



# STIPCOMPASS

## A LOOK AT STI POLICIES FOR SUSTAINABILITY

Global Forum of Intellectual Capital: Knowledge, Innovation  
and Sustainability

**ICAA**

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## Agenda

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- Presentation of **STIP Compass**: A tool for collecting and analysing semi-structured data STI Policy
- Using STIP Compass to describe **STI policies for sustainability**



- A **joint initiative** of the EC and the OECD to collect together in one place quantitative and qualitative data on national trends in **STI policy**.
- It is **publicly available** online at [stip.oecd.org](http://stip.oecd.org). Officially **launched on April 2018** in Brussels.
- Its **history can be traced back 20 years** to the start of biennial OECD surveys of countries' STI policies in support of the OECD STI Outlook.
- STIP Compass is a **new generation semantic platform** for storing, accessing and linking country policy data.



# The EC/OECD STIP Survey

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- Conducted **every two years**, it aims to collect data on **national STI policy initiatives**. It is the **main data source** for STIP Compass.
- Country delegates from our **Committee for Science and Technology Policy (CSTP)** are in charge of answering the survey.
- Since 2015, the survey is run jointly with the **European Commission**. As part of this arrangement, the EC agreed to use H2020 funding to invest in a **new infrastructure** for **collecting, storing and accessing** country STI policy information.
- Data collection is firmly **structured** by **taxonomies** to characterise **policy initiatives**, making responses more **comparable** and **facilitating analysis**.



# “Policy initiative” as a unit of analysis

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**Defined** as a public action that:

- i. aims to achieve one or several public **policy goals**
- ii. is expected to **modify or frame the behaviours** of actors and stakeholders
- iii. is **implemented** with a minimum time horizon or on a continuous basis (i.e. not as a one-off “event”).

**Characterised** by taxonomies

- Basic fields for **textual data** (name, short description, objectives, background)
- A **policy instrument** taxonomy built based on Lit. review and OECD workshops
- A taxonomy for **target groups** and list of **budget ranges**
- An **STI thematic taxonomy** that structures the questions of the STIP Survey



# Online survey tool built on taxonomies

National S

 STIP MONITORING AND ANALYSIS

 OECD  
BEYOND POLICIES FOR BETTER LIVES



International survey on science, technology and innovation policies

- Governance
- Public research system
- Innovation in firms and innovative entrepreneurship
- Public-private knowledge transfers and linkages
- Human resources for research and innovation
- Research and innovation for society
- Digitalisation
- ERA-related initiatives

