

Policies to tackle Europe's land dependency

Dr Michael Warhurst

Resources and Consumption Programme

Friends of the Earth Europe



**Friends of
the Earth
Europe**

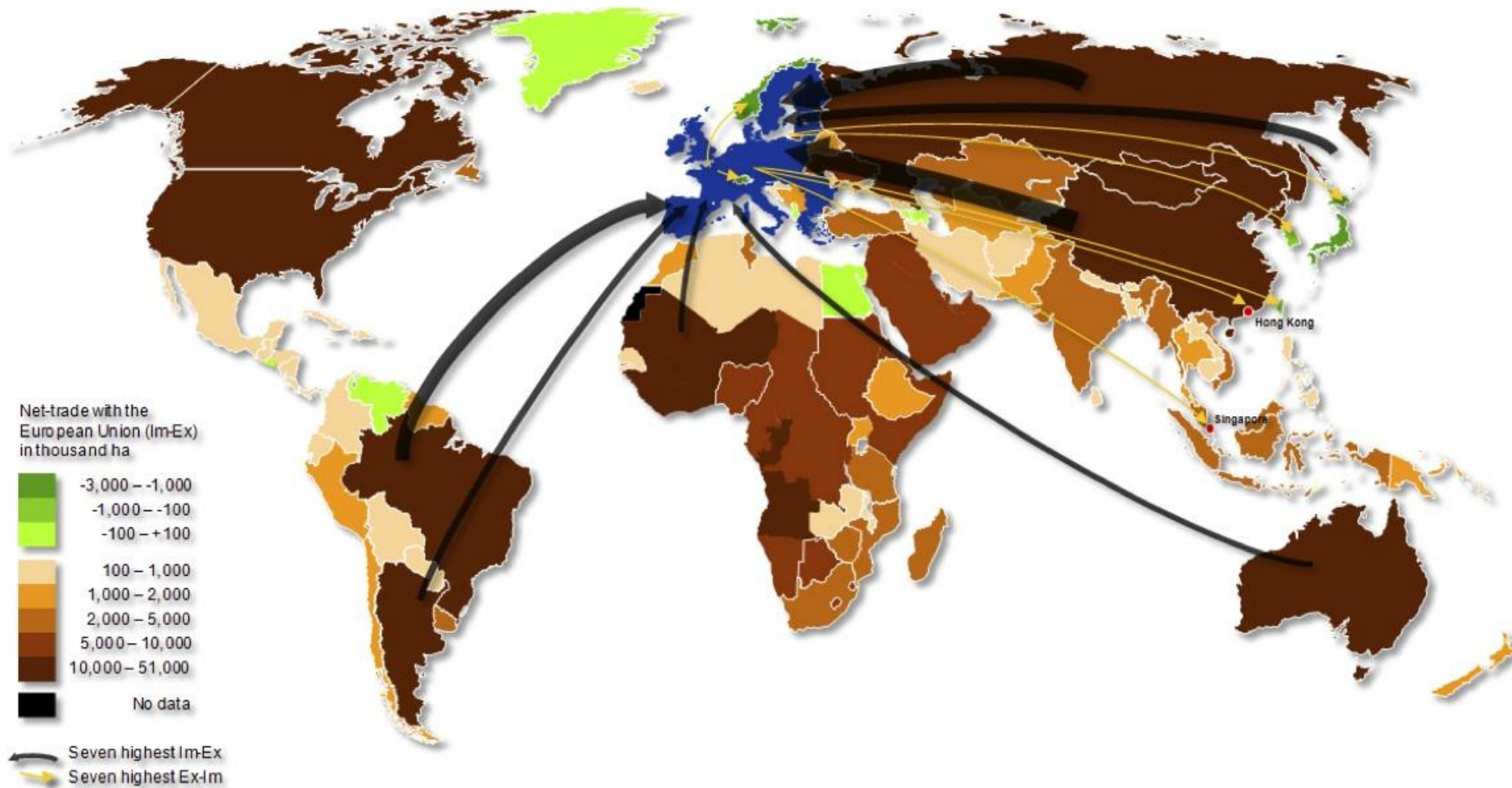
Introduction

- **We all depend on land**
 - Both within Europe, and outside Europe
- **Europe's high consumption levels lead to high land use & high land import**
 - But land is surprisingly absent from the resources debate
 - e.g. it's not viewed as an 'impact' in Life Cycle Assessment
- **Land is very prominent in other debates, e.g.:**
 - Land grabbing and land rights
 - Deforestation and habitat loss
 - Indirect land use change and biofuels
- **Land footprint is a tool to bring these issues together, and to help develop land policies**

Why is Land Footprint useful for policy?

- **Clearly shows the scale of land use**
 - Associated with a country, company or product
- **Fairly easy to calculate**
 - It is a real area of land, not a proxy
- **The more land Europe uses, the less is available for other people and for biodiversity**
 - Using an area of land for one thing rather than another will almost always have social and/or environmental impacts
- **Land footprint also provides a framework under which more detailed analyses can be done**
 - E.g. looking at which land, what social impacts

Europe's trade balance in land [1]



Our global context

- **Global population is increasing**
- **Levels of consumption per capita are increasing, as the middle class expands in China, India etc**
- **What does this mean for land?**
 - Increased meat consumption
 - Increased use of bio-based energy sources
 - Increased building on land
 - Increased use of biomass for products (wood, textiles, bio-based plastics).
- **What does this mean for Europe?**

What direction for EU land footprint?

○ The facts:

- Population is increasing
- Consumption levels are increasing in some very big countries
- Biodiversity is under threat
- Climate change will have major impacts on land, as will water scarcity

○ What direction for Europe's future land footprint:

- Up?
- The same?
- Down?

○ Time for a vote....



**Friends of
the Earth
Europe**

If we want to reduce our land footprint, how can we do it?

○ Two main routes for reduction:

- Improved efficiency, e.g.
 - Avoiding food waste and other wastes in supply chains
 - Maximising reuse & recycling, to remove e.g. textiles from residual waste
- Changes in consumption patterns
 - Consumption of less meat e.g. Resource Efficiency Roadmap suggests reduction to WHO guidelines.

○ But big forces are going in the other direction:

- The shift from fossil to bio – biofuels, biomass, bio-feedstocks
- Either encouraged by policy (e.g. biofuel targets) or by markets (high oil prices).

Land footprint in scenario analysis

○ “Bioplastics in the context of competing demands for agricultural land in 2050” [2]

- Modeling future land use if switch from oil to bio for plastics & fuels
- Analyses a range of scenarios
 - Different productivities
 - Different levels of consumption
 - NB all assuming *no biomass as energy source (only as liquid fuel)*, no land to tobacco etc

Bio-plastics in the context of competing demands on agricultural land in 2050

J.A. Colwill*, E.I. Wright, S. Rahimifard and A.J. Clegg

Centre for Sustainable Manufacturing and Reuse/Recycling Technologies (SMART), Wolfson School of Mechanical and Manufacturing Engineering, Loughborough University, Leicestershire, UK

(Received 23 March 2011; final version received 29 June 2011)

Recent trends in the bio-plastics industry indicate a rapid shift towards the use of bio-derived conventional plastics such as polyethylene (bio-PE). Whereas historically a significant driver for bio-plastics development has been their biodegradability, the adoption of plastics such as bio-PE is driven by the renewability of the raw materials from which they are produced. The production of these renewable resources requires the use of agricultural land, which is limited in its availability. Land is also an essential requirement for food production and is becoming increasingly important for fuel production. The research presented in this paper envisages a situation, in the year 2050, where all plastics and liquid fuels are

