



Transition to a green economy in Europe

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The European Environment Agency

The European Environment Agency:

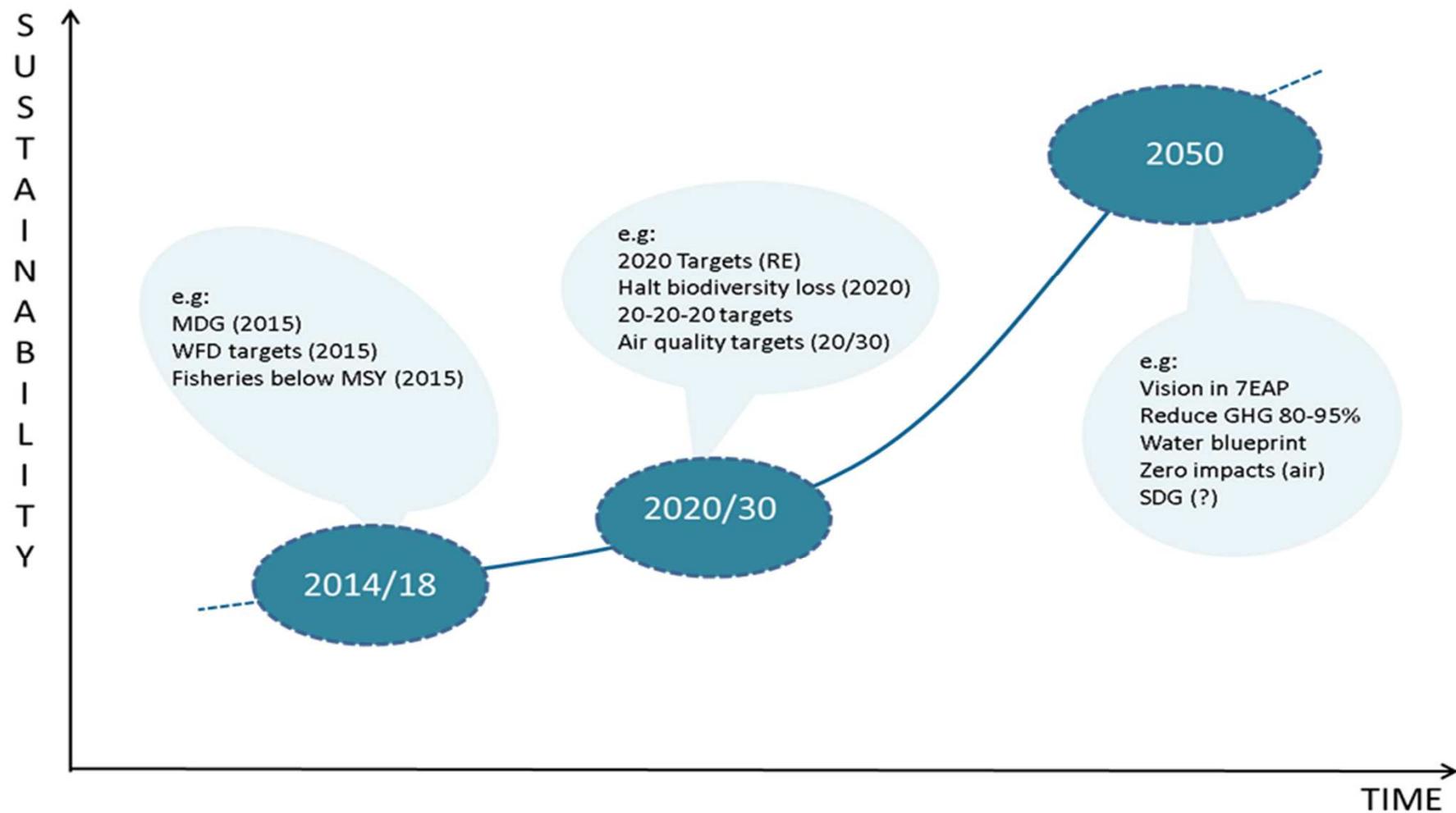
- is based here in Copenhagen
- is established by EEC regulation (1990)
- is an independent information provider
- builds bridges between science and policy
- depends upon strong networks to carry out its work
- comprises 33 member countries, plus 6 cooperating countries
- has c 210 staff and an annual budget of €42 million



EEA Work Programme 2014-2018: key goals

- To be the prime source of knowledge at European level **informing the implementation of** European and national **environment and climate policies**;
- To be a leading knowledge centre on the knowledge needed to **support long term transition** challenges and objectives;
- To be the lead organisation at European level facilitating **knowledge-sharing and capacity - building** in the field of environment and climate change.