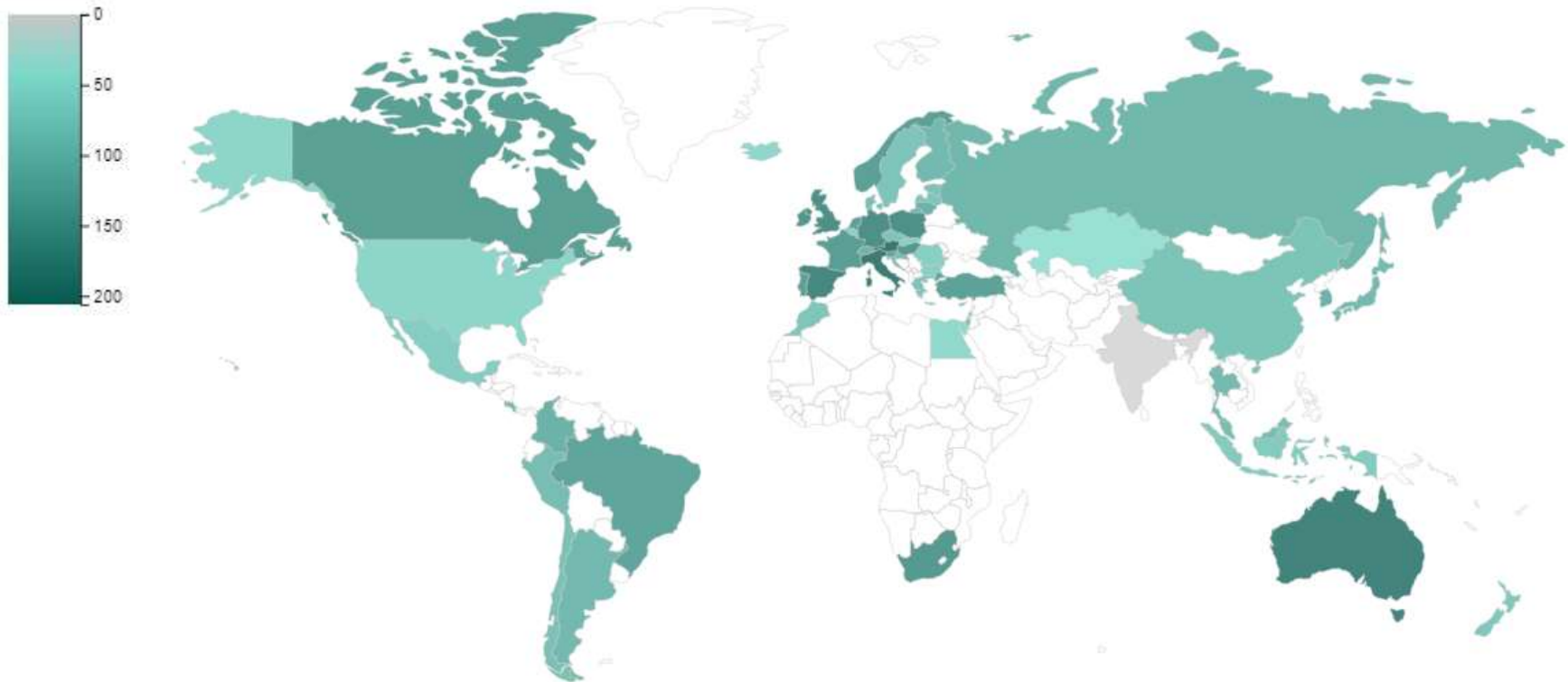
as complete



+6000 policy initiatives  
collected from +50 countries in the 2017 survey

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*Number of initiatives per country*



Taken together, countries covered in the STIP survey/STIP Compass database account for an estimated 97% of global R&D



## Linking open data

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- STIP Compass **semantically links** the country survey data to other open data sources.
- The ultimate goal is to semantically link to hundreds of **indicators** across the whole portal.
- STIP Compass already links to publications from the **OECD**, the **European Commission**, **Science Direct** and the **RePEc** EconPaper series.
- Planned links to RSS feeds (**periodical updates**) from country ministries, agencies and other bodies.

