

MLURI's Land Use and Rural Development Research: a socio-economic perspective



MLURI's research is to provide evidence to shape environmental and rural development policy in Scotland & internationally



Organisation

Funding

70% Scottish Government

30% EC & commercial consultancy

Staff 300 research staff

52 PhD students

53 Research themes:

Catchments, Landscape, Climate Change, Society & Countryside, Soils, Biodiversity

Consultancy



Macaulay Institute: Remit

Research across environmental and social sciences to support:

- i) protection of **natural resources**
- ii) creation of **integrated land use systems**
- iii) development of **sustainable rural communities**



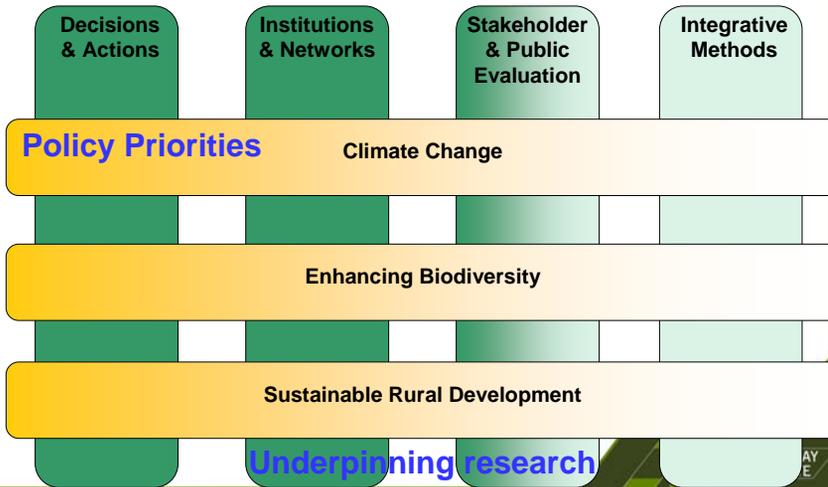
Rural Scotland

- **Rural Scotland covers 95% of the land, with 18% of the population, & it is an integral part of this country's economy, ENVIRON and culture.**
- **The Rural Development Programme (SRDP) worth some £1.5Bln was designed to develop rural Scotland and empower rural communities.**

Strategic objectives for Scotland are to become **Greener, Wealthier, Fairer, Smarter, Healthier, Safer and Stronger.**

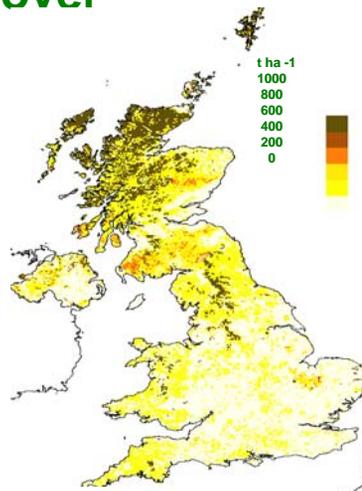
Research Programme: Land Use & Rural Stewardship

“Protection & Enhancement of Landscapes & Communities”



The Land Cover

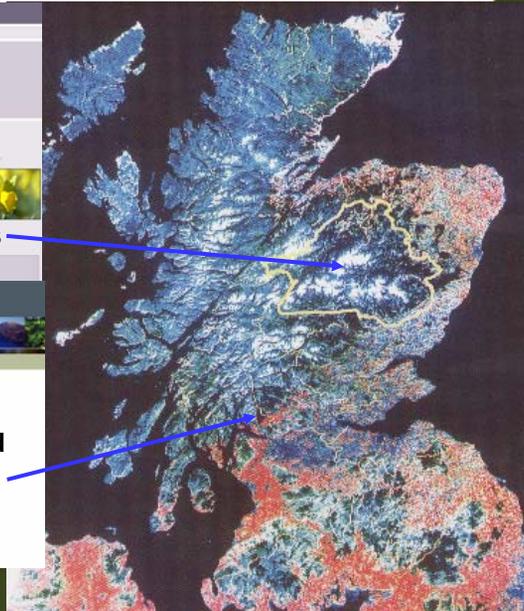
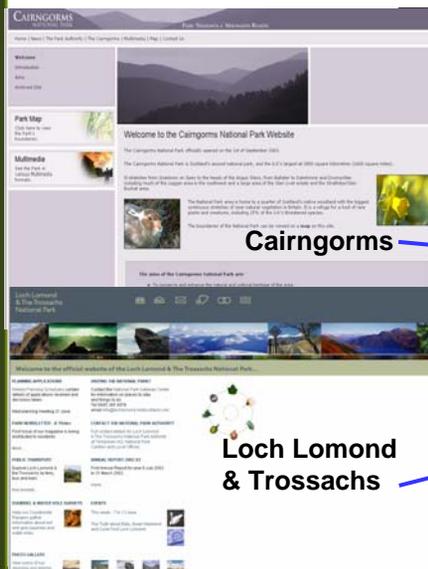
Over 50% of land is covered by **semi-natural vegetation** of which **heather moorland** and **peatland** are predominant.



Soil Carbon

- Less than **3% of land is under development**. This is a distinctive characteristic of Scotland. Nowhere else in the UK there is such a high proportion of semi-natural land cover or so little built-up land.
- Many parts of Scotland are of **high nature value**.
- The area of land designated for nature reserves, parks & special protected sites is growing.

The National Parks



Cairngorms National Park



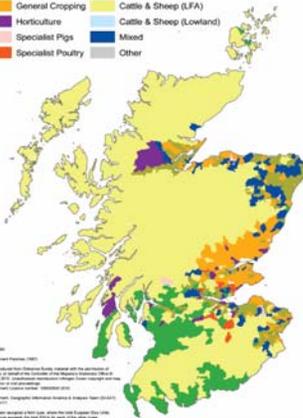
Tensions: Access versus wilderness

- Conserving/enhancing the biodiversity/landscapes
- Sustainable deer management
- Integrated land management
- High quality opportunities for access
- Affordable & sustainable housing
- Sustainable tourism
- Developing awareness

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The Land Use: Agriculture

Map 2:
Farm Type by Parish
(Main and minor holdings)



Agricultural holdings - 6.2 Mha, ca. 80% of the total land (7.8 Mha).

The agricultural land is mainly (5.3Mha) suitable for **grazing**.

Around 0.6Mha mostly in the **east** is farmed for **crops**.

The rest is under roads, yards, houses & woodlands.

Map 3:
Less Favoured Areas and Non Less Favoured Areas



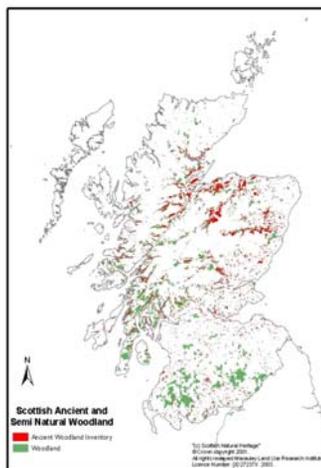
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Scottish Forests

Total area: 1 324Kha

- Personal - 41.6%
- Forestry Commission - 42.1%
- Business - 7.9%
- Forestry business- 2.2%
- Charity- 1.1%
- Local Authority- 0.8%
- Other - 2.0%

2% of native woodlands



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Forestry in Scotland

Phases:

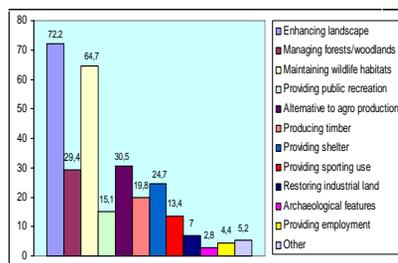
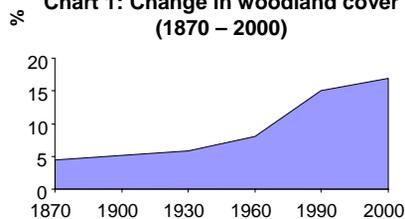
- Deforestation
- Commercial planting
- Preservationist position
- Multifunctional forestry

Wooded cover : 16.9%

UK – 11.6%; EU – 36%

Chart 2: High priority objectives of woodland development identified in applications for subsidies under the WGS, 1995-2002, %

Chart 1: Change in woodland cover (1870 – 2000)



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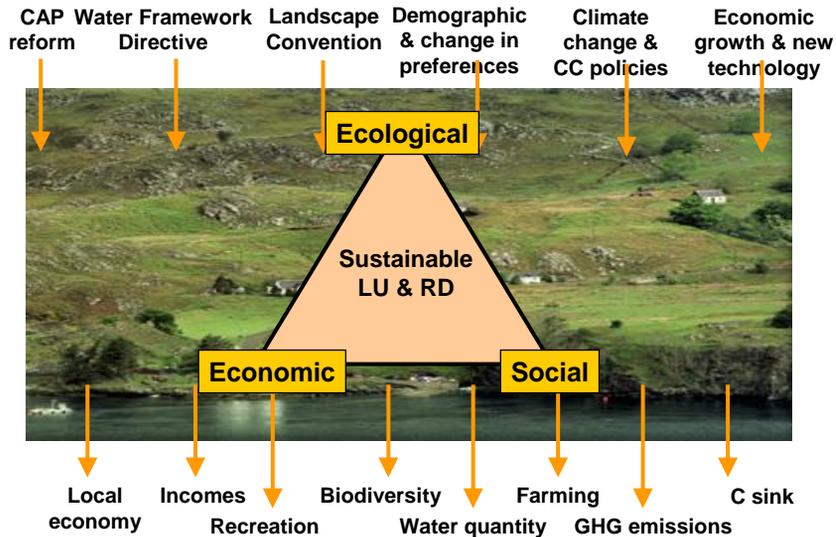
- As part of the RDP, **new grants** (FC, 2009) have been introduced to deliver targeted ENV, social & economic benefits. They bring together a range of formerly separate support schemes, those, covering the farming, forestry, primary processing sectors, rural enterprise and business development, diversification and rural tourism.
- Grant support will now be delivered through a number of specific (e.g. short rotation coppice crops) and non-specific (e.g. support for renewable energy – forestry) options. Some of these options require a 5 year commitment while others are one year.
- They are non-competitive and open to all managers with land in Scotland.

A LULUCF projection:

In time, the key **RD measures** in Scotland (forestry, agri-environment and LFA support) are expected to have greater ENVIRON implications, especially with re to MF LUCF.

In particular **forestry** measures, with a share of about 18% of the RDP spending, have a strong visual impact, potentially changing landscape characteristics in Scotland.

LU & Landscape Futures?



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Policy Drivers:

Strategies have been developed for agriculture, forestry, tourism, and for some of the ENVIRON resources, e.g. BD, soil & water.

Sustainable Land Use Strategy (SLUS) is to:

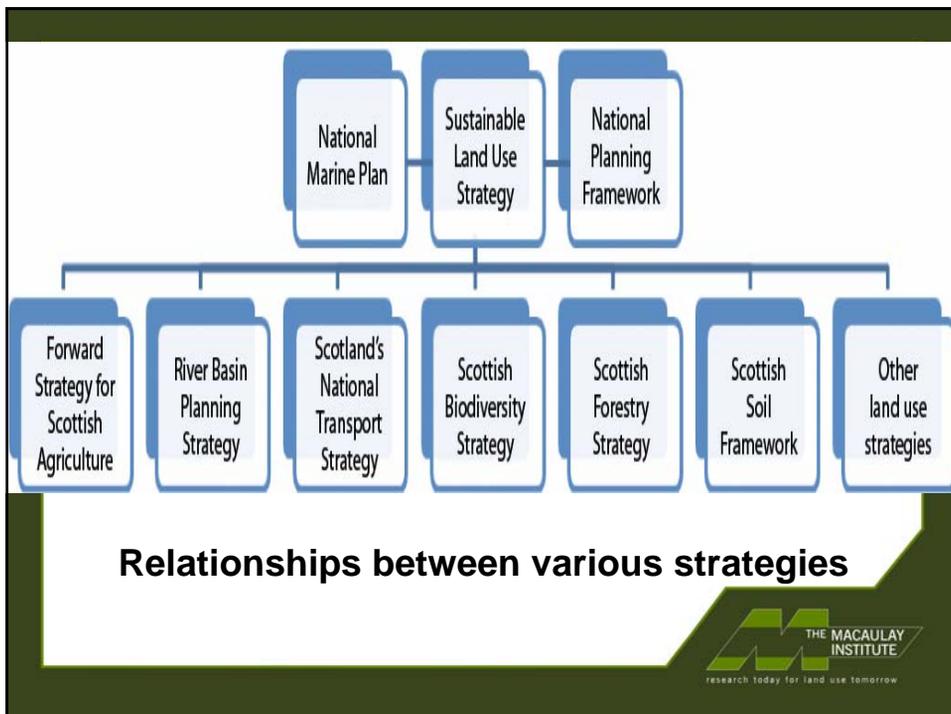
- set out an overarching vision for LU;
- ensure that all LU contributes to CCM;
- ensure more coordinated planning & delivery between the various agencies/LU sectors;
- manage possible conflicts;
- reward MF LU & provision of ESS.

The SLUS principles:

- SD
- MF LU;
- Rights with responsibilities;
- Community involvement;
- Resource protection;
- ESS.

The SD principles:

- Living within ENV limits;
- Ensuring a strong, healthy, just society;
- Achieving a SUST economy;
- Using sound science responsibly;
- Promoting good GOVN



Pressures for Change:

National/local policy

Land Use Strategy
Forestry Strategy
Renewable energy &
Biodiversity Strategies
Climate change

European policies

CAP reform
Water Framework Directive
Landscape Convention

International

Globalisation
KP et al.

Scottish Biodiversity Strategy

Our Vision
By 2030, Scotland is recognised as a world leader in biodiversity conservation. Everyone is involved, everyone benefits. The nation is enriched.

Our Aim
To conserve biodiversity for the health, enjoyment and wellbeing of the people of Scotland now and in the future.

Our Objectives

Species and Habitats
To halt the loss of biodiversity and continue to reverse previous losses through targeted action for species and habitats

People
To increase awareness, understanding and enjoyment of biodiversity, and engage many more people in conservation and enhancement

Landscapes and Ecosystems
To restore and enhance biodiversity in all our urban, rural and marine environments through better planning, design and practice

Integration and Co-ordination
To develop an effective management framework that ensures biodiversity is taken into account in all decision making

Knowledge
To ensure that the best new and existing knowledge on biodiversity is available to all policy makers and practitioners

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International Policy Pressures

CAP reform

EUROPEA > European Commission > Agriculture

Important legal notice

English

18/11/2003: Commission adopts reform proposals for Europe's tobacco, olive oil, cotton and hops sectors
27/10/2003: Commission adopts proposals adapting CAP reform texts and Act of Accession
10/09/2003: Commission report to the Council on evolution of the hop sector [pdf]
23/04/2003: Accomplishing a sustainable agricultural model for Europe through the reformed CAP - the tobacco, olive oil, cotton and sugar sectors

What's new

CAP reform - a long-term perspective for sustainable agriculture

On 26 June 2003, EU farm ministers adopted a fundamental reform of the Common Agricultural Policy (CAP). The reform changes the way the EU supports its farm sector. The new CAP will be geared towards consumers and taxpayers, while farmers the freedom to produce what the market wants. In future, the vast majority of subsidies will be paid independent of production. To avoid abandonment of production, Member States may choose to maintain a limited link between production and subsidies under well defined conditions and within clear limits. These new 'single farm payments' will be linked to environmental, food safety and animal welfare standards. Severing the link between subsidies and production will make more competitive and market orientated, while providing the necessary income stability. More money will be available to environmental quality or animal welfare programmes by reducing direct payments for smaller farms. The Council further

CAP Reform: Opportunities for Scotland

Article 9

“... to prepare farmers and other persons involved in agricultural activities for qualitative reorientation of production, the application of production practices **compatible with the maintenance and enhancement of the landscape**, the protection of the environment, hygiene standards and animal welfare and acquisition of the skills needed to enable them to manage an economically viable farm, ...”

European Landscape Convention should “... respond to the public’s wish to enjoy high quality landscapes and to play an active part in the development of landscapes.”

- What do **stakeholders** ...
 - Expect
 - Anticipate
 - Prefer
 - Want
 of our landscapes?

- Will ‘it’ be sustainable?



Stakeholders/Customers

Scientific Exchange



Reference and Evaluation Groups



Capture Attention/
Engage in Discussion



| | Scientific Community | Land Managers | Elected Representatives/ Policy Advisors | General Public |
|---------------|----------------------|---------------|---|----------------|
| Local | | | | |
| Regional | | | | |
| International | | | | |



Knowledge Exchange:

- Dissemination
- Education and training
- Feedback
- Adoption

Capturing Responses to Change

Virtual Reality tools for:

- Illustrating change
- Testing preferences
- Recording responses
- Public direction of change



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Socio-Economic Research Group



About 30 social scientists: economists, sociologist, philosophers, social psychologist, geographers and anthropologists.

RESEARCH THEMES

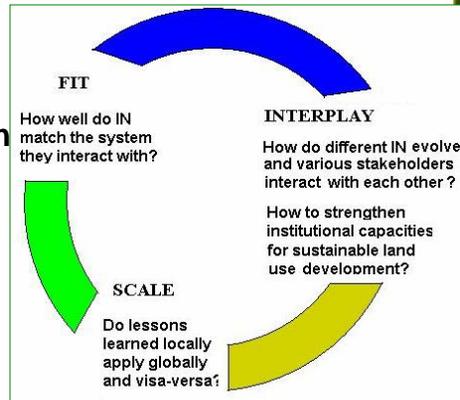
- Society, institutions and governance
- Rural and regional economics
- Values, choices and behaviour

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Society, Institutions & Governance

One strand examines **governance structures and practices** that enable and constrain co-ordination of sustainable resource use.

Another strand focuses on **social & IN adaptation to processes**, such as CC.



The theme utilizes theoretical & **methodological approaches** from new institutional economics, sociology, geography, anthropology to examine how people access & control over rural resources.

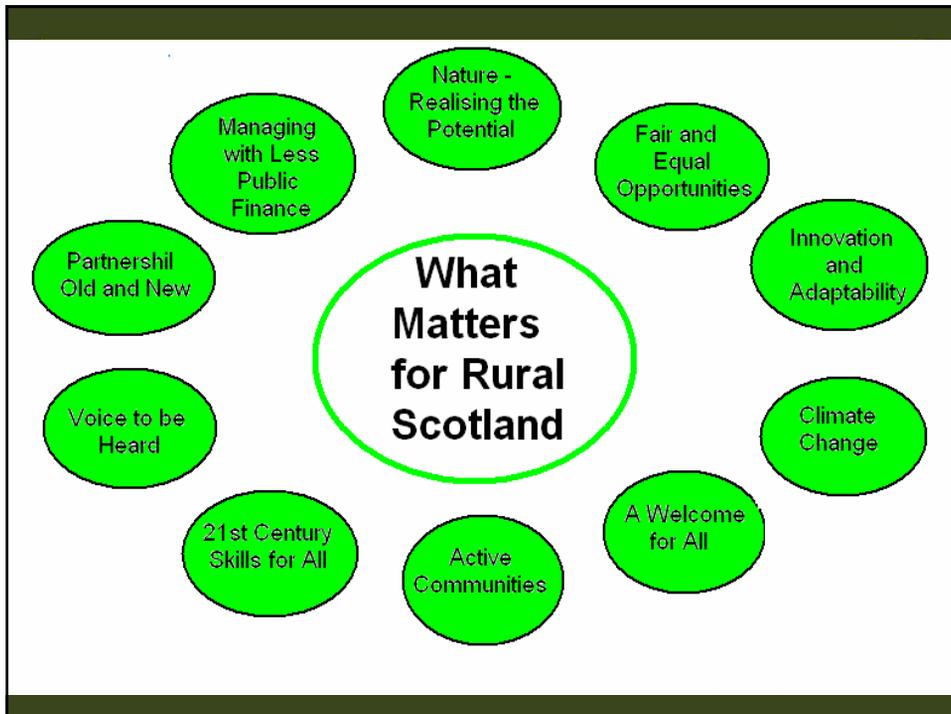
Attention is given to **stakeholder engagement** with complex ENVIRON decision making.

The ideas are being **applied** to national parks, recreation and tourism, water, forest and deer management, and BD conservation within Scotland/ UK & internationally.

Rural and Regional Economics

examines the sustainability of agriculture and forestry and their responses to the demands for ESS. It addresses connections between the traditional rural economy and emerging markets & industries.

- ✓ Research has added to understanding of MF development of forestry/countryside and of opportunities and challenges of SD;
- ✓ Projects include analysis of labour markets, policy implications in the context of RD, and social exclusion problems re to changes in the age composition of the population.
- ✓ Research developed understanding of the implications of policies on the wellbeing of different groups of people living in rural areas.



Values, Choices and Behaviour

Research draws on psychological and economic theories and employs both qualitative and quantitative methods to:

- Analyse the ways people make sense of and **value natural resources** and the **environment**,
- Examine people's **decision-making and behaviour** in the social context and with re to the natural world.

- It is important to understand that LUC are a result of changes in behaviours rather than planning regulation. The question is: “What factors influence farmers/land managers to change their management regimes?”
- If the taxpayer is investing heavily in the Scottish countryside, is he or she getting what they want or need? How do we decide what future countryside should produce? What should it look like?

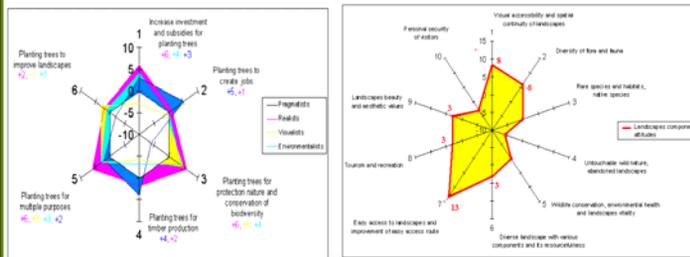
Factors influencing the farmers/land managers choice of LU might be summarised:

| | |
|-----------------------|---|
| investment potential | will the LU enterprise provide a realistic return on the money invested in it? |
| social acceptance | is the LU acceptable within planning policy guidelines; are there problems e.g. with pollution/impact on nature conservation interests? Does “society” accept it? |
| individual motivation | does the farmer/land manager have the necessary skills? Does it satisfy his/her ambitions? Is “it” acceptable? |

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Research is being conducted on preferences for LULUCF, CCM and on values associated with ESS & BD, the management of water & forest resources, and flood risk management.

The use of **Q method** resulted in the development of preference techniques to identify stakeholder priorities of rural changes & of public attitudes to LULUCF, rural landscapes & their components.



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The Priorities:

Demand ←  Supply

- Develop **methods** & analyse human needs, values and responses;
- Analyse **consumers' behaviour & changing demands for ESGs**;
- **Value ESGs**: multiple forest products (grazing), benefits (biodiversity) & functions (soil protective & recreational);
- Assess **integration of various LUs** at different spatial-temporal scales;
- Develop IN capabilities to bridge gaps between sectors of economy and between **SCIENCE-POLICY-PRACTICE**;
- Explore links between traditional economy & **new industries** (e.g. RE) & **new markets** (e.g. local);
- Analyse **rural-urban** linkages; Assess opportunities & challenges for **sustainable provision of ESS & MF SD** of rural areas.
- Analyse the influence of CAP & **responses to drivers/risks** (CC & ENV);
- Assist in **linking of SD goals with local level practices**;
- Address opportunities/challenges the global changes pose on RD in Scotland. **Local** ←  **Global**

Climate Change

Adaptation ←  Mitigation

- ✓ Attitudes, behaviour and public engagement in tackling CC
- ✓ IN analysis of the Kyoto Protocol and carbon markets
- ✓ Economics of carbon capture and storage (CCS) through LULUCF: carbon storage, renewable energy and wood products scenarios
- ✓ Socio-economic opportunities for CCS in forests across Europe
- ✓ Opportunities and challenges of bio energy production and consumption

Climate Change Mitigation by LULUCF

- Which projects/where can best contribute to CCM (**effectiveness**)?
- Can LULUCF provide **economically efficient and socially desirable** way of C uptake?
- How to achieve an effective CCM by forestry at lower costs and with the highest **social acceptability**?
- How to translate sustainability requirements of tree-planting & biomass production into **policy guidelines**?
- How to overcome **market limitations of CS projects**?
- Where to place biomass production **in the general context of MF land use**, where reform of **CAP** and contemporary rural change will likely be **influential**?

Projects funded externally include

- ✓ **Visulands**, EU FR 5
- ✓ **AlterNet**, EU FR 6
- ✓ **REDD-ALERT**, EU FR7
- ✓ EU FR7 COST Action “**ECHOES**”,
- ✓ UK FC funded “**Forestry-Climate** change”
- ✓ **Man-Forest**; EU partnership etc. etc.