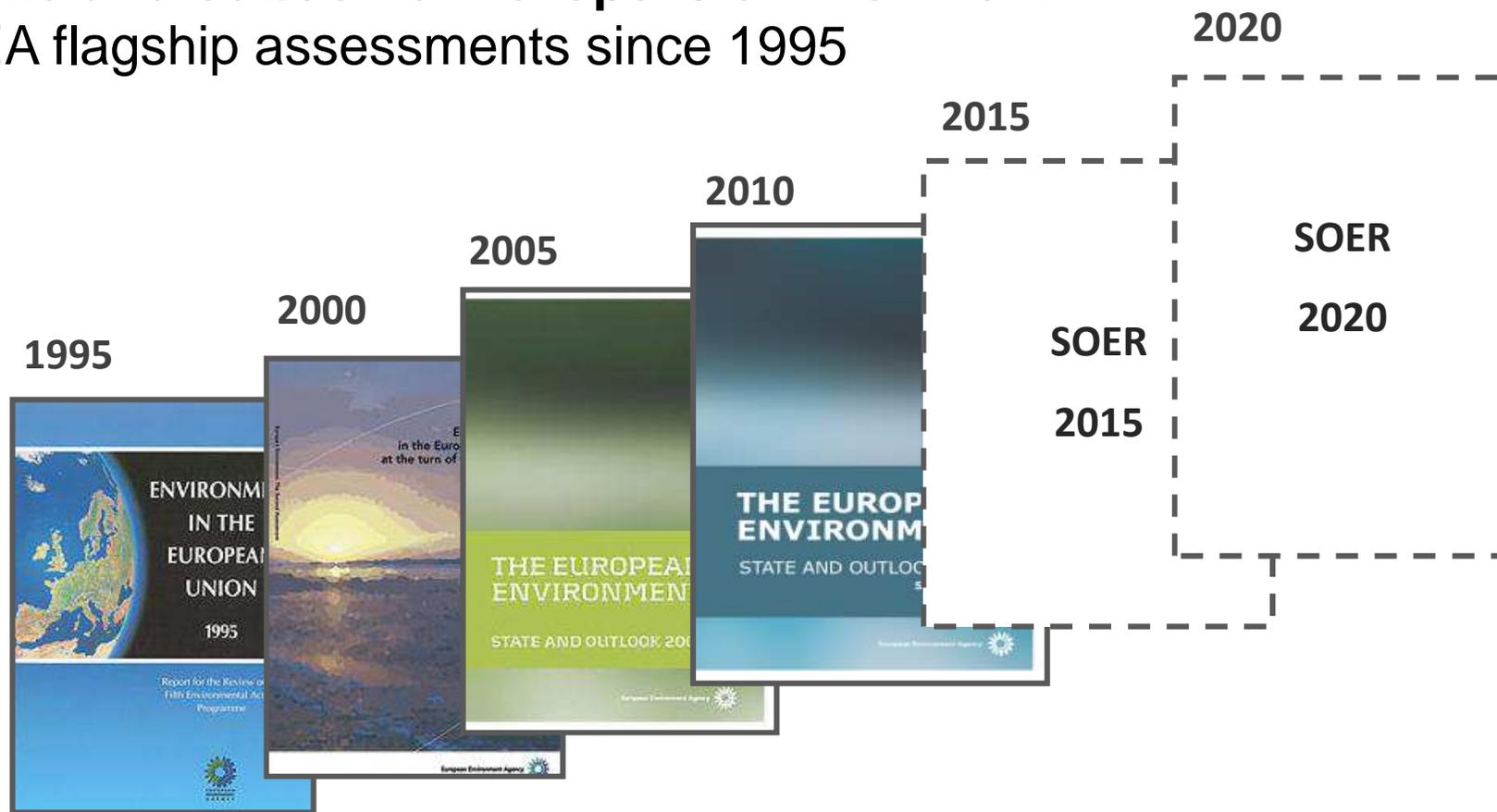
Across three timeframes embedded in EU policies