ScienceDirect

OECDiLibrary

*RePEc*



EU Publications

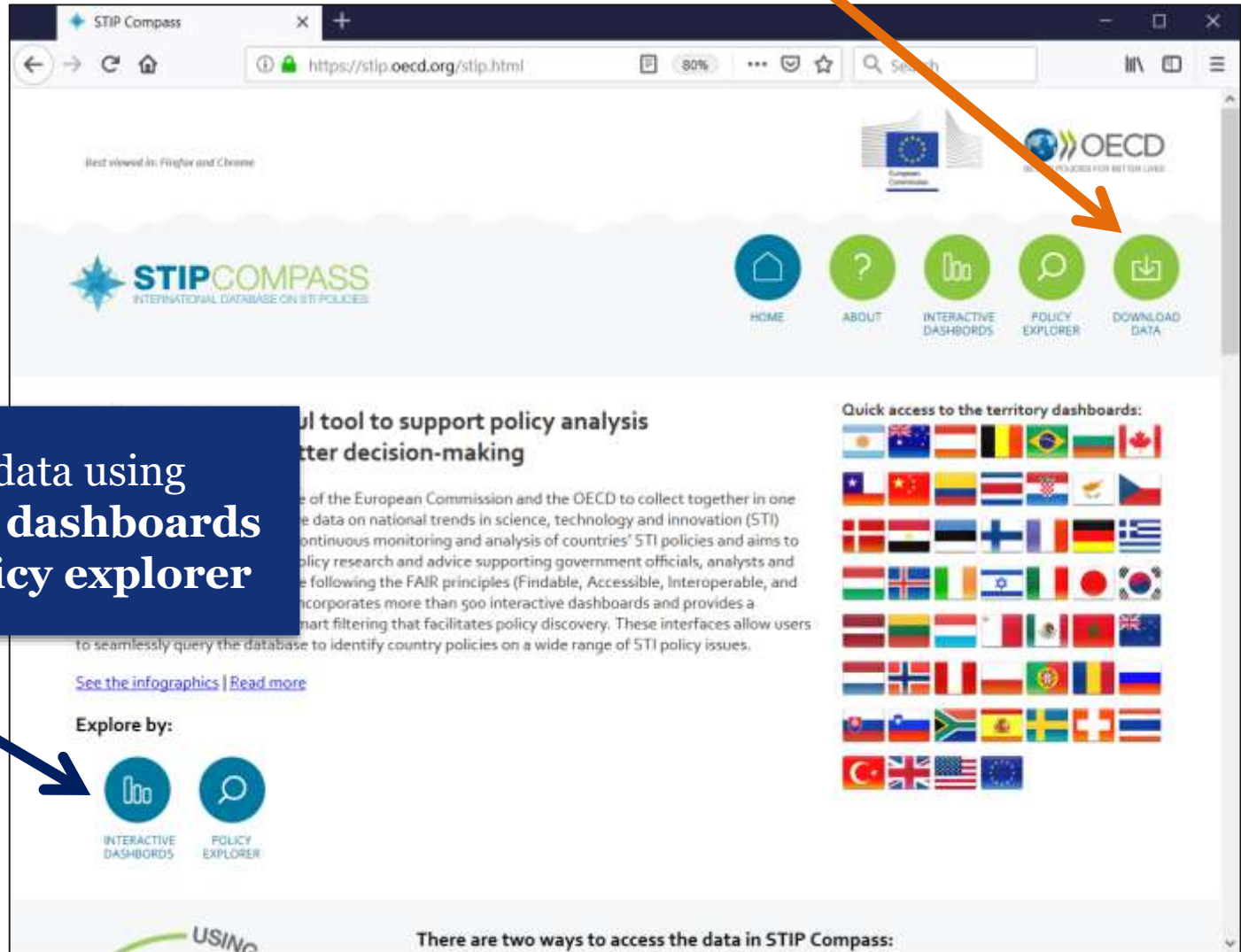




# STIP Compass Portal

[stip.oecd.org](https://stip.oecd.org)

Download tailored exports  
of the database using the  
**query builder**



Explore data using  
**interactive dashboards**  
and the **policy explorer**

There are two ways to access the data in STIP Compass:





# Policy explorer: search and discovery



Powered by **O.N.E** MOBILITY

The screenshot displays the STIPCOMPASS Policy Explorer interface. At the top, a search bar contains the query 'artificial intelligence'. Below the search bar, there are navigation tabs for 'OPTIONS', 'SAVED ITEMS', 'SAVED QUERIES', and 'VIEW MODE'. The main content area shows 8 results for 'artificial intelligence', with a filter for 'STIP country' set to 'China'. The results are displayed in a grid format, with each result card containing a title, a brief description, and a 'Show more details' link. The right sidebar contains 'REFINE AND DISCOVER TOOLS' with sections for 'LIBRARIES', 'STIP COUNTRY', 'DATES', 'TOPICS IDENTIFIED FROM THE RESULT SET', and 'GEOGRAPHICAL AREAS IDENTIFIED FROM THE RESULT SET'. The 'STIP COUNTRY' section is expanded, showing a list of countries with checkboxes, where 'China' and 'Russian Federation' are selected.

artificial intelligence

8 results for artificial intelligence

Options Saved Items Saved Queries View Mode

STIP country: China

**CHINESE ASSOCIATION FOR ARTIFICIAL INTELLIGENCE**

STIP policy initiatives and instruments (2017) | Policy initiative

The association was established to support research on artificial intelligence in China.

[Show more details](#)

**Science, technology and innovation (STI) policy and governance in the Russian Federation now focus on the new Strategy of Scientific Technology ...**

STIP policy initiatives and instruments (2017) | Policy initiative

Science, technology and innovation (STI) policy and governance in the Russian Federation now focus on the new Strategy of Scientific Technology Development of the Russian Federation, adopted by the President of the Russian Federation through Decree ...

