



Showcasing the importance of timely RD&D data for energy innovation

Online workshop – 30th June 2025

- The workshop will be recorded and shared with invitees and participants after this session
- There will be dedicated times for questions and discussion but feel free to use the Q&A chat during the workshop
- The presentations will be shared after the session through a webpage



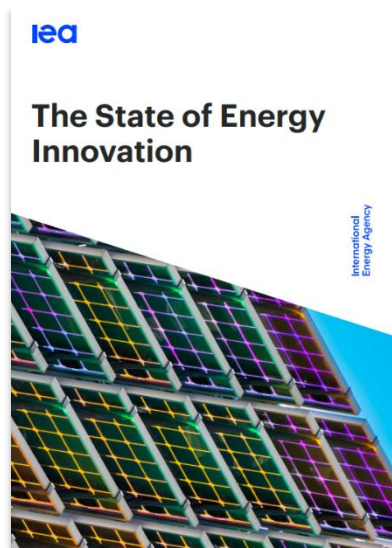
How RD&D data fit into the IEA technology work

Dr Timur Gül – Chief Energy Technology Officer

30th June 2025

A platform for influencing public and private decision-making

New report to communicate progress and highlight gaps



First edition: April 2025
Next edition in early 2026

High-level events to engage ministers and stakeholders



First edition: February 2024
Next edition: October 2025

Reinforcing messages via international initiatives



Mission Innovation MI-10

Technology Collaboration Programme
by IEA



BREAKTHROUGH
AGENDA

The State of Energy Innovation presents multiple data sources



- For the first time, the State of Energy Innovation brings together in one place a variety of indicators and elements that the IEA has developed over many years. It is a resource for decision-makers that has not previously existed.
- For half of the input categories, the quality is reliant on government input.

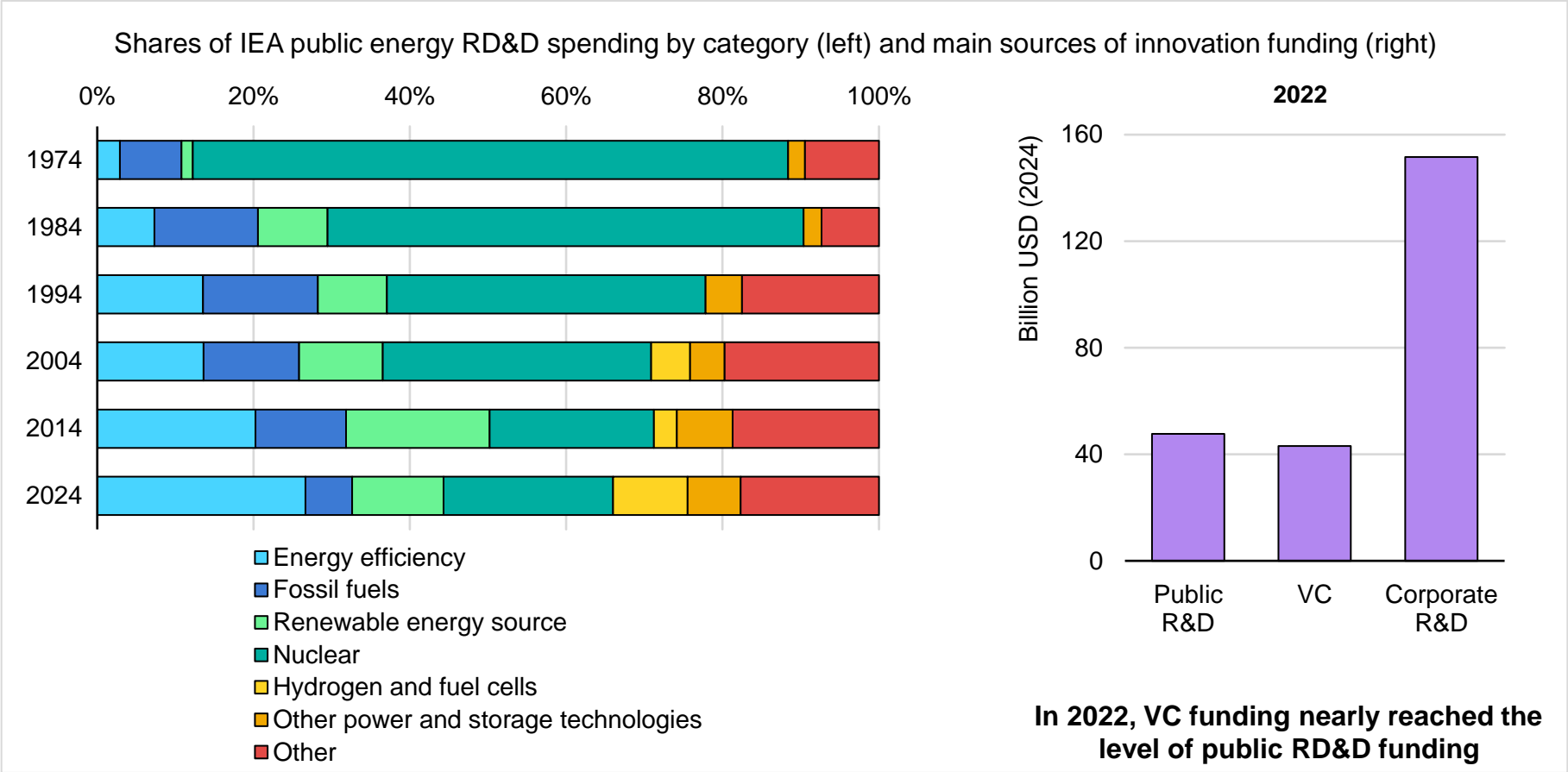
Reliant on government input		IEA analysis and partners	
Public RD&D spending	Policy updates	Corporate R&D	Venture capital
Demo projects	Innovation highlights/Races	TRL levels	Patents

