

BMBF CONFERENCE



KEY IMPACT PATHWAYS IN HORIZON EUROPE

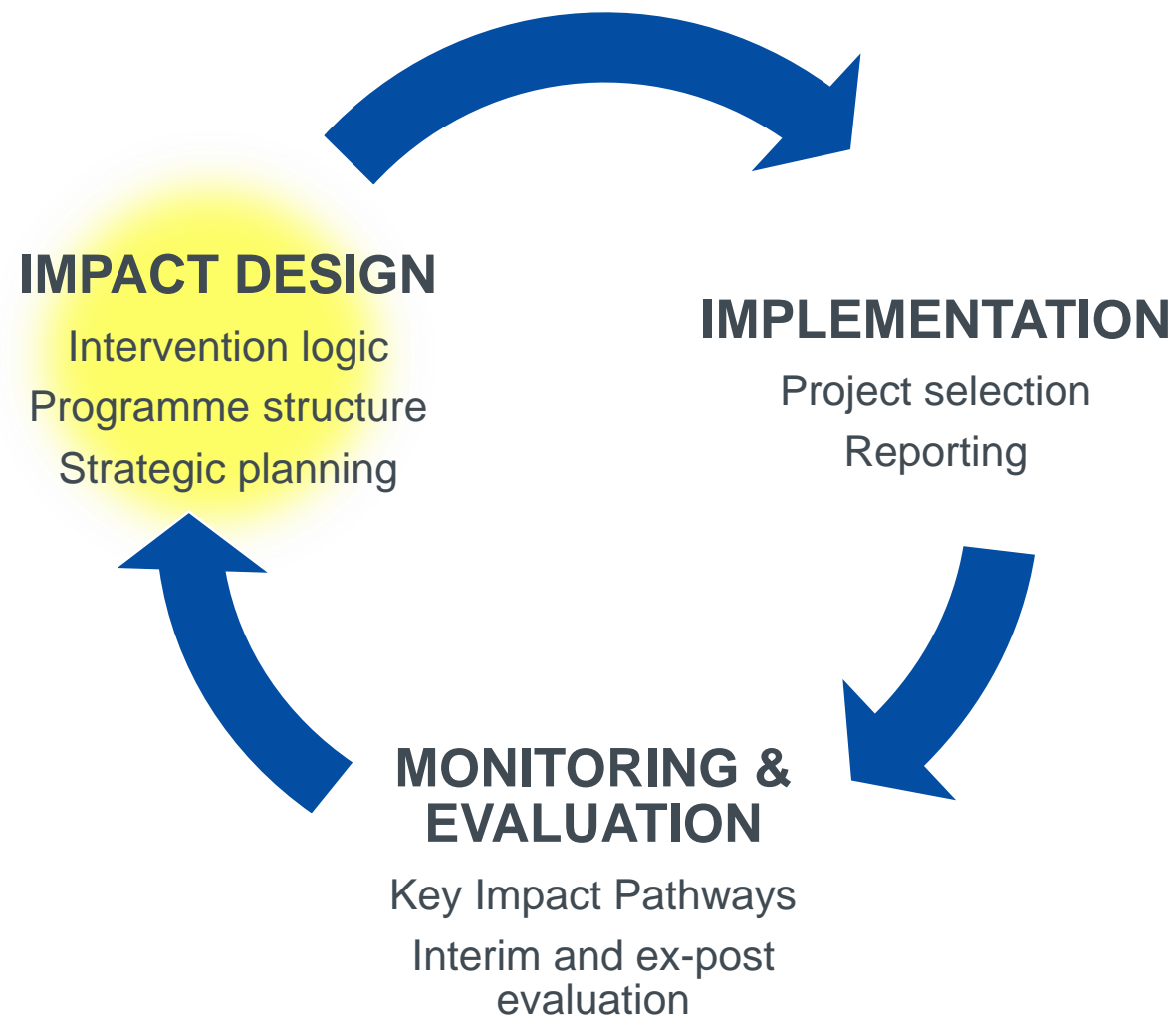
Šimon Trlifaj

Directorate-General for Research and Innovation, unit G2
European Commission, May 2021



HORIZON EUROPE CYCLE

Impact-driven Framework Programme



IMPACT DESIGN: PROGRAMME

Horizon Europe objectives



Scientific impact

Promote scientific excellence, support the creation and diffusion of high-quality new fundamental and applied knowledge, skills, training and mobility of researchers, attract talent at all levels, and contribute to full engagement of Union's talent pool in actions supported under the Programme



Societal impact

Generate knowledge, strengthen the impact of R&I in developing, supporting and implementing Union policies, and support the uptake of innovative solutions in industry, notably in SMEs, and society to address global challenges, inter alia the SDGs



Economic impact

Foster all forms of innovation, facilitate technological development, demonstration and knowledge transfer, and strengthen deployment of innovative solutions

IMPACT DESIGN: PROGRAMME

Linked to programme evaluation

Economic pathway 7: Generating innovation-based growth



STORY LINE: Horizon Europe generates innovation-based growth, shown by its micro-economic effect on supported companies and its macro-economic effect on EU's economy.