Based on a deeper understanding of challenges

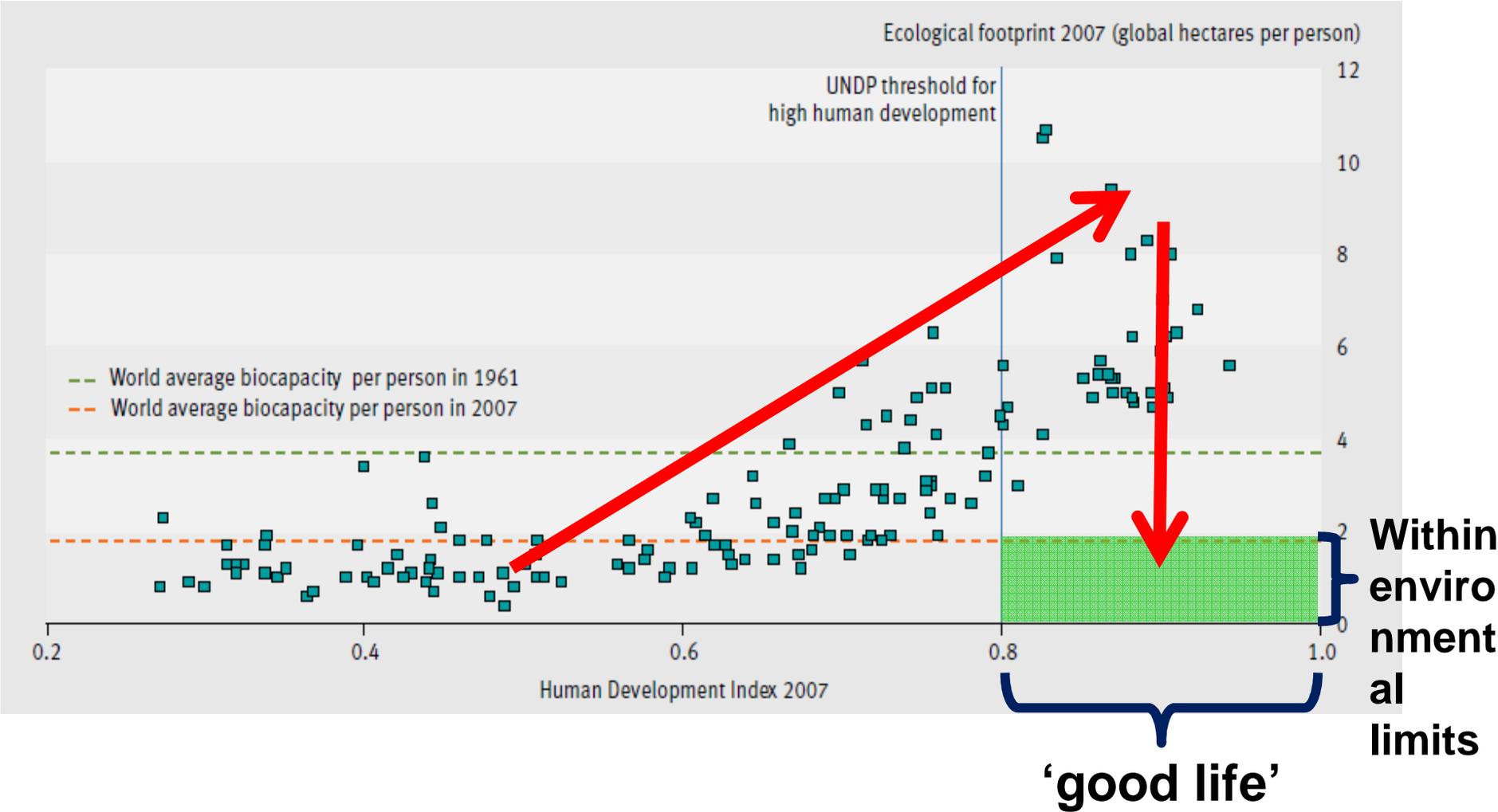
State and outlook of Europe's environment

EEA flagship assessments since 1995



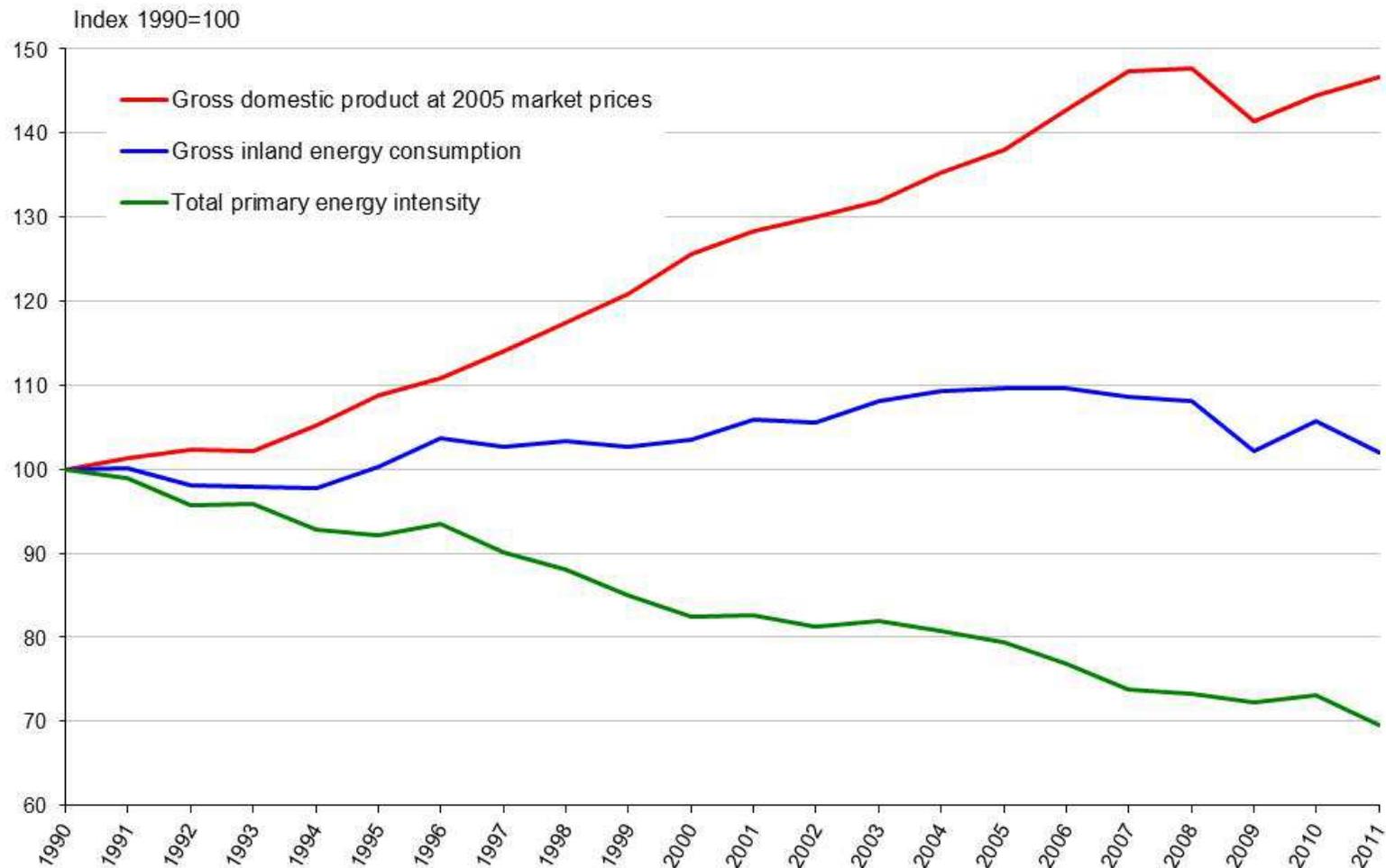
Increased complexity of problem definition, analysis, and response.

