### Policy Options and Approaches

A UK Perspective

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### Sources of Policy Interest

#### Self Interest: UK NEA

#### Chapter 21:

Given the economic dependence of the UK's economy on these overseas ecosystems, it is in the national interest to ensure that we, and other countries, identify and operate within these limits.

#### International Targets: CBD COP 10

#### Aichi Target 4:

"By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits"



### Research in the UK National Ecosystem Assessment

### Biomass - Material Flow Analysis

- The UK's landmass cannot provide all the ecosystem services required to support the national economy. Access to overseas ecosystem services, particularly for the supply of biomass (for food, fibre and bioenergy), is essential. This dependence makes the protection of the long-term functionality of these overseas ecosystems an economic imperative for the UK.
- Approximately one third of the biomass used by the UK comes from overseas according to Environmental Accounts prepared by the Office for National Statistics. This data indicates an annual biomass flow through the economy of 150 million tonnes based on domestic production of approximately 100 million tonnes (from agriculture, forestry and fisheries) and imports of 50 million tonnes.
- If import demand is unmitigated by increased domestic production and reduced waste, the overseas land use requirement is likely to almost double from the current 14 million ha to 26 million ha by 2030, and continuing to increase with population growth thereafter.



### Where do impacts of this arise? (1)

#### UK NEA: Biomass - Material Flow Analysis: Geography of Impact



Figure 21.1 Source of biomass (millions of tonnes) imported into the UK by Biogeographical Realms in 2008. Source: data from HMRC (2010b); underlying map based Olson *et al.* (2004).

#### Where might policy / technical support be needed to help improve sustainability?

### Where do impacts arise? (2)

#### UK NEA - Embedded Water: A look at different products





Approximately 66% of the UK's water demand is met by overseas sources, three quarters of which is due to the production of agricultural biomass.

Could helping address environmental problems abroad e.g. water scarcity help secure access to important economic resources?

## Some policy responses: (1)

#### Monitoring and Measuring Impacts

Parties of the Convention on Biological Diversity (CBD) are required to create and enforce national strategies and action plans to conserve, protect and enhance biological diversity.

The Joint Nature Conservation Committee (JNCC) has developed a set of UK indicators to help monitor progress against this commitment (JNCC 2012). Indicator A4 is titled '**Global biodiversity impacts of UK economic activity / sustainable consumption**'(still under development)



Figure i.1. Land requirements for soyabean in different countries to satisfy UK demand in 2007. Units: hectares (ha). Total world soyabean land used to satisfy UK demand is estimated at 1,270,000 ha. If grown in the UK, this production would require approximately 20% of total UK crop land (based on FAO 2007 statistics).

### Some policy responses: (2)

#### INCORPORATING VALUES INTO NBSAP Economic, social and Evidence base environmental rationales **INTEGRATE NBSAP's RATIONALE, OBJECTIVES & INSIGHTS ON VALUES OF** NATURE **INCORPORATING** into other policy sectors and plans **BIODIVERSITY AND** Leverage synergies via Policy coherence better coordination ECOSYSTEM SERVICE VALUES INTO NBSAPS **INTERNALISE & INTEGRATE BIODIVERSITY VALUES & CONCERNS** into decision making and accounting across sectors NBSAP PRACTITIONERS MAINSTREAM BIODIVERSITY across governments and society Awareness of values Wider integration of values BEHAVIOURAL CHANGE (e.g. conservation, restoration, sustainable production, management and use) National outcomes Improved human This roadmap has been produced as an output of a joint UNEP-WCMC and IEEP project, funded by Defra, and in well-being collaboration with the CBD Secretariat to examine the 'Lessons learnt from incorporating biodiversity and ecosystem convice values into MBC4 In' Halt biodiversity loss

#### Technical Assistance: Mainsteaming

UNEP WCMC

# Some policy responses: (3)

#### Working with Business:



The primary production (agriculture, forestry, fisheries, mining, oil and gas exploration, utilities) and primary processing (cement, steel, pulp and paper, petrochemicals) sectors analysed are estimated to have externality costs totalling US\$7.3 trillion, which equates to 13% of global economic output in 2009.



