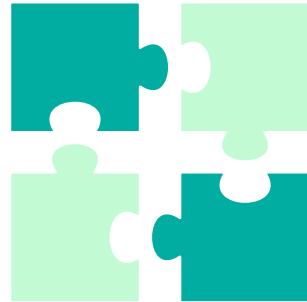




Strengthening data collection with automation

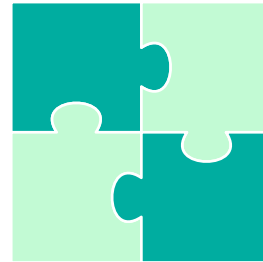
Lia Codrington

September 17, 2026



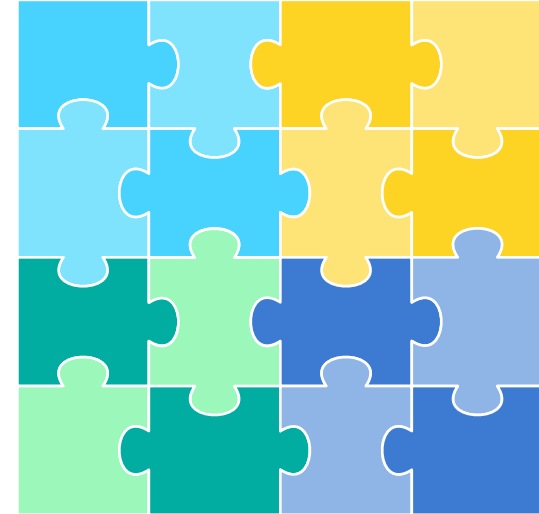
Subnational prices

Collecting data from different sources within the country



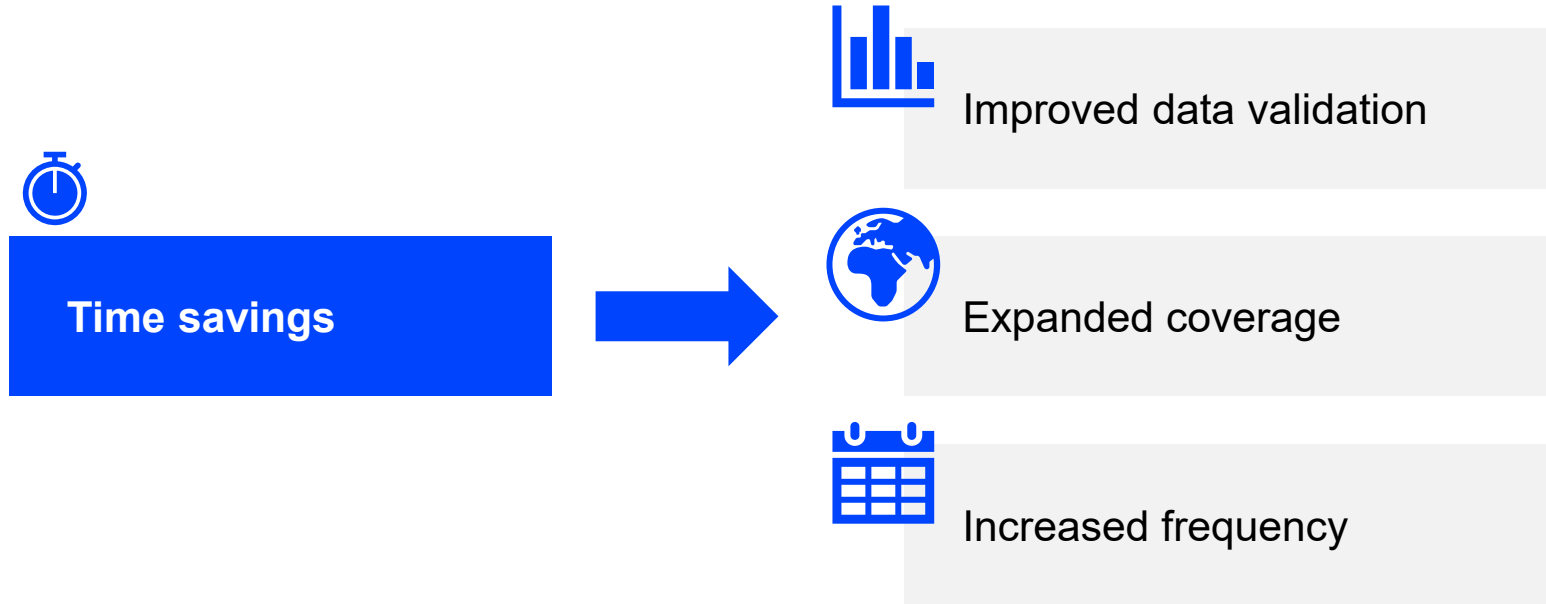
National prices

Fitting the data together into the questionnaire



Global prices

Assembling national questionnaires into a global database, filling any gaps to complete the picture.



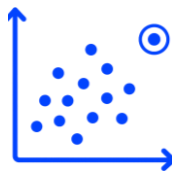
Improving data validation
Streamlining data collection
Unlocking new sources

Questionnaire data are validated through a series of checks before being loaded into the database.



Consistency

Checks that all price components add up to the totals.



Outliers

Flags values that fall outside three standard deviations of the average.



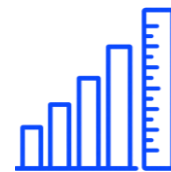
Aggregation

Checks if the annual value is between the maximum and minimum quarterly values for that year.



Update

Checks for revisions and deleted data points compared to previous questionnaires.

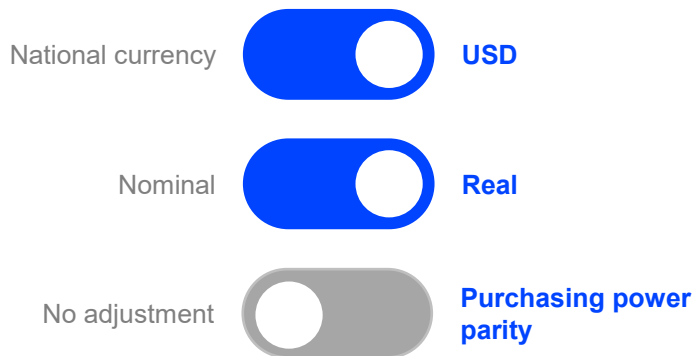


Magnitude

Checks if the value falls within a defined range, which is specific to each currency and product.

Improving data validation
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Conversion options



Data are received in nominal national currency, but they are disseminated in other formats to enable comparisons across time and between countries.

To do so, we need up-to-date economic indicators from a variety of sources.



CPI
PPI
MER

IEA economic indicator data table

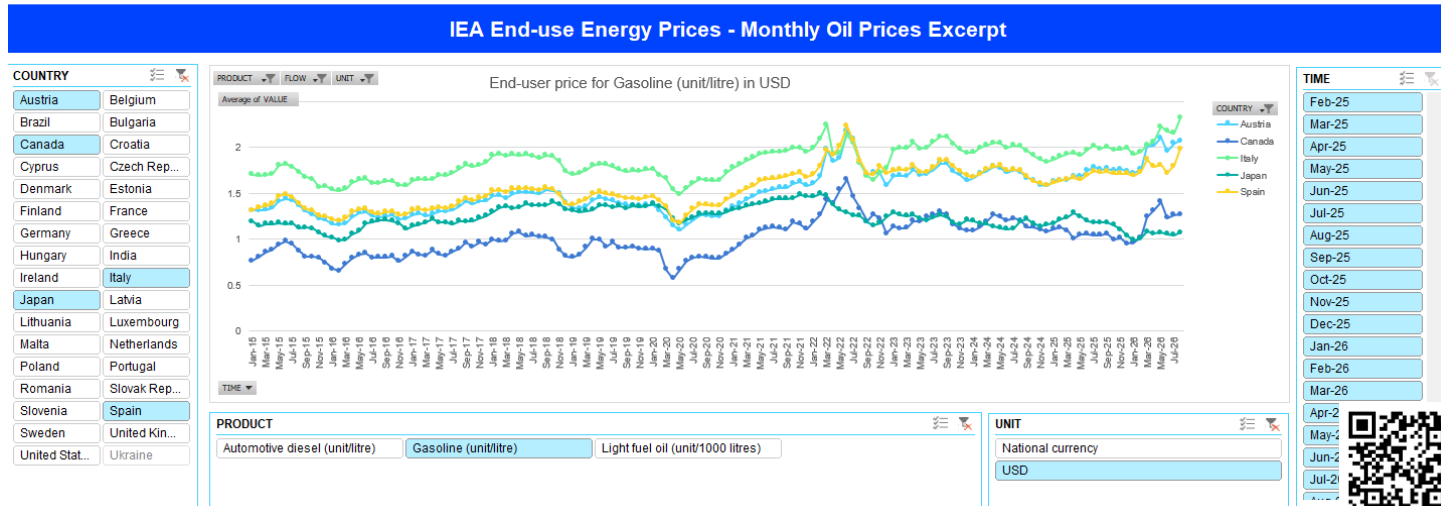
Results		Messages
	INDICATOR	
1	GDP at constant price levels using power purchase p...	
2	GDP at current price levels in national currency	
3	INDUSTRIAL PRODUCTION INDEX, 2020 BASE MEI	
4	GDP deflator	
5	MER	
6	CONSUMER PRICE INDEX, 2020 BASE MEI	
7	GDP at constant price levels and market exchange ra...	
8	POPULATION (MILLIONS)	
9	PPP FOR GDP, NAT. CURR. PER USD NA	
10	CPIE	
11	PRODUCER PRICE INDEX, 2020 BASE MEI	

Improving data validation
Streamlining data collection
Unlocking new sources

Unlocking new sources through automatic extraction

For select transportation fuels and countries, we extract weekly and monthly prices to get a snapshot of global energy price trends. The data are available for free in an excel file on the [IEA website](https://www.iea.org/data).

This is only possible with the help of scrapers that automate the process.



Strengths

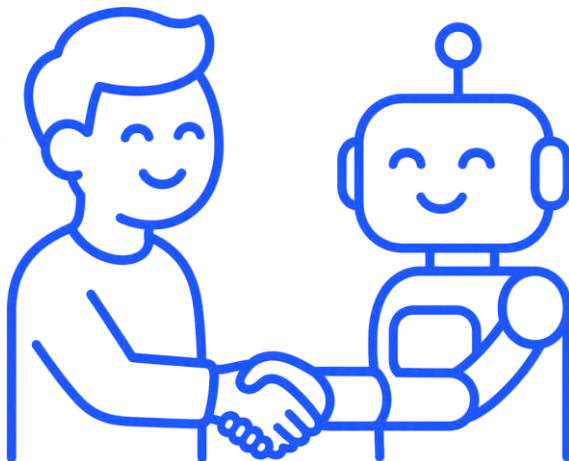
- Reduces desk research time
- Enables higher data frequency
- Increases global coverage beyond member countries
- Responds quickly to current data needs

Drawbacks

- Takes time to build each scraper (AI makes this easier!)
- Each scraper is custom designed for available data sources
- Scrapers require maintenance with each website update



The IEA can do more with your data thanks to automatized processes.



These are just examples of how automation has helped us. Please reach out if you have ideas for how automation might support national data compilation.

Automation is not a replacement for human expertise.