Globally we are not living well within ecological limits



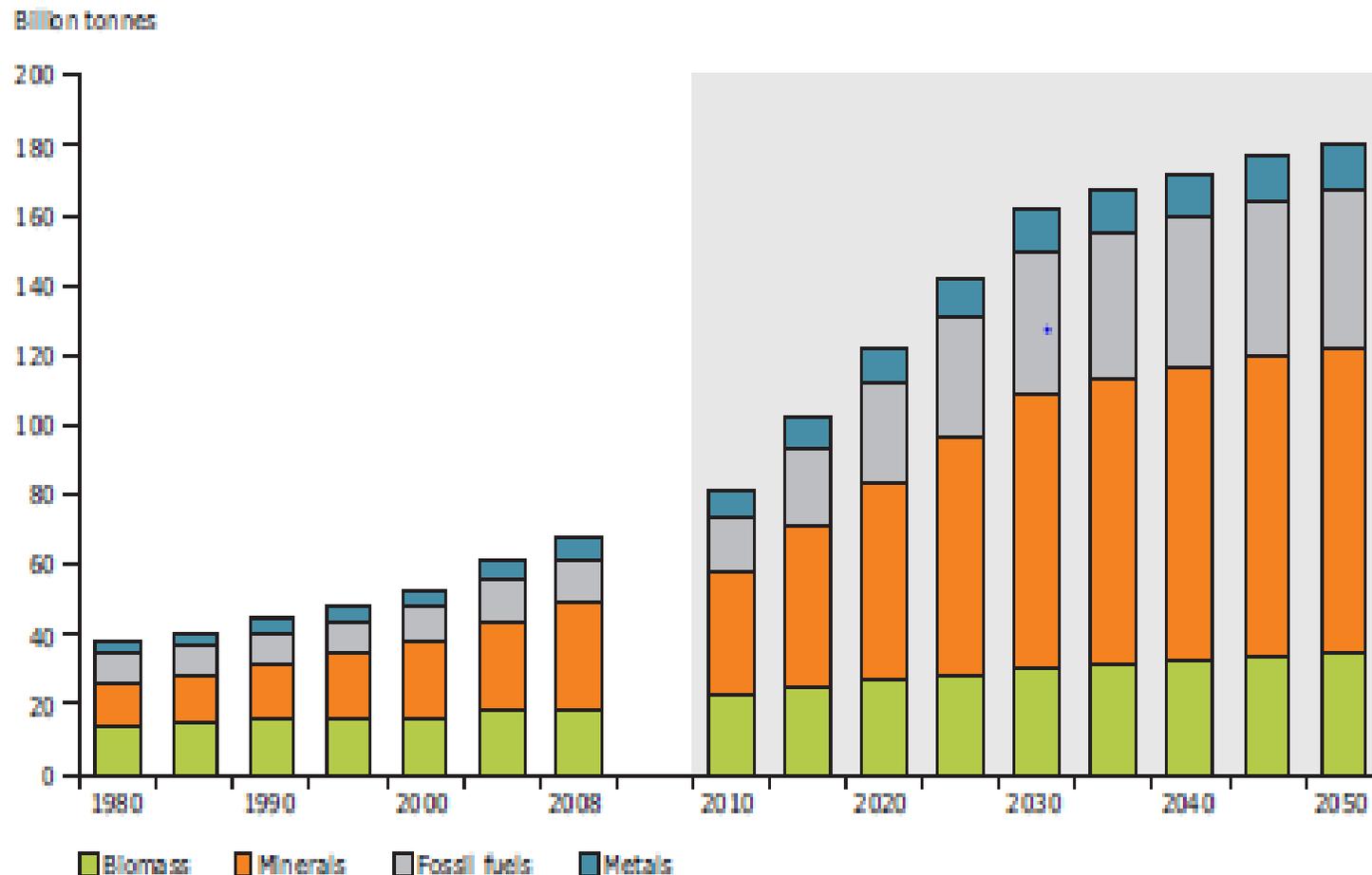
Source: UNEP 2012 - GEO5

Back in Europe: energy efficiency has increased, but we are far from a low-carbon economy



Source: EEA (CSI 028)

Global material resource extraction, 1980–2008 and projections for 2010–2050



Source: SERI, 2011.