The Natural Capital Protocol will aim to provide a standardized framework for business to measure and value their direct and indirect impacts and dependencies on natural capital.

### What else could be done? Domestic Policy Response Options

Reducing waste / Increasing efficiency / Changing Domestic Production

- The UK National Ecosystem Assessment looked at the drivers of demand for biomass in the UK.
- Food for humans, and feed for Animal currently around 90%
- Biomass for renewable energy potentially significant into the future (extra 7-10m hectare footprint by 2020)
- Significant scope for moderating the UK's biomass import demand was reported, through increased domestic biomass production and food waste reduction the increase in foot print could be limited to 6m hectares rather than 12m hectares by 2030.
- Not considered in the NEA different renewable energy policies, efforts to reduce demand, efforts to focus demand on sustainable supply



### What else could be done? International Policy Response Options

#### Protecting key ecosystem services abroad

- UK NEA recommended:
  - Monitoring of impacts on existing global pressure points, and using indicators to also act as an early warning system, showing where new pressure points are emerging.
  - Using this geographical identification of key areas providing biomass to the UK's economy, or likely to supply it in the future as the basis for targeted international policies designed to protect the long-term functioning of the ecosystems vital to the UK's national interest.
- Potential Policies included:
  - Technical assistance,
  - Financial aid, and
  - Political dialogue
- These could be executed through bilateral actions between the UK and its key overseas suppliers and **dialogues with other significant global consumers** for traded biomass.

### UK NEA did not pick up on business angle

### What is the right scale at which to act? Can individual countries make a difference?

#### Too small to influence alone?

Maybe not...

		Production	
	Production that takes place to satisfy UK demand for all goods and services (tonnes)*	Total world production; FAO, 2007 (tonnes)	Percentage of total world production required to satisfy UK demand
Bananas	871,778	89,191,386	0.98%
Cotton	1,490,580	73,551,789	2.03%
Wheat <sup>22</sup>	15,641,990	612,611,392	2.55%
Soyabean	3,410,798	219,676,859	1.55%
Sugarcane	14,651,373	1,620,593,131	0.90%
Rice	3,310,057	657,149,812	0.50%
Oil palm fruit	1,701,053	193,126,508	0.88%
Cocoa	134,382	3,883,052	3.46%
Coffee	116,597	8,140,198	1.43%

#### Sugar cane: **Country of sugar Production that** Percentage of Total production per Percentage of total cane production/ takes place to world production country (tonnes), country production impact origin satisfy UK taking place to FAO 2007 that is used to demand for all satisfy UK demand satisfy UK demand goods and for all goods and for all goods and services services that occurs services (tonnes), 2007 in the specified country Mauritius 19% 2,829,899 4.235.850 66.8% Brazil 2.645.027 18% 549,707,000 0.5% Swaziland 8% 23.9% 1,194,607 5,000,000 India 789,914 5% 355,520,000 0.2% Guyana 727,213 5% 3,099,200 23.5% Sudan 682,603 5% 7,467,000 9.1% Mozambique 5% 678,617 2,060,670 32.9% China 4% 639,614 113,731,917 0.6% 4% Australia 546,360 36,397,000 1.5% Zimbabwe 482,602 3% 3,000,000 16.1%



#### Is the EU a better scale at which to attempt to influence? (e.g. FLEGT)

### Further calls for Action

#### Natural Capital Committee

England has been gradually transferring the degradation of its own natural assets to those abroad. Taking account of the extent to which we deplete the natural capital of other countries can radically alter assessments of sustainable use. For example, **although UK territorial greenhouse gas emissions fell by around 5% between 1992-2004,** 'consumption' related emissions (that is, emissions that include embedded carbon in imports) actually increased by 18% (Wiedmann T. et al, 2008). The figure is even starker for water where an estimated 70% of all the water consumed in the UK is 'virtual' and embedded in imports (Royal Academy of Engineering et al, 2010). Care needs to be taken if these imports are sourced from regions of high water stress.

#### The Committee recommends that Government takes this seriously and explores ways to rank and mitigate England's impacts on natural capital globally.

After all, in a global economy, British companies' supply chains are at risk from impacts on natural capital overseas and England's potential future wellbeing is eroded with the loss of global natural capital.

#### Sustainable Development Goals