[Show more details](#)

**Programme Digital Economy of Russia**

STIP policy initiatives and instruments (2017) | Policy initiative

Supporting digitalisation of the Russian economy

[Show more details](#)

**NATIONAL TECHNOLOGY INITIATIVE - NTI**

STIP policy initiatives and instruments (2017) | Policy initiative

Programme for creation of fundamentally new markets and the creation of conditions for global technological leadership of Russia by 2035

[Show more details](#)

**INTERNET PLUS**

STIP policy initiatives and instruments (2017) | Policy initiative

The action plan aims to increase competitiveness of Chinese firms through application of digital technologies.

[Show more details](#)

**Digitalisation has been a key factor in the Chinese economy's growth, hence the need to increase access to Internet connections, cultivate ...**

STIP policy initiatives and instruments (2017) | Policy initiative

Digitalisation has been a key factor in the Chinese economy's growth, hence the need to increase access to

[Show more details](#)

**NATIONAL ENGINEERING LABORATORY**

**REFINE AND DISCOVER TOOLS**

REFINE DISCOVERY

**LIBRARIES**

STIP policy initiatives and instruments (2017) | Policy initiative

**STIP COUNTRY**

Austria (1)

Brazil (1)

Brussels Capital (1)

Canada (1)

China (1)

Colombia (1)

Finland (1)

France (1)

Germany (1)

Italy (1)

Luxembourg (1)

Malta (1)

Morocco (1)

Netherlands (1)

Norway (1)

Poland (1)

Portugal (1)

Republic of Korea (1)

Russian Federation (1)

Slovak Republic (1)

Slovenia (1)

Thailand (1)

United Kingdom (1)

United States (1)

**DATES**

**TOPICS IDENTIFIED FROM THE RESULT SET**

**GEOGRAPHICAL AREAS IDENTIFIED FROM THE RESULT SET**



# Query builder: Download data

**STIP COMPASS**  
INTERNATIONAL DATABASE ON STI POLICIES

**Output format for the data**

XML  CSV  
Due to UTF-8 encoding and line-breaks in data, import into SageDoc rather than into Excel!

**Territories**

Filter by territory...

**Yearly budget ranges**

Less than 1M More than 500M

Without budget range  Not applicable  Don't know

**Policy instruments**

Filter by policy instrument...

**Themes**

Filter by theme...

**Target groups**

Filter by target group...

**Filter by initiative start year**

Include initiatives starting between

2000 2020

**Filter by initiative end year**

Include initiatives ending between

2000 2020

**5265 policy initiatives**

Access the data at: [OECD \(2018\), STIP Compass: International Database on Science, Technology and Innovation Policy \(STIP\), edition 18 January 2018. <https://data.oecd.org/stip/>](https://data.oecd.org/stip/)


**DOWNLOAD**

or easy URL to dataset



# STIP Compass database: Main use-cases

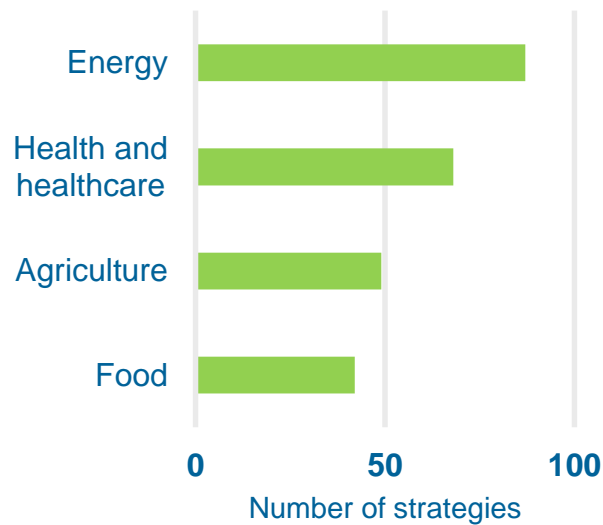
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1. As a basis of the **OECD STI Outlook** biennial publication.
2. As a **first source of evidence for OECD projects** led by the Committee for Science and Technology Policy and its Working Parties.
-  3. Provide policy analysts and academics a **quick and up-to-date understanding** of a given country's STI policies and national context.
4. As a means for policy-makers to **compare how countries design policies and deploy policy instruments** for STI in various contexts.
5. As a means to **support policy assessments** conducted by evaluators.
6. As a resource for academics and other policy analysts to **tackle research questions** in the field of STI policy.