The 2050 vision requires Europe to address systemic risks & foster transitions

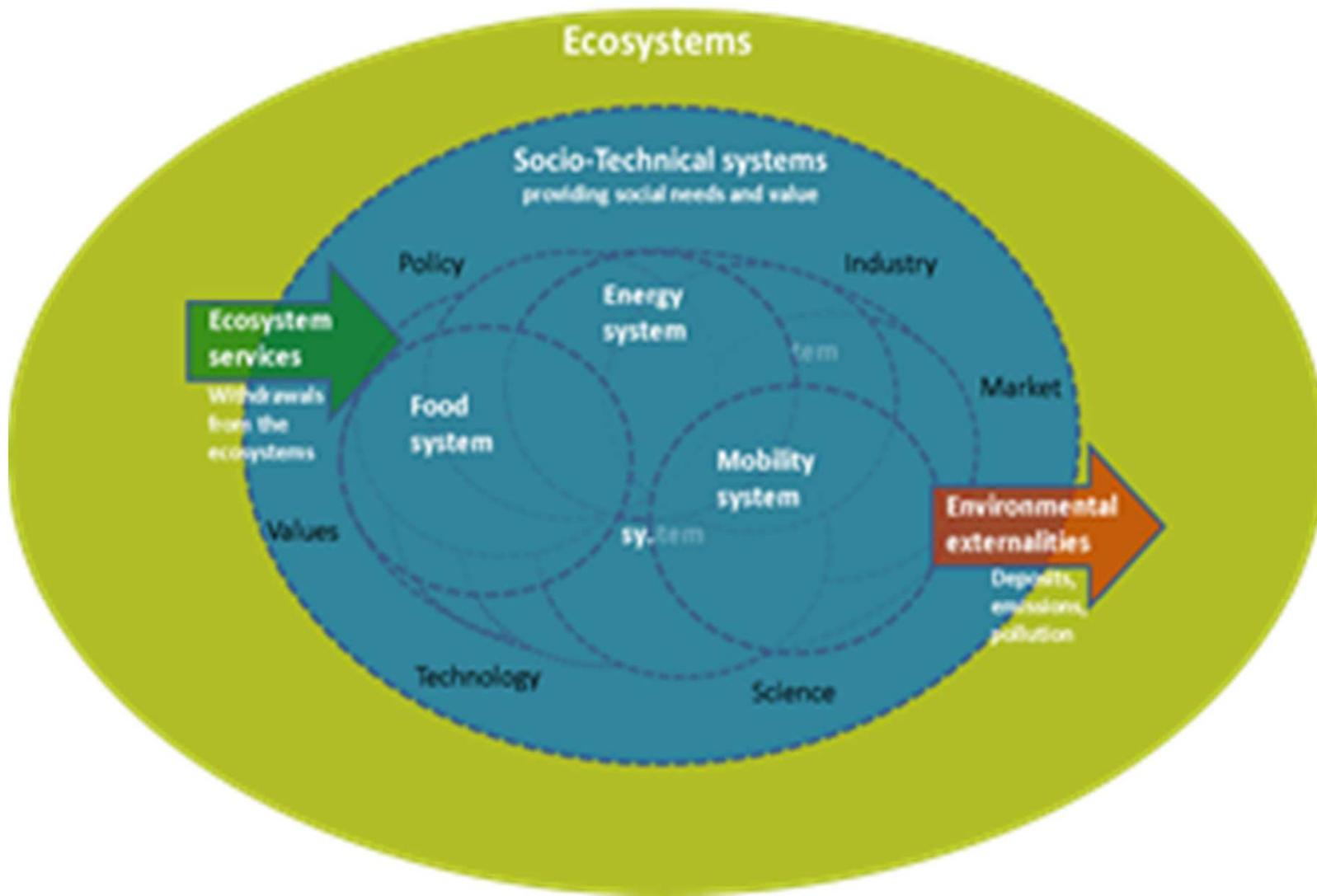
‘Systemic risks’ (persistent problems) require fundamental solutions

- Regular policy offers no immediate solutions
- Market creation and commodification in itself is not a solution
- Incremental institutionalism is not sufficient
- Resource efficiency gains are necessary, but are not sufficient for ecosystem, economic and societal resilience

→ **Transitions**

= fundamental shifts in the systems that fulfil societal needs, through profound changes in dominant structures, practices, technologies, policies, lifestyles, thinking ...

Long-term transitions at EEA



Long-term transitions: accounting fully for externalities

SNA

SEEA Part 1
“Central Framework”

SEEA Part 2
“Experimental
Ecosystem
Accounting”



Green economy and EU policies to 2020

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Resource-efficient green economy and EU policies

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Policy tools that can help achieve 2020 targets in line with 2050 visions

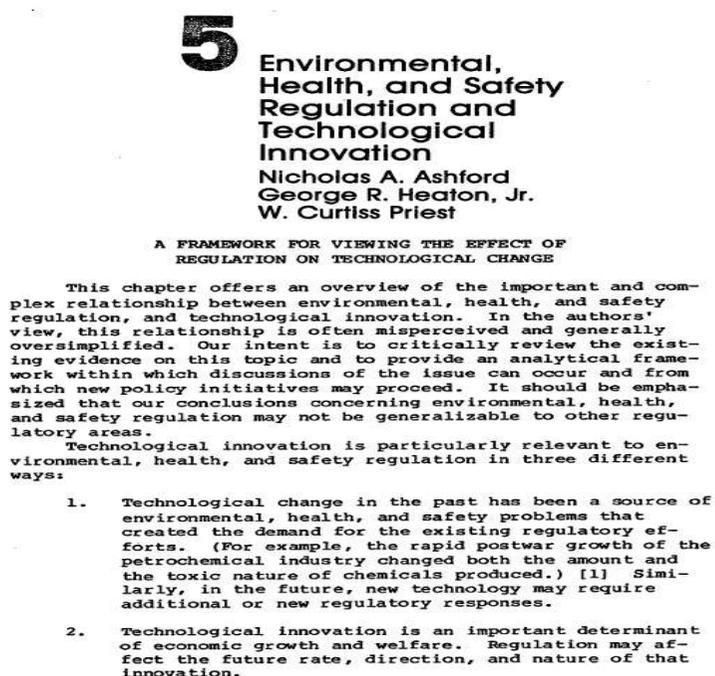
Between policy push and changing economic structure – support a green economy transformation by leveraging key ‘economic’ factors

- Factor 1: Eco-Innovation (diffusion)
- Factor 2: Green knowledge transfer
- Factor 3: Environmental fiscal reform
- Factor 4: Green finance



Well-designed legislation stimulates innovation

Research by Ashford, Porter and others shows that well-designed regulations can stimulate innovation.



DISCUSSION PAPER

January 2011 ■ RFF DP 11-01

The Porter Hypothesis at 20

Can Environmental Regulation Enhance Innovation and Competitiveness?

Stefan Ambec, Mark A. Cohen, Stewart Elgie, and Paul Lanoie

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EU emissions standards are adopted across Asia, giving exporters access to huge markets

Adoption of the EU's Euro emissions standards for road vehicles in Asian countries, 1995–2025

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
EU	E1	Euro 2			Euro 3			Euro 4			Euro 5			Euro 6																	
HK ^(a) , China	Euro 1		Euro 2			Euro 3			Euro 4			Euro 5																			
South Korea											Euro 4			Euro 5																	
China ^(b)					Euro 1			Euro 2		Euro 3		Euro 4																			
China ^(c)					Euro 1		Euro 2		Euro 3		Euro 4			Euro 5																	
Singapore ^(b)	Euro 1				Euro 2																										
Singapore ^(d)	Euro 1				Euro 2				Euro 4																						
India ^(e)					Euro 1			Euro 2			Euro 3																				
India ^(f)				E1	Euro 2			Euro 3			Euro 4																				
Thailand	Euro 1				Euro 2		Euro 3						Euro 4																		
Malaysia			Euro 1						Euro 2			Euro 4																			
Philippines							Euro 1			Euro 2				Euro 4																	
Vietnam											Euro 2						Euro 4		Euro 5												
Indonesia											Euro 2																				
Bangladesh ^(b)											Euro 2																				
Bangladesh ^(d)											Euro 1																				
Pakistan														E2 ^(b)		Euro 2 ^(d)															
Sri Lanka									Euro 1																						
Nepal						Euro 1																									

Source: CAI, 2011



Environmental fiscal reform supports several long-term sustainability objectives

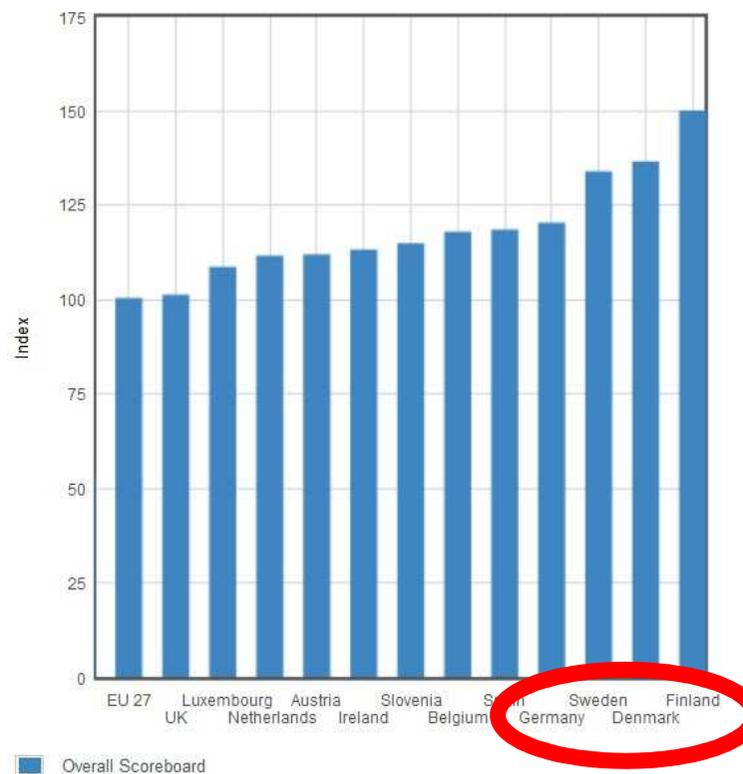
- Taxation shift puts a price on environmental externalities, thereby reducing pressures on human and ecosystem health while also supporting economic efficiency and jobs.
- Removing harmful subsidies can also reduce pressures on ecosystems especially and at the same time promote economic efficiency, competition and sustainable jobs.
- Shifting taxes from societal goods – employment, investment – to societal bads – pollution and over-consumption - can contribute to mitigating the impacts of demographic trends by increasing incentives to work and generating revenues from (longer) life-time consumption