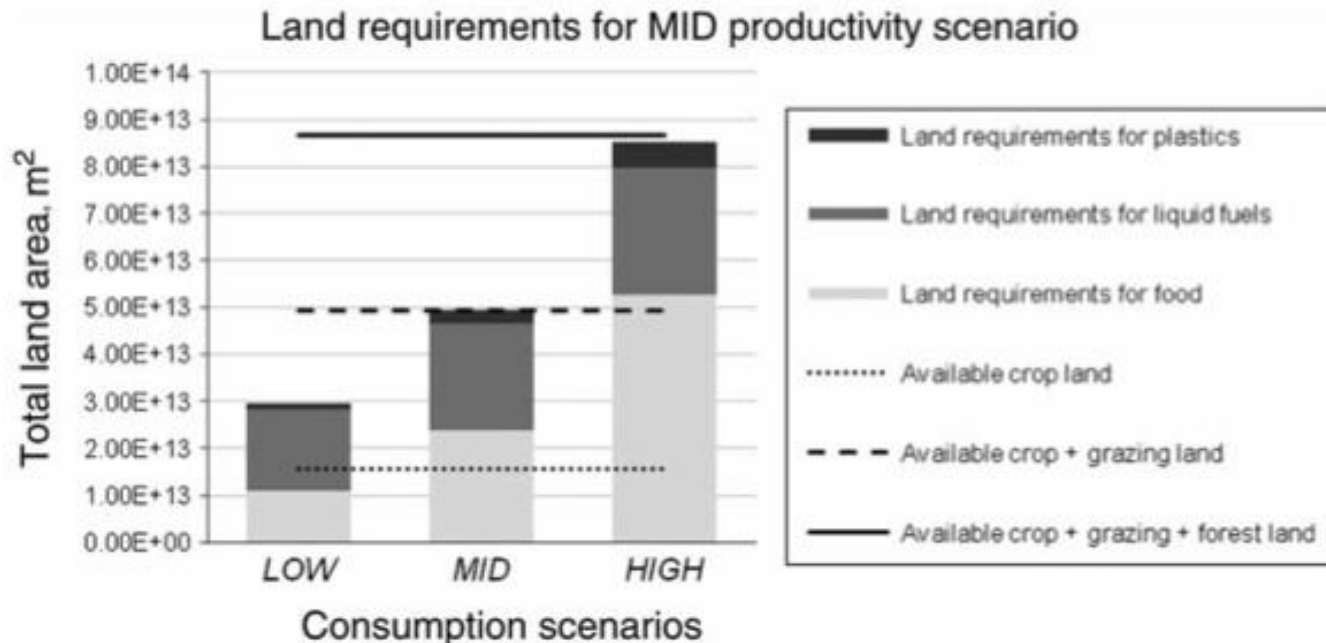


**Friends of
the Earth
Europe**

What the scenario analysis finds....

○ E.g. Mid-range productivity, high consumption:

- *The results for the HIGH consumption scenario here illustrate the impact of uncontrolled growth in demand for fuel and materials **It is unfeasible to suggest that the complete destruction of forest land to support food, fuel and plastics production provides a sustainable solution to meeting human needs.***



Land footprint is just one top-level indicator

○ Part of resource use basket of 4/5 indicators

- With Carbon Footprint, Water Footprint, Material (biological & non-biological) footprint

○ Can go deeper on land use

- In some cases, the next stage of analysis will need greater study of what land, who or what is on it now etc

○ Can go wider on land use

- A simple analysis of land use efficiency is often not sufficient, e.g.:
 - We need to protect biodiversity
 - We want to avoid harm from pesticides and pollution
- There are different approaches to achieving greater efficiency, with very different social impacts:
 - Focus on sharing best practice among thousands of farmers or give land to a few 'efficient' multinationals?



**Friends of
the Earth
Europe**

The economic benefits of managing Europe's land footprint

○ Land is money

- The growing pressure on land is showing up in higher land prices, and higher prices of products from land
 - E.g. Food price rises are an important part of inflation in some (most?) countries
- The more we can manage down our land import, the less money we need to export to get resources
 - Importing resources costs money (obviously!)

○ Excessive land consumption is risky

- People around the world are protesting against land grabbing
- Climate and water stresses are likely to reduce available land
- Land (& water) are becoming conflict flashpoints

What next – (i) finalising the footprints

○ Getting land footprint finalised:

- (mainly a job for the Commission to lead, in consultation with others)
- The Commission needs to carry forward its decision to measure Europe's land, water, carbon & material use
 - i.e. rapidly agree the precise metrics
- The Commission needs to standardise these metrics
 - Water Footprint and Carbon Footprint are already in discussion at the International Standards Organisation
- The Commission needs to set up data collection
 - E.g. the trade based analysis needed to work out the global aspects of EU & national footprints.



**Friends of
the Earth
Europe**

What next – (ii) footprints into policymaking

- **We need to discuss and agree targets for future direction of Europe's resource use**
 - Land footprint is the perfect starting point
- **The footprints need to be integrated into policymaking**
 - Through impact assessment of all relevant new policies – e.g. renewable energy, bio-based economy
- **Footprint analysis & reduction needs to be integrated into policies**
 - A toolkit for company footprints
 - Integration into product policy
 - Integration into agricultural, energy & food policy



**Friends of
the Earth
Europe**

Conclusions

- **Europe's resource use needs to become more efficient - and it needs to be reduced**
- **Land is an extremely important resource, for biodiversity, people, food, fuel etc**
 - We need to know how much we are using, and work out how to reduce this.
- **Land other footprints are a key tool**
 - They need to be standardised, and used to measure European, National, Company and Product footprints
 - They need to be part of impact assessment of new policies
- **We must reduce our land footprint**
 - What's the target?

References

- 1. “Europe’s global land demand”, Sustainable Europe Research Institute, 2011
www.foeeurope.org/publications/2011/Europe_Global_Land_Demand_Oct11.pdf
 - Briefing also available:
 - www.foeeurope.org/publications/2011/Briefing_Europe_Global_Land_Demand_Oct11.pdf
- 2. “Bioplastics in the context of competing demands for agricultural land in 2050”, J.A. Colwill*, E.I. Wright, S. Rahimifard and A.J. Clegg, Int. J. Sustainable Engineering (2011).