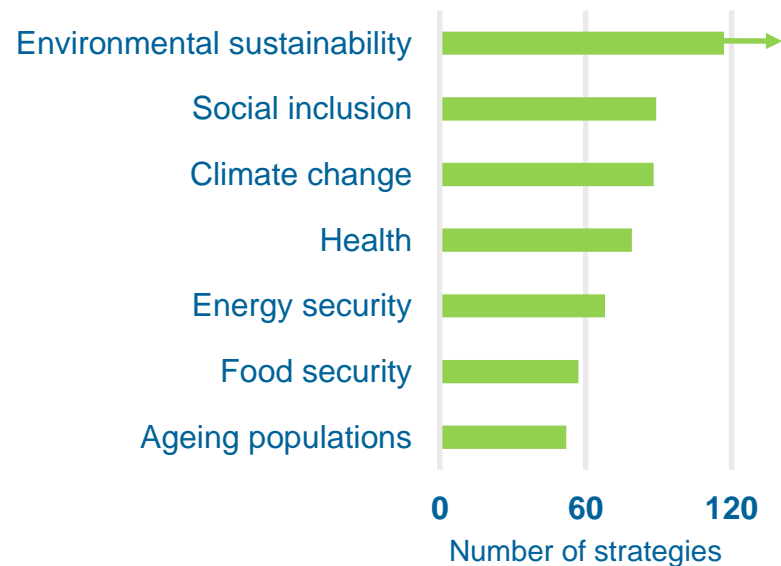


# In STIP Compass: 289 national strategies emphasising societal challenges (46 countries + the EU)

## ➤ Business sectors targeted:



## ➤ Societal challenge emphasised:



**48%** of strategies addressing environmental sustainability include a **foresight exercise**

**Only 16** determine budget allocations

- 57% of these strategies focus on specific business sectors.
- Environmental sustainability (40%), social inclusion (30%) and climate change (30%) are most frequently emphasised by strategies.
- To what extent do they frame mission-oriented programmes is unclear.



# Examples of national strategies

	<b>Name:</b>	<b>Timeline:</b>	
<b>Portugal</b>	Climate change adaptation strategy	2015-2020	<b>Focus:</b> Transition to renewable energy sources, fostering green growth and developing the circular economy.
<b>Spain</b>	Impulse Environment Plan	2014-2020	
<b>France</b>	Energy research strategy	2016-2021	
<b>Lithuania</b>	Renewable energy action plan	<b>2020-2022</b>	
<b>Finland</b>	Agenda for Sustainable Development	<b>2017-2030</b>	



# What types of support for sustainable development via STI? 1/2

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Countries support **public research**, particularly **environmental research** and to **develop sustainable technologies**, in the form of:

- **Project grants** (56 instruments reported in the database)
  - 90% are awarded for +2 years
  - 57% support basic research, the remaining 43% fund applied research or experimental development
- **Institutional ‘block’ funding** (18 instruments in the database)
  - 50% attached to a performance contract
- **Centres of excellence grants** (13 instruments in the database)
  - Mainly for cleantech and renewable energy research





## What types of support for sustainable development via STI? 2/2

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Reported policies not only target **higher education** and **public research institutes**, but also **the private sector**:

- 63 grants for **business R&D and innovation** support the adoption and development of sustainable technologies in firms.
  - 80% require matching funds, inciting beneficiaries to co-invest

Support for **technology transfer**:

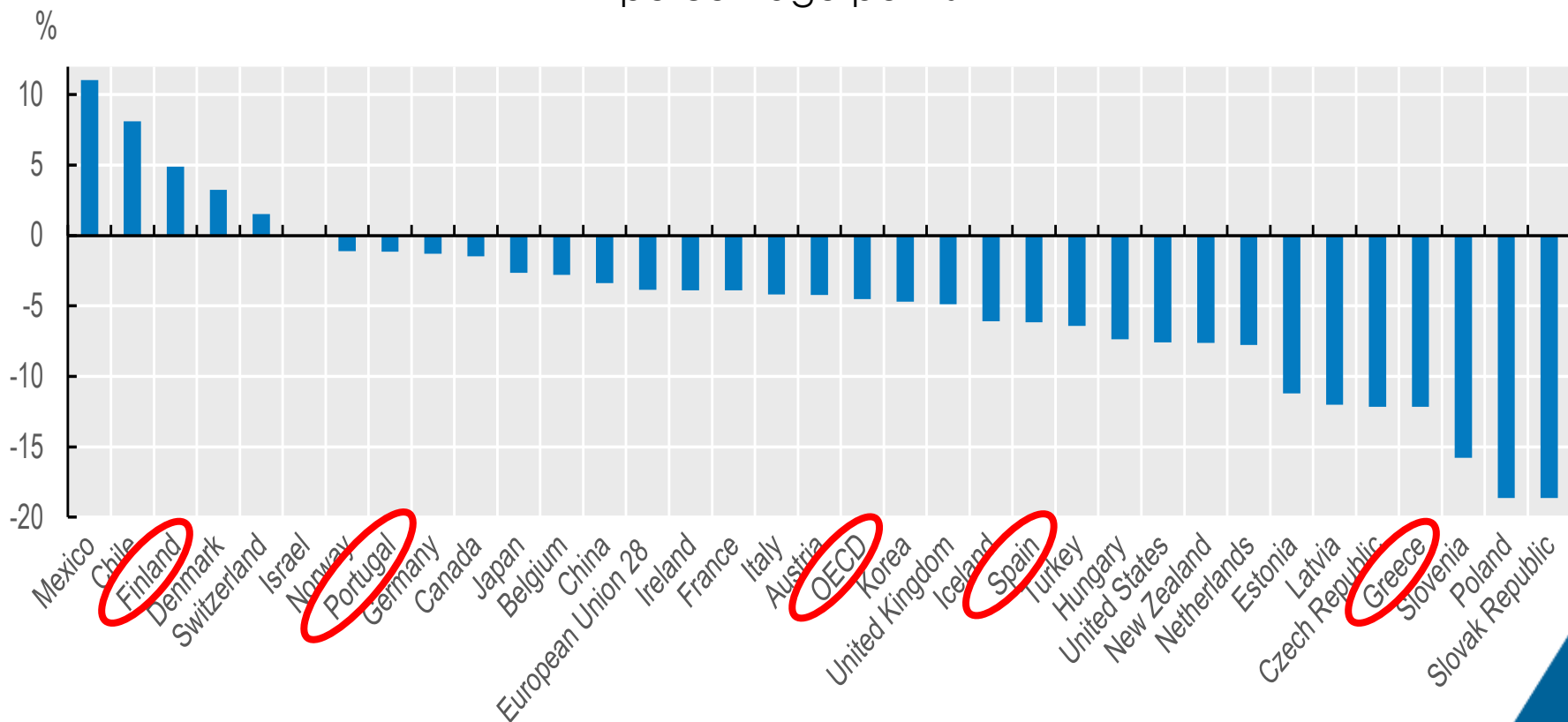
- 27% of grants (public or private) reported in the database **require science-industry collaboration**
- 18 **networking and collaborative platforms**, aiming to coordinate R&D developments or even demonstrate technological developments