Societal pathway 4: Addressing EU policy priorities and global challenges



STORY LINE: Horizon Europe addresses EU policy priorities and global challenges through R&I, including the Sustainable-Development Goals.

IMPACT DESIGN: PROJECTS

Linked to project selection

Strategic planning

LEGAL BASE

Objectives & KIPs

Result

Outcome

Impact

STRATEGIC PLAN

Policy priorities & R&I
strategic orientation

-

-

Seamless, smart, inclusive
and sustainable mobility
services through new
digital technologies

WORK PROGRAMME

Destinations & Topics

-

Innovative logistics
solutions applied by the
European air transport
sector

Seamless, smart, inclusive
and sustainable air
services

PROJECT

Project results & objectives

Successful large-scale
demonstration trial with 3
airports of an advanced
forecasting system for
proactive airport passenger
flow management

At least 9 European
airports adopt the
advanced forecasting
system that was
demonstrated during the
project

15% increase of maximum
passenger capacity in
European airports



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Credibility of the project's pathway to impact, and the estimated contribution to the work programme's objectives.

Impact project evaluation criteria

Horizon Europe top-down programme calls shortened

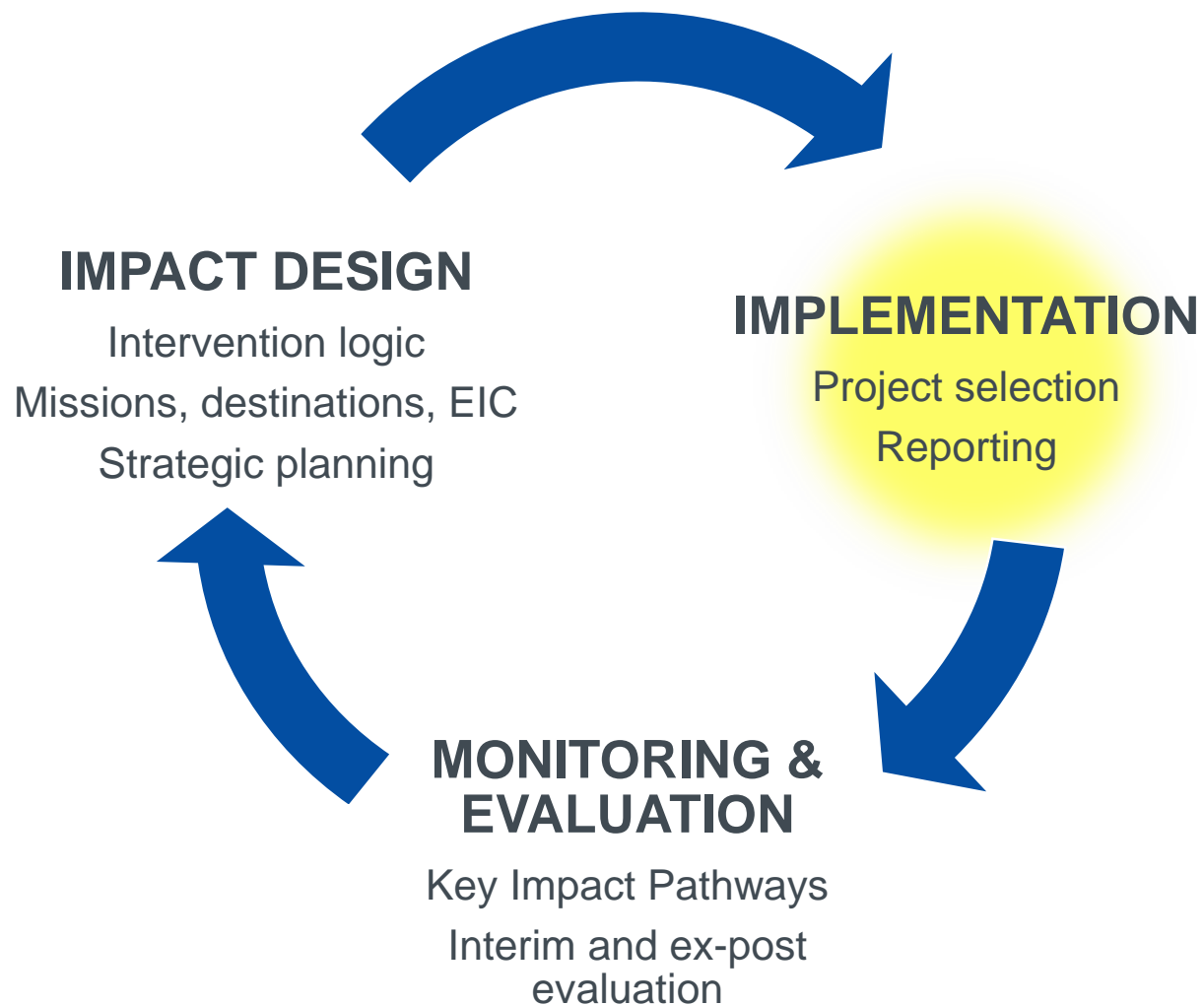
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HORIZON EUROPE CYCLE