Eco-innovation and competitiveness are compatible

Finland, Germany and Sweden are highly competitive, and leaders in eco-innovation

Entity	Rank ▲	Score
2013-2014 » Global Competitiveness Index, 1-7 (best)		
Switzerland	1	5.67
Singapore	2	5.61
Finland	3	5.54
Germany	4	5.51
United States	5	5.48
Sweden	6	5.48
Hong Kong SAR	7	5.47
Netherlands	8	5.42
Japan	9	5.40
United Kingdom	10	5.37
Norway	11	5.33

Global Competitiveness Index 2013-2014

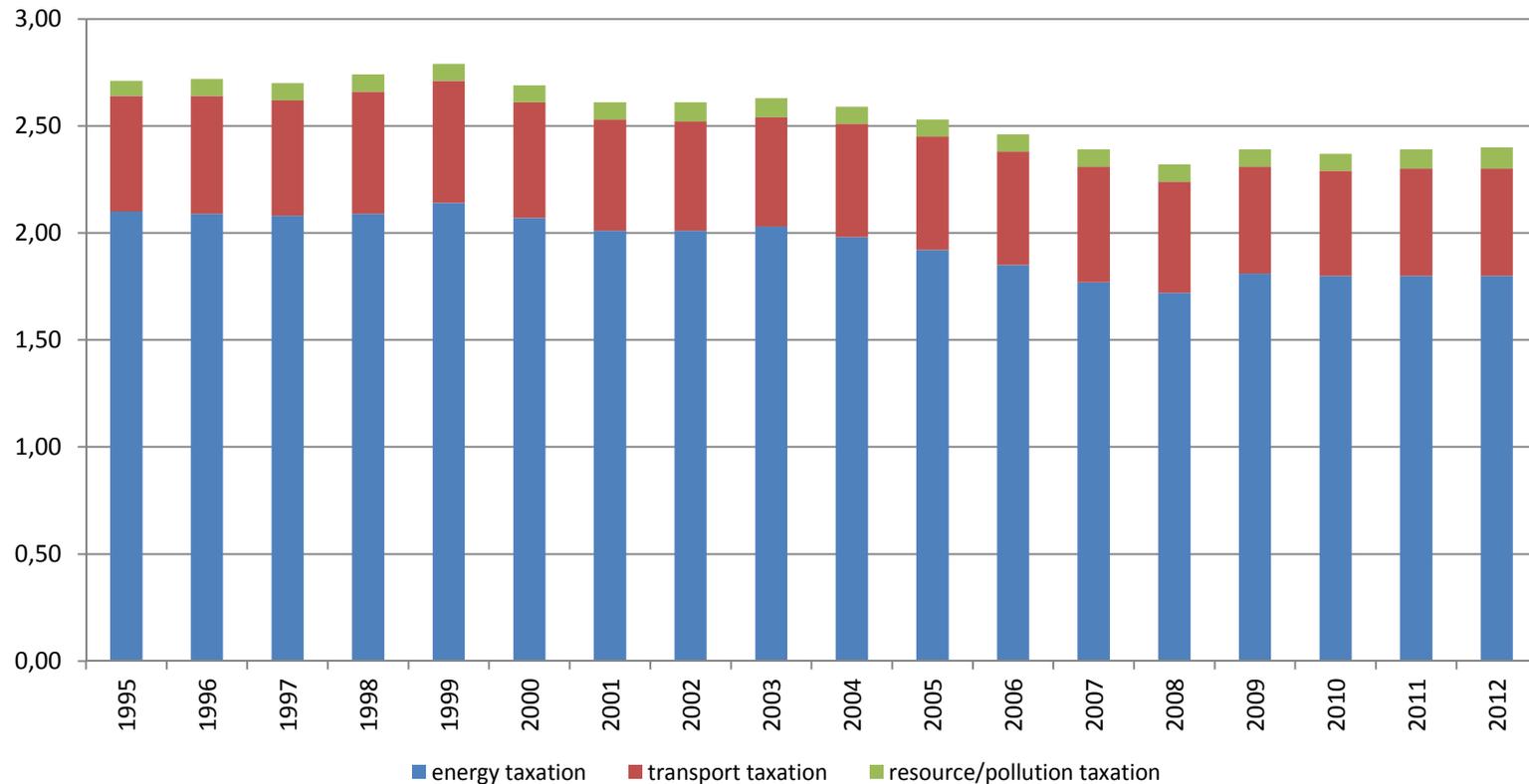


Eco-Innovation Index 2012

...and can also be compatible with relatively high rates of environmental taxes...

	Global Competitiveness Index — 2013–2014	Eco-innovation scoreboard — 2012	Environmental tax revenue as a share of GDP — 2012
	Global ranking (out of 148 countries)	EU wide ranking	EU wide ranking (and environmental tax revenues as a share of GDP)
Finland	3	1	5 (3.07)
Germany	4	4	21 (2.18)
Sweden	6	3	15 (2.49)
Netherlands	8	10	3 (3.56)
United Kingdom	10	12	12 (2.62)
Denmark	15	2	1 (3.87)
Austria	16	9	17 (2.44)
Belgium	17	6	23 (2.16)
Luxembourg	22	11	18 (2.42)
France	23	13	25 (1.83)
Ireland	28	8	15 (2.49)
Estonia	32	19	10 (2.78)
Spain	35	5	28 (1.57)
Malta	41	22	7 (2.98)
Poland	42	26	14 (2.52)
Czech Republic	46	15	20 (2.35)
Lithuania	48	27	27 (1.66)
Italy	49	14	6 (3.02)
Portugal	51	16	21 (2.18)

But environmental taxes are an under-used tool in the EU



Environmental taxation as a percentage of GDP (distinguished between energy, transport and pollution/resource) in the EU-27

Source: Eurostat http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env_ac_tax&lang=en

Environmental taxes are an under-used tool

“Labour taxation is still too high, while growth-friendly bases, such as environmental taxes, are under-used in many countries. The tax shift away from labour, which we have consistently called for to allow our businesses to regain competitiveness, still has to materialise.”

Statement by Algirdas Semeta, Commissioner for Taxations and Customs Union, Audit and Anti-Fraud, on Taxation Trends in Europe
June 2014

Recent EEA work on environmental taxation

Recent EEA work in the field of environmental taxation and environmental fiscal/tax reform:

- Illustrative potential of EFR in Ireland, Italy, Spain and Portugal approach is to consider the revenue potential from a perspective of realism (a political economy approach)

<http://www.eea.europa.eu/highlights/fiscal-reform-can-create-jobs>

- Environmental tax reform in Europe: opportunities for eco-innovation
- Environmental tax reform in Europe: implications for income distribution

Illustrative potential of ETR/EFR

Illustrative potential of EFR in Ireland, Italy, Spain and Portugal (EEA)

- Ireland: Potential of revenues generated from environmental taxation – doubling within a period of 4 years – increase in tax rates and introduction of new environmental taxes
- Portugal: 50% increase in environmental tax revenues in 4 years and removal of environmentally harmful subsidies

EC study: Study on EFR Potential in 12 EU Member States (study commissioned by EC, DG Environment)

Countries can almost double their environmental tax revenues (expressed as share in terms of GDP) by the year 2025

Environmental taxes to remain a small share of the overall cake? (example:UK)

	Per cent of GDP						
	Outturn	Forecast					
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Income tax and NICs	16.4	16.0	16.1	16.3	16.8	17.0	17.2
Value added tax	6.4	6.5	6.4	6.4	6.4	6.3	6.3
Business rates	1.7	1.6	1.6	1.6	1.6	1.6	1.6
Capital taxes	1.0	1.2	1.5	1.6	1.7	1.7	1.8
UK oil and gas receipts	0.4	0.3	0.2	0.2	0.2	0.2	0.2
Excise duties	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Fuel duties	1.7	1.6	1.6	1.5	1.5	1.5	1.5
– EU ETS auction receipts	0.02	0.02	0.02	0.02	0.02	0.02	0.02
– Environmental levies	0.15	0.25	0.29	0.33	0.34	0.36	0.38
– Vehicle excise duties	0.38	0.37	0.34	0.32	0.30	0.29	0.26
– Climate change levy	0.04	0.08	0.12	0.14	0.12	0.11	0.10
– Air passenger duty	0.18	0.18	0.19	0.17	0.18	0.18	0.19
Other taxes	6.6	6.8	6.6	6.7	6.4	6.4	6.1
National Accounts taxes	35.5	35.2	35.2	35.5	35.8	35.9	35.9

Source: own elaboration on Office for Budget Responsibility Outlook March 2014

Some final reflections

1. Green economy requires long-term understanding and actions;
2. Regulations, taxation and finance together can promote innovation, resilience, jobs and performance
3. There is potential – in line with established objectives and practice - to double the share of environmental taxes by 2025
4. Treating economic, social and environmental objectives equally can be the pre-requisite for just ETR/EFR in the long-term
5. Beyond 2025 explore the long-term potential for ETR/EFR by 2050 in line with policy visions and global megatrends?