# Quantitative data indicates decreasing shares of national R&D expenditures (direct funding)

## Change in the share of government in the direct funding of gross domestic expenditure on R&D, 2009-16

In percentage points

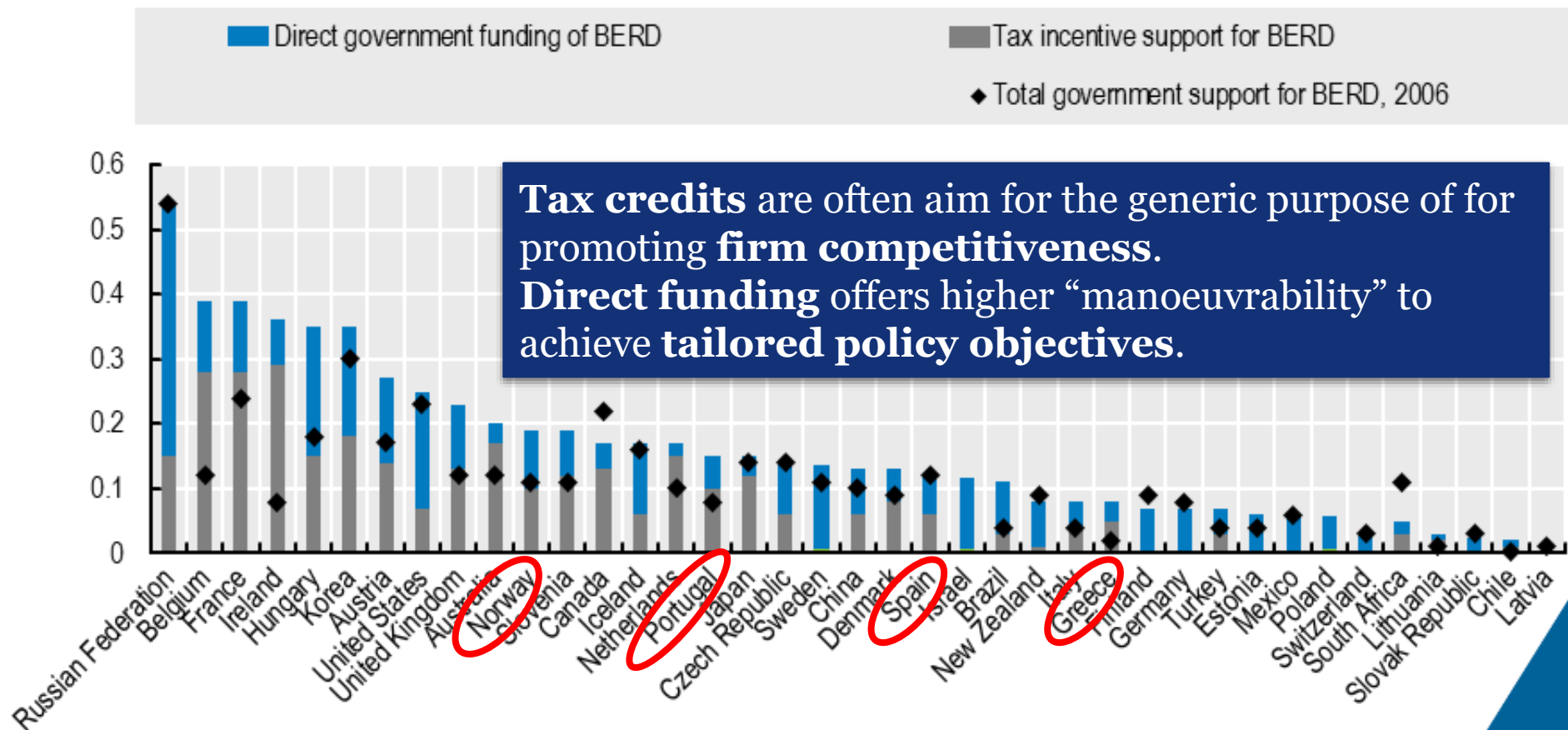




This decline has been offset with the growth of tax credits (indirect funding)

## Direct government funding and tax support for business R&D, 2015 and 2006

As a percentage of GDP





## Main takeaways

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- Countries emphasise **sustainability** and other societal challenges as **strategic issues** to their development agenda.
- **National strategies** are used to frame governance arrangements and **coordinate public efforts** to address these challenges.
- Governments deploy **a mix of public support** for environmental research, the development and adoption of sustainable technologies (including technology transfer).
- The STI funding mix suggests budget allocations could be **additionally aligned with sustainability** as a policy objective.



Thank you for your attention!

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