Impact-driven Framework Programme



PROJECT REPORTING

Proximity: capturing unique identifiers

VAT, ORCID ID, patent application numbers, e.g.

Attribution: establishing causal impacts with traditional and new methods;

sustainable development goals, discontinuity design, e.g.

Traceability: tracing through external databases & limiting additional reporting

ORBIS, Dealroom, Scopus, OpenAIRE, e.g.

Holism: understanding the whole programme

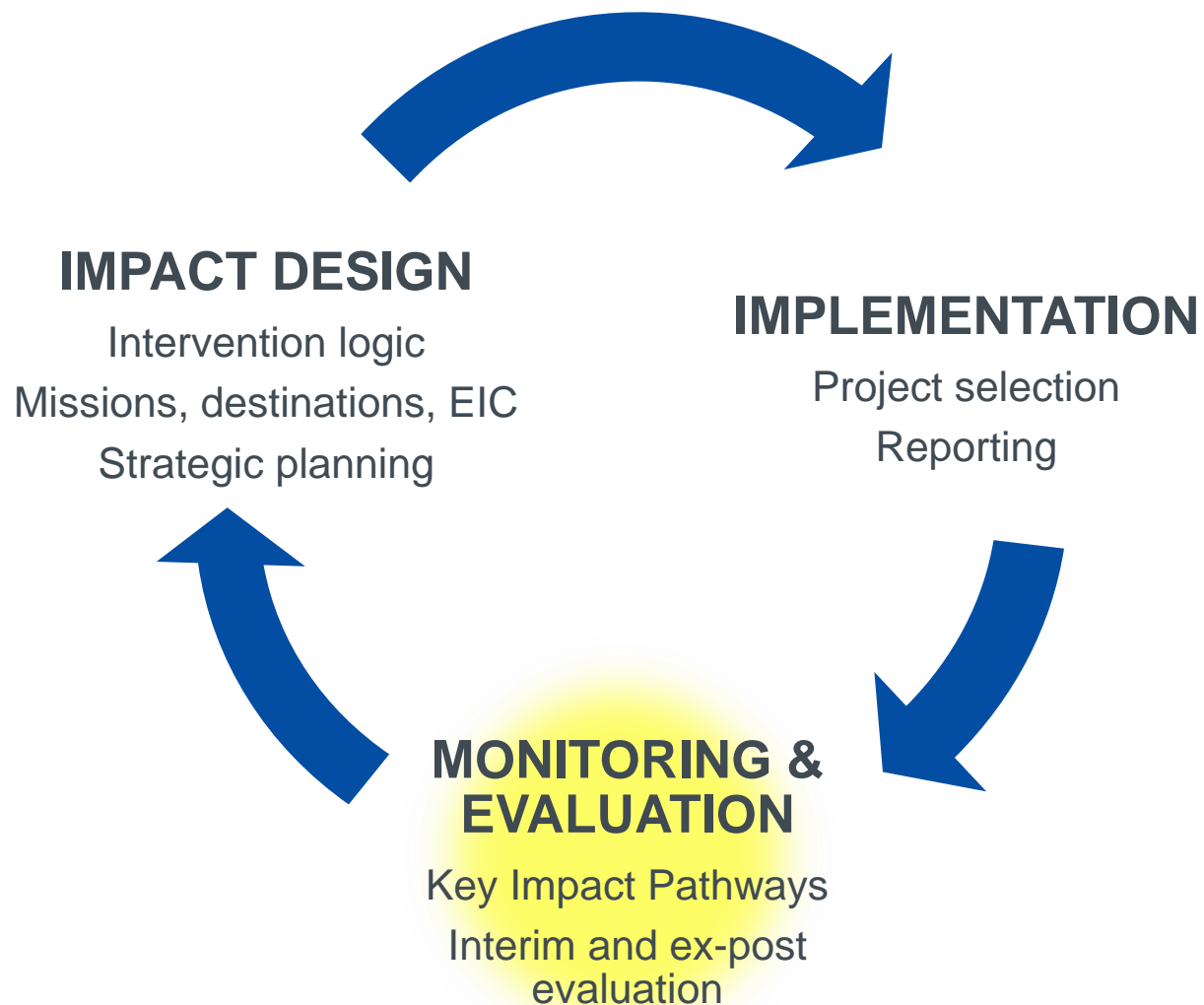
centralised – decentralised, bottom-up – top-down;

Stability: increasing data quality using current IT tools

continuous data cleaning, using existing data sources

HORIZON EUROPE CYCLE

Impact-driven Framework Programme



MONITORING: ECONOMIC IMPACT

Pathway 7: Generating innovation-based growth



STORY LINE: Horizon Europe generates innovation-based growth, shown by its micro-economic effect on supported companies and the macro-economic effect on EU's economy.

Indicators (short, medium, long-term)

Typically
As of YEAR 1+

Number of innovative products, processes or methods

Typically
As of YEAR 3+

Awarded IPRs, family size, citations, and other indicators

Typically
As of YEAR 5+

Growth of funded companies thanks to funding;
Macroeconomic modelling of the impact of the programme

Self-reported: innovative results, methods, processes; IPRs; company identifiers (including unsuccessful applicants), input for macro-economic models.

External: patent performance, company performance, macro-economic modelling, counter-factual analysis.

MONITORING: SOCIETAL IMPACT

Pathway 4: Addressing EU policy priorities and global challenges



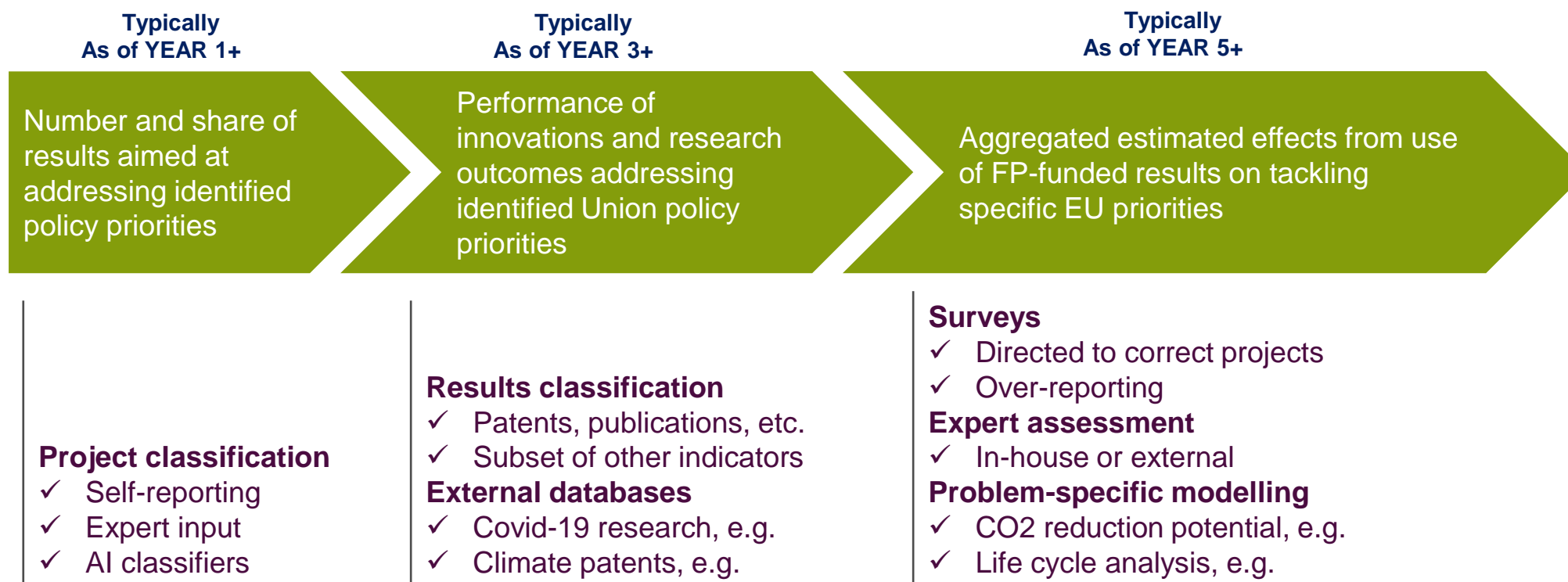
STORY LINE: Horizon Europe addresses EU policy priorities and global challenges through R&I, including the Sustainable-Development Goals.

MONITORING: SOCIETAL IMPACT

Pathway 4: Addressing EU policy priorities and global challenges

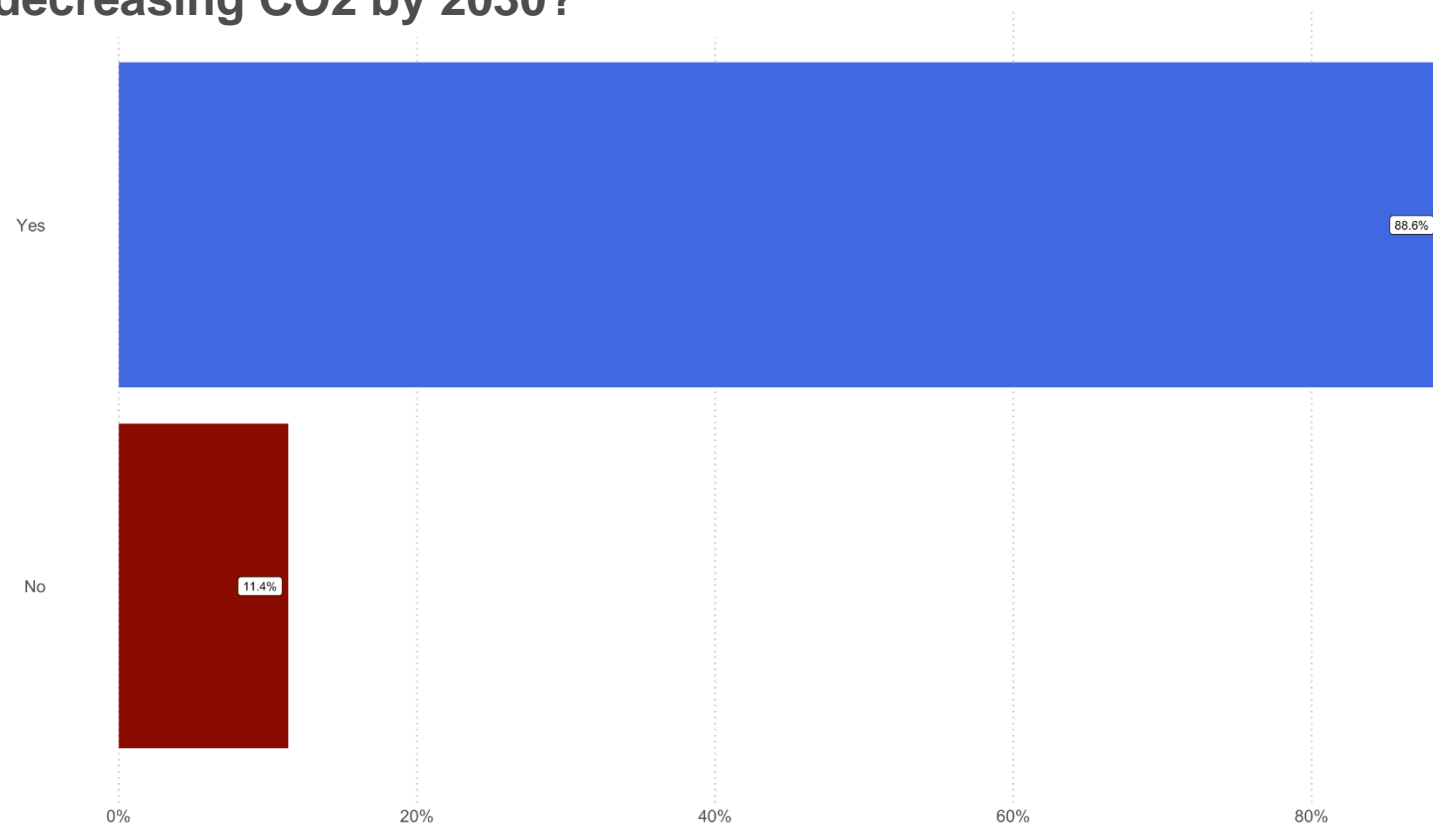


Indicators (short, medium, long-term)



SOCIETAL IMPACT: CLIMATE PILOT

Does your project contribute to decreasing CO2 by 2030?

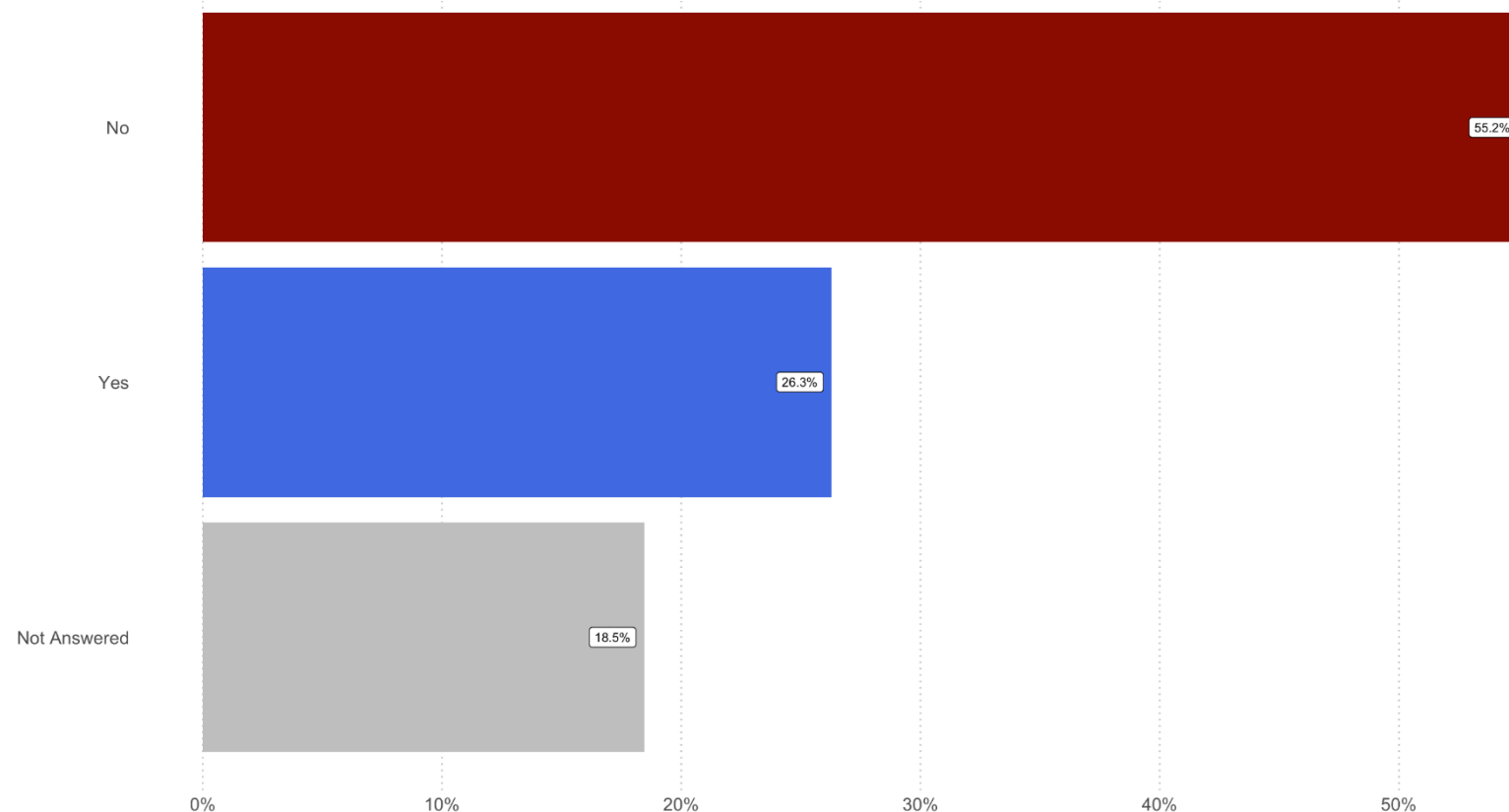


Number of participants: 677

Number of participants that provided more than one answer: 0

SOCIETAL IMPACