# The

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# Green Horizons Scoreboard
# http://www.green-horizons.eu/

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# RECREATE GREEN HORIZONS SCOREBOARD

Are you interested in how research and innovation can help to address societal challenges in the areas of climate action, resource efficiency and raw materials? Do you need data on the countries of the European Research Area?

This website allows you to

**LOOK AT DIFFERENT INNOVATION SYSTEMS**

**COMPARE INDICATORS ACROSS COUNTRIES**

**GET A COUNTRY OVERVIEW**

# RECREATE Scoreboard presentation content

What the Scoreboard is for

Challenges

Innovation systems

Innovation system functions and indicators

Enabling a range of analyses

Examples

Feedback from the audience

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# What the Scoreboard is for

The RECREATE Green Horizons Scoreboard serves to

- measure,

- compare

- and benchmark

research-based efforts in the European Research Area (ERA) in the fields of climate change, resource efficiency and raw materials and the interactions between them in a way that is

- detailed

- and grounded in current theory building

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# Challenges:

Large coverage necessary:

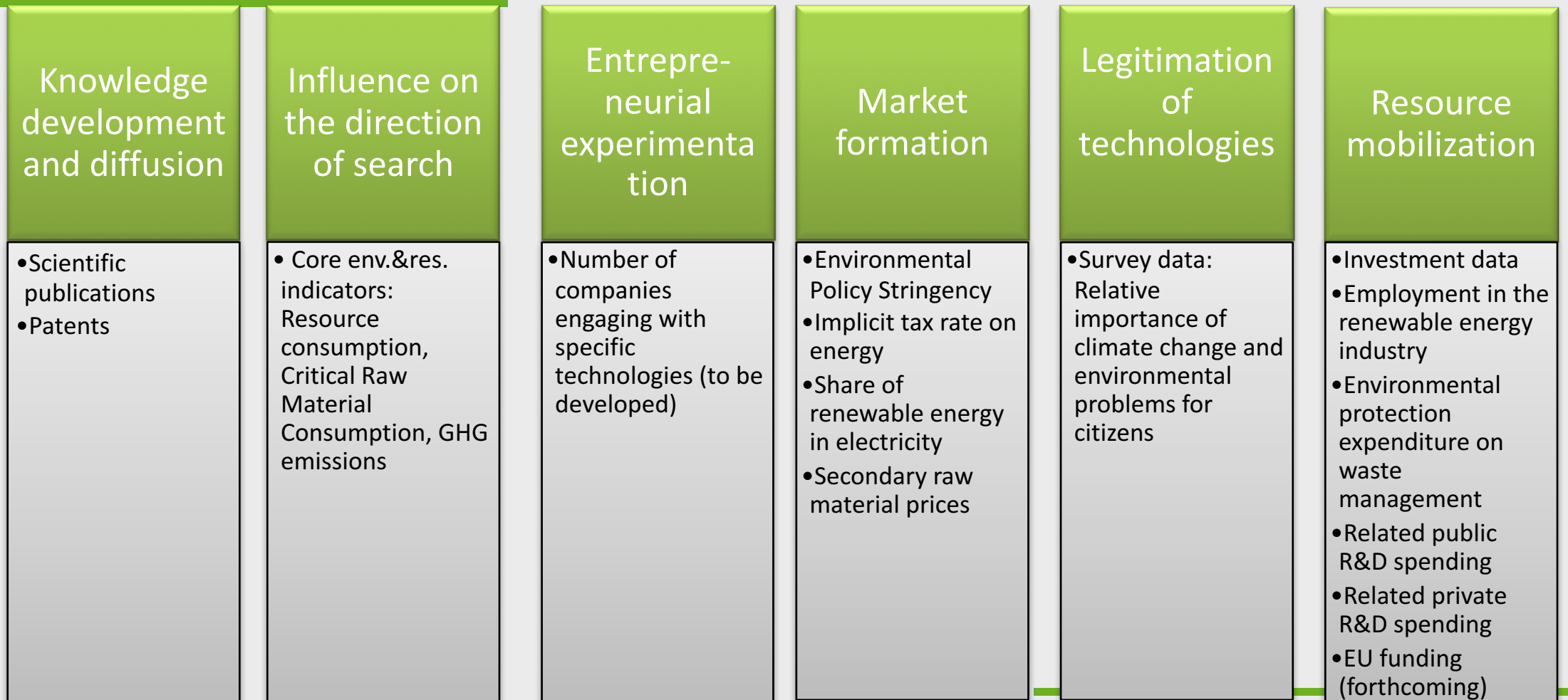- ERA scope makes it challenging to find meaningful indicators shared by many Member States

