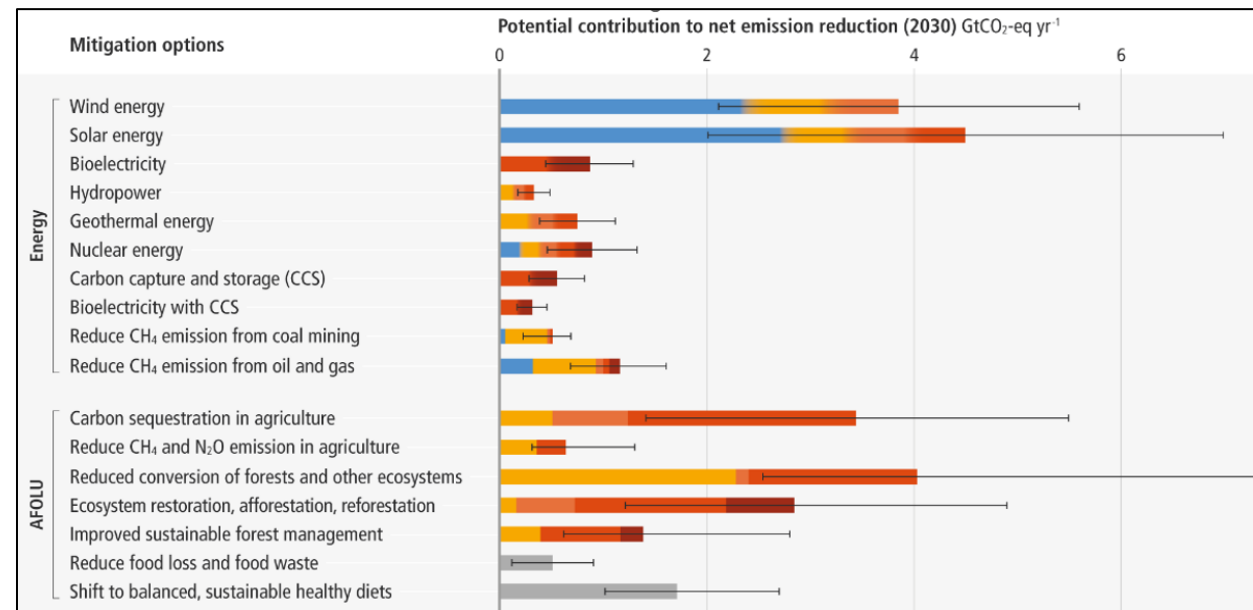
# Challenge to Reduce Greenhouse Gas Emissions



Historical trends and future projections of greenhouse gas emissions (Source: [European Environment Agency, 2022](#)).

- To restrict warming to 1.5oC global net anthropogenic CO<sub>2</sub> must decline by ...
  - 45% from 2010 levels by 2030
  - net zero by 2050
  - continue to reduce to 2100

(Source: [European Environment Agency, October 2022](#))



- Wind and solar energy provide greatest potential mitigation from renewables
- Forests and natural ecosystems provide largest share of Land Use and Land Use Change and Forestry (LULUCF) mitigation between 2020 and 2050



# Sample of Policy Priorities: 1

## **Legislation and regulations –**

- Accelerate processes of changing basis of land use decision-making through structures of land ownership and management (e.g. re-parcelling; land reform)

## **Spatial planning -**

- Coherent spatial land use plans and frameworks tailored to national and levels of governance, with structures that enable citizen-led prioritising of funding (e.g. participatory budgeting)
- Account for future phases of renewable energy generation (e.g. re-turbining, biomass growth)
- Incorporation of natural capital into processes relating to strategic planning, payments under the CAP, and leveraging resources for communities or businesses (e.g. valuation of carbon)

## **Land systems -**

- Incorporate natural capital into processes of strategic planning, payments under CAP, and leveraging resources for communities or businesses (e.g. valuation of carbon)
- Adopt systemic approaches (e.g. food systems perspective), to understand dependencies between land uses, supply chains, and climate change mitigation and adaptation
- Understand compromises required where and when primary uses of land compete (e.g. food, energy, fibre, biodiversity), competition may be greatest or synergies maximised



## Sample of Policy Priorities: 2

### **Peatland restoration -**

- Tackle legal and regulatory issues associated with funding for investment in natural capital (e.g. peatland restoration) such as crowdfunding through reputable banks and platforms
- Recognise timescales of peatland restoration (e.g. 50 years) through support for business or community monitoring and maintenance linked to SMEs and social innovations

### **Water management –**

- Establish Landscape and Water Management Communities to develop land use and river basin management plan at the scale of water body

### **Woodland expansion –**

- Spatial planning woodland expansion recognising geographic specificities, at different scales, and pathways and timelines for reducing GHG emissions and enhancing biodiversity
- Revise legislation to remove barriers to development of agroforestry

### **Renewable energy -**

- Design mechanisms for benefits to local areas (e.g. communities) from large scale renewable energy development (wind, solar, biomass) and value chains (micro- and small business)
- Focus on support for scaling out of innovation, recognising success of transformations of individual businesses or communities (e.g. provide credit to innovators)



## Sample of Policy Priorities: 3

### **Skills, education, training -**

- Broaden roles of agricultural advisory services to contribute to land use change governance and support voluntary mentoring systems for all types of actors, providing one-to-one access for sharing experiences, with coordination by recognised bodies (e.g. farmers unions; NGOs)

### **Research and innovation -**

- Maintain the provision of projections of climate change, improving spatial and temporal resolution

### **Measurement and Monitoring -**

- [European Open Data and Science Policy](#) updated to improve support for citizen science and business models to promote monitoring of climate change and associated factors

### **Communications -**

- Strategy for communication and societal engagement of changes in climate, and tangible links to actions of business and citizens

### **Stakeholder and public attitudes -**

- Programmes of capturing public attitudes to climate change should be complemented by analysis of actual human behaviours, and at higher geographic resolutions (i.e. regions)



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