- We influence decisions by attracting attention to our messaging, which relies on timely data.
- For an annual publication in Q1, we can have data for the previous year for venture capital, policies, projects and TRLs
- We wish to explore what is possible for public RD&D funding estimates

Why we value shared public energy RD&D data so highly

1. Government spending shapes the direction of energy innovation – it is an early indicator of priorities and trends
2. It follows a consistent technology classification and definitions, endorsed by our members
3. International comparisons grab the attention of senior government officials
4. The time series of data that we have collectively developed is long (goes back to the 1970s!) and unique
5. The underlying data are not publicly available from any other source
6. For several countries, very up-to-date information is available (thank you!)

Quality data enables analysis over time or with other funding sources





Assessment of the timeliness of RD&D budgets data

Suzy Leprince – Energy Data Manager – Energy Data Centre

30th June 2025

Every year, the IEA sends a **data request** to member countries on energy technology RD&D budgets data as part of the **membership requirements**

- **December** – Questionnaire send-out to countries with request for Y-5 to Y
Ex: This cycle, 2020-2023 and 2024-2025 as provisional were requested
- **February** – Official deadline for data submission
In practice, countries submit questionnaires from **December to September**
- **May** – First data release with data submitted by April
- **June** – Publication of the global public RD&D budgets including submission and estimates
- **October** – Final data release with data submitted by September

- The IEA requests the data submitted to be disaggregated by:
 - the stage of the innovation cycle (**R&D** vs **demonstration**)
 - the type of funding institution (**government** vs **state-owned enterprises**)
 - the type of technology
 - Currently, energy technologies are categorized into **energy efficiency, fossil fuels, renewable energy, nuclear, hydrogen, power and storage technologies, and cross-cutting** and further into 4 levels of disaggregation (Revisions process ongoing)
 - the budget year (**last 6 years, including current**)
- The data can be submitted through:
 - an Excel questionnaire
 - the E-VO platform

Excel questionnaire

Funder: Government (excluding state-owned enterprises) Millions, national currency		Data: R&D budget (excluding demonstration) Stateland				check data	number of decimals
Table 1		2020	2021	2022	2023	2024Est	2025Est
After checking data, orange cells denote that the sub-total does not equal the sum of the elements.							
BUDGETARY STAGE (see Section IV.2 of manual on reporting issues)							
FISCAL YEAR STARTING							
1 ENERGY EFFICIENCY (sum of rows 11 to 19)		85.000	122.458	24.969	106.103	77.736	-
11 Industry		27.377	34.140	5.617	24.682	21.289	-
111 Industrial techniques and processes		15.250	27.164	3.576	2.914	3.658	-
112 Industrial equipment and systems		10.534	6.976	1.779	2.525	5.242	-
113 Other industry		-	-	0.262	-	-	-
119 Unallocated industry		1.594	-	-	19.243	12.389	-
12 Residential and commercial buildings, appliances and equipment		9.564	22.970	4.131	9.979	13.955	-
121 Building design and envelope		1.821	11.932	1.629	4.509	6.364	-
1211 Building envelope technologies		0.775	6.295	0.596	2.343	4.334	-
1212 Building design		0.355	3.809	0.008	-	-	-
1219 Unallocated building design and envelope		0.692	1.828	1.025	2.166	2.030	-
122 Building operations and efficient building equipment		6.748	10.376	1.892	1.217	3.028	-
1221 Building energy management systems (incl. smart meters) and efficient internet and communication technologies		2.342	1.903	1.230	0.630	0.717	-
1222 Lighting technologies and control systems		-	-	-	-	-	-
1223 Heating, cooling and ventilation technologies		0.533	7.696	0.662	0.386	-	-
1224 Other building operations and efficient building equipment		0.913	0.023	-	0.200	2.096	-
1229 Unallocated building operations and efficient building equipment		2.959	0.755	-	-	0.215	-
123 Appliances and other residential/commercial		0.217	0.017	0.284	-	0.180	-
1231 Appliances		0.217	0.017	0.284	-	-	-
1232 Batteries for portable devices		-	-	-	-	-	-
1233 Other residential/commercial		-	-	-	-	-	-
1239 Unallocated appliances and other residential/commercial		-	-	-	-	0.180	-
129 Unallocated residential and commercial buildings, appliances and equipment		0.778	0.644	0.326	4.253	4.383	-
43 Transport		17.067	40.747	10.455	55.167	27.877	-

RDD: Report

New Zealand

GOVT R&D

2024

Go!

Back

GOVT R&D

	2019	2020	2021	2022	2023	2024	
GROUP 1: ENERGY EFFICIENCY	0.0	2.425	1.891	6.149	0.754	0	Chart
11 Industry	0.0	0.167	0.042	0.706	0	0	Chart
111 Industrial techniques and processes	0.0	0	0	0	0	0	Chart
112 Industrial equipment and systems	0.0	0	0	0	0	0	Chart
113 Other industry	0.0	0	0	0	0	0	Chart
119 Unallocated industry	0.0	0.167	0.042	0.706	0	0	Chart
12 Res. and comm. buildings, appliances and equipment	0.0	1.9	1.412	1.262	0.724	0	Chart
121 Building design and envelope	0.0	0	0	0.13	0	0	Chart
1211 Building envelope technologies	0.0	0	0	0	0	0	Chart

Not all countries submit all the years in the questionnaire

Out of the 32 member countries:

3 countries have **not submitted any data** in recent years

1 country in the process of setting the data collection

1 country submits up to **Y-3** (*ex: 2022 in the current cycle*)

4 countries submit up to **Y-2** (*ex: 2023 in the current cycle*)

14 countries submit up to **Y-1** (*ex: 2024 in the current cycle*)

9 countries submit up to **Y** (*ex: 2025 in the current cycle*)

Data also submitted by the European Union and Brazil

By the beginning of 2026, 2025 data would only be available for 9 countries

Proposal: a way for us to collaborate on more timely estimates

- By **providing provisional data** for the last two years in the questionnaire
- Then revising the provisional data in the following cycles
- The data would not need to have the same level of disaggregation as other years
- Even a **total for energy** would be very useful
- The provisional data **could be confidential** and only used in aggregates if countries prefer

- Take all opportunities **to promote the importance of this data** within governments. The IEA is available to give presentations of its work and The State of Energy Innovation.
- In the **short term**, request for countries to send provisional 2025 data even if they have already submitted data for this cycle. An estimate of the total energy RD&D would be enough.
- In the **coming years**, request for countries to fill all the years in the questionnaire for future submissions, with at the minimum the total energy RD&D.
- Discuss how to capture **all types of energy innovation funding**, including those either not covered by the IEA data request (e.g. R&D loans, equity finds), or currently not submitted by countries (e.g. grants programmes in from other department or ministries)