Finding a meaningful level of aggregation:

- At what level of detail can R&I professionals draw most benefit from  data?
  - At greater level of detail gaps in the data become more apparent

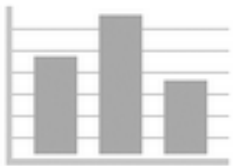# 11 different Environmental Innovation Systems (EIS)



AGRICULTURE AND SOIL SCIENCES

BIOECONOMY

CLIMATE ADAPTATION

CRITICAL RAW MATERIALS

ENERGY EFFICIENCY

ENVIRONMENTAL GOVERNANCE

FOSSIL FUEL EFFICIENCY

MATERIAL EFFICIENCY

RENEWABLE ENERGY

WASTE AND RECYCLING

WATER AND WASTE WATER

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# The RECREATE scoreboard translates functions of innovation systems into useful indicators and data analysis

## Knowledge development and diffusion
- Scientific publications
- Patents

## Influence on the direction of search
- Core env.&res. indicators: Resource consumption, Critical Raw Material Consumption, GHG emissions

## Entrepreneurial experimentation
- Number of companies engaging with specific technologies (to be developed)

## Market formation
- Environmental Policy Stringency
- Implicit tax rate on energy
- Share of renewable energy in electricity
- Secondary raw material prices

## Legitimation of technologies
- Survey data: Relative importance of climate change and environmental problems for citizens

## Resource mobilization
- Investment data
- Employment in the renewable energy industry
- Environmental protection expenditure on waste management
- Related public R&D spending
- Related private R&D spending
- EU funding (forthcoming)

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...taking into account ongoing research challenges and data restrictions!
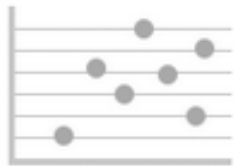
# Enable a range of analyses

Analyze one indicator and compare countries

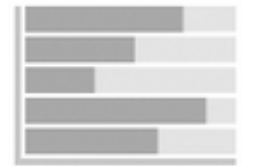Evolution of an indicator and compare countries

Compare two indicators for multiple countries

Evolution of two indicators for a country

Compare three indicators for multiple countries

Set of indicators for a single country in EU relation

Display indicator data on a map of Europe

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# Example 1: Some middle income countries do exceptionally well in scientific publications in the waste area

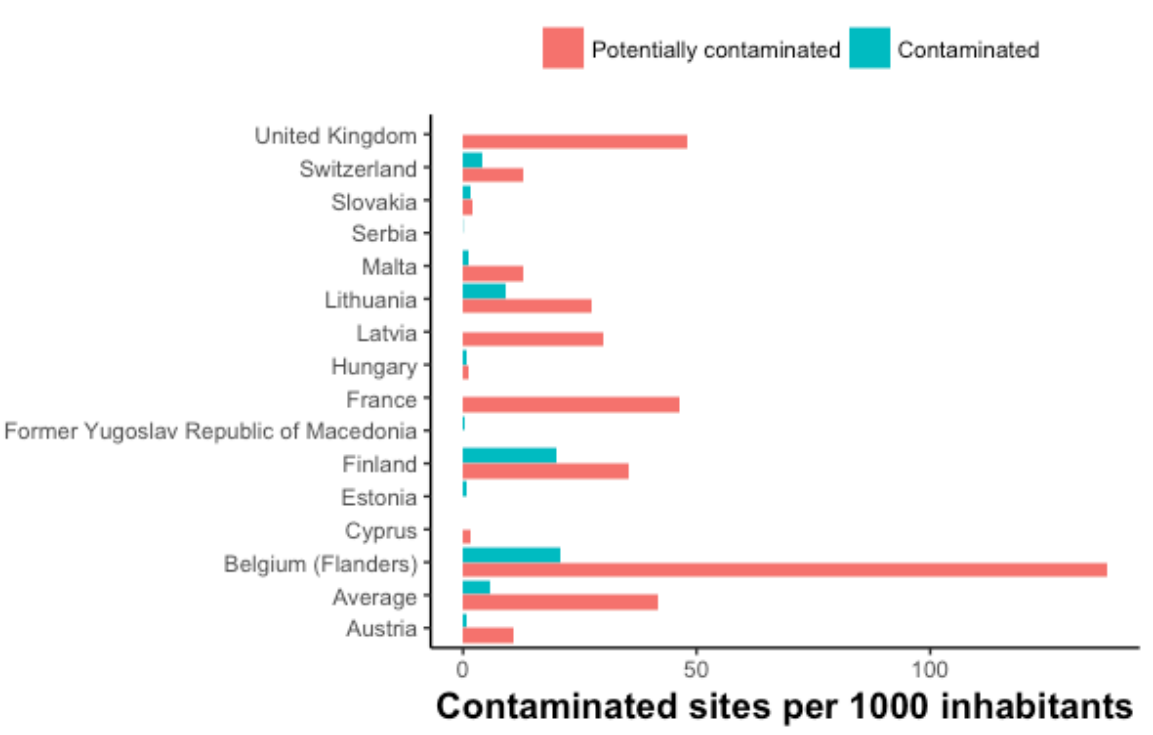Average Waste and Recycling publications in peer-reviewed scientific journals 2007-2015

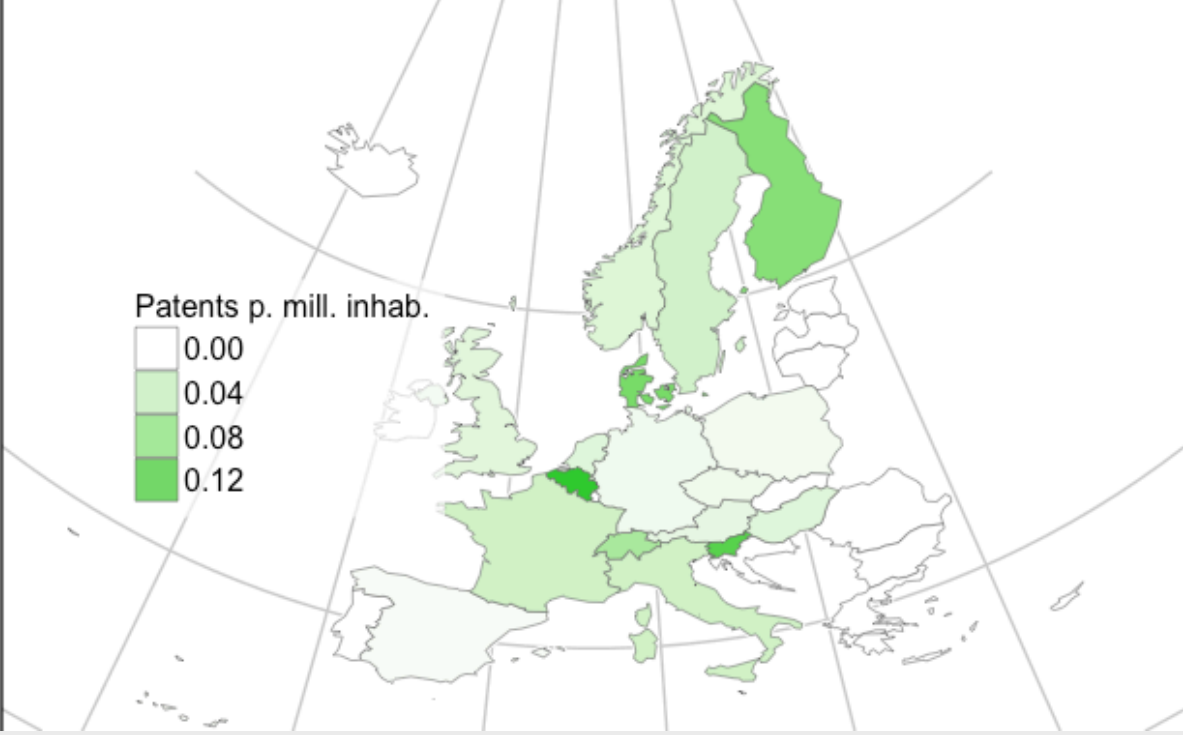Waste and Recycling publications in peer-reviewed scientific journals
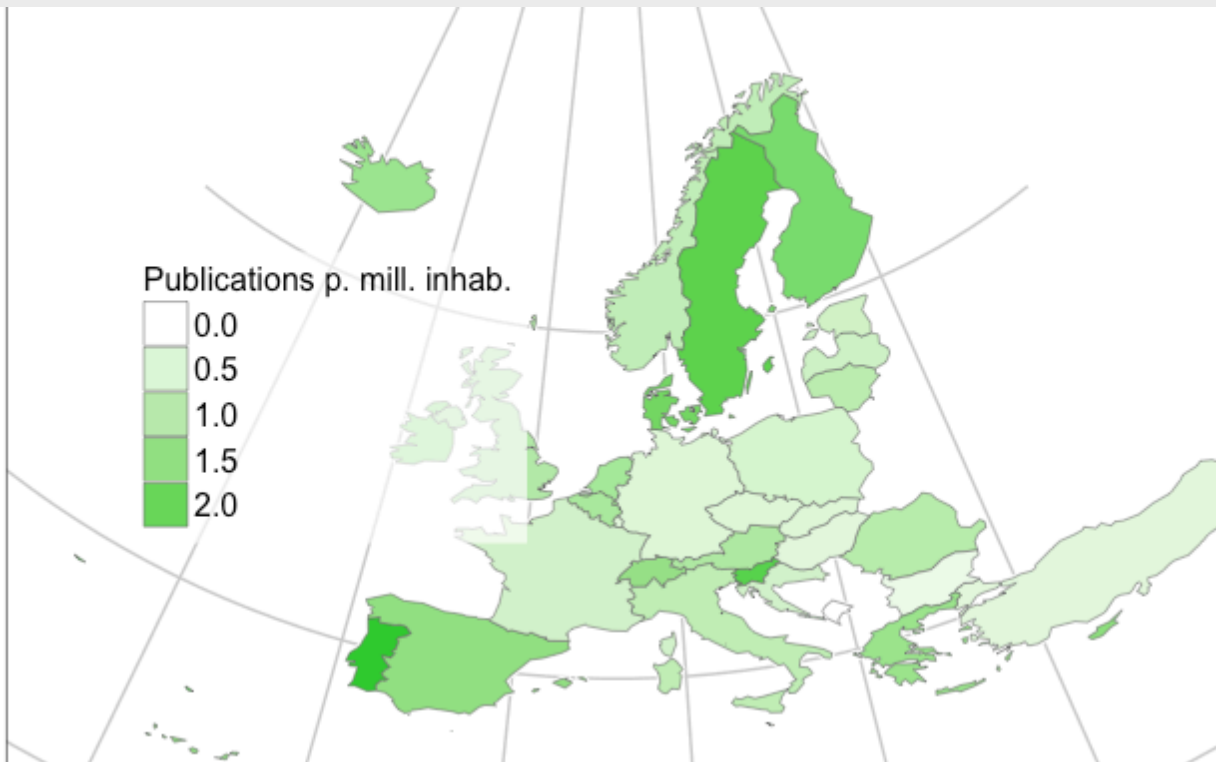


Based on Web of Science data, filtered by keywords
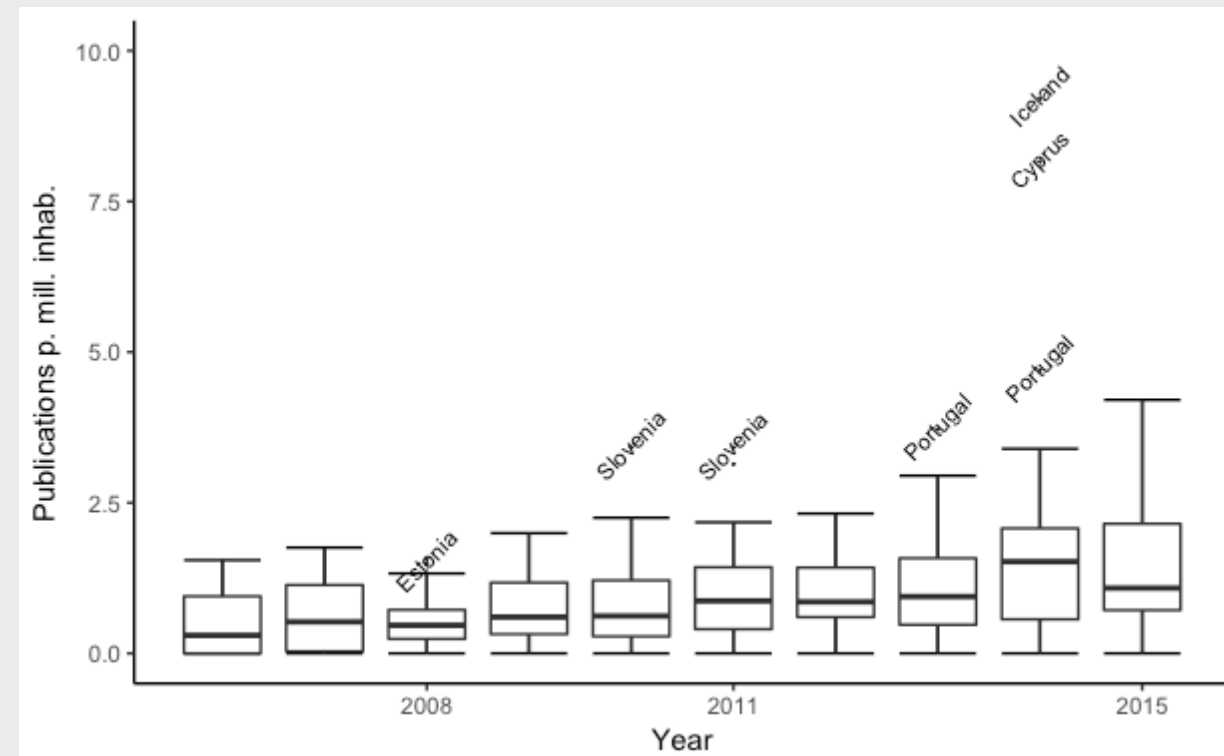
# Example 2: Innovation in soil sciences finding

Contaminated sites in Europe (2011 data)

Average patents per year related to reclamation of contaminated soil 2007-2013
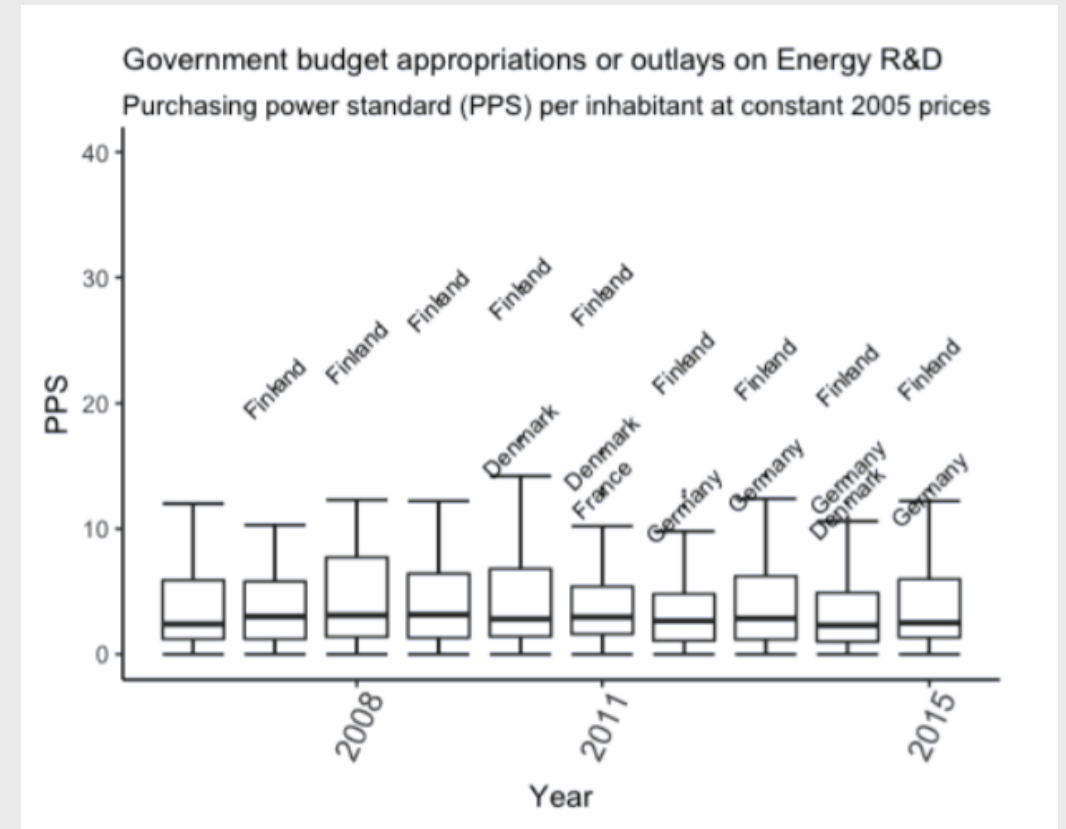


Based on data by European Soil Data Centre

Based on data provided by OECD

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# Example 3: Environmental concern and Energy R&D spending across countries
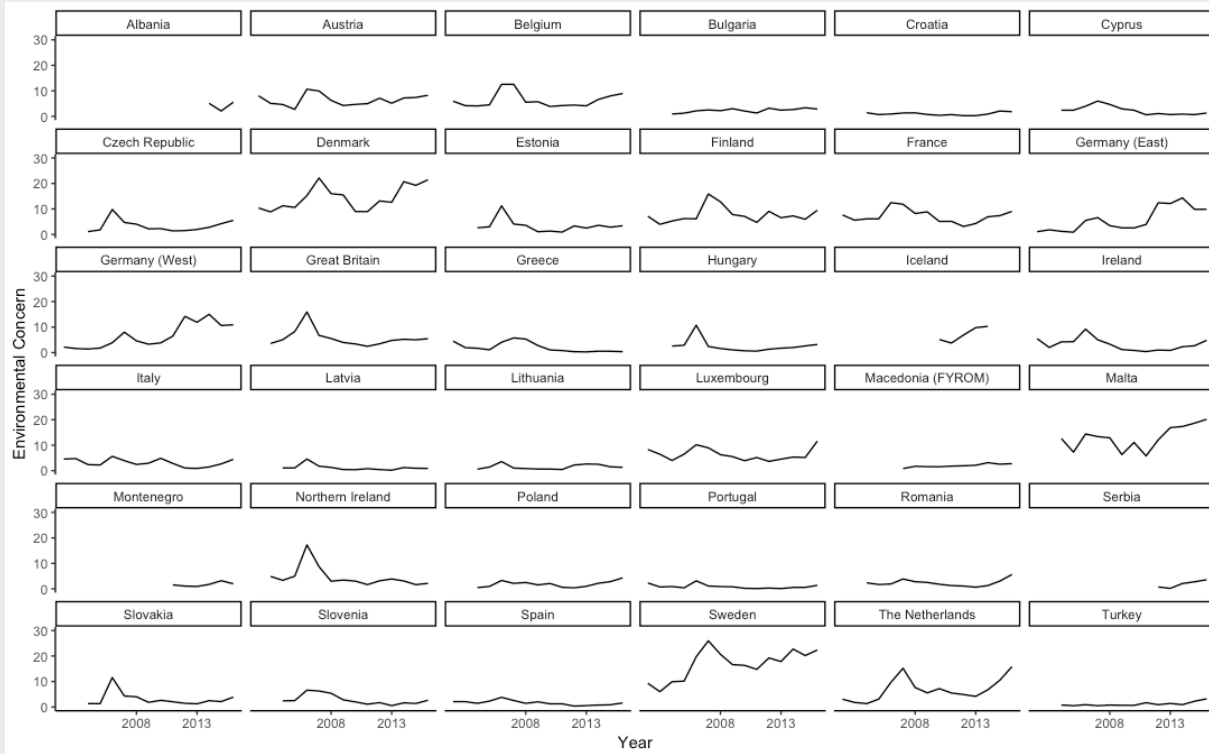


Based on Eurobarometer



Based on Eurostat

Based on Eurobarometer data

# Question to the audience

- What further indicators are most suitable in order to

- measure,

- compare,

- and benchmark

- research-based efforts in the European Research Area (ERA) in the fields of climate change, resource efficiency and raw materials and the interactions between them?

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# Thanks

Thank you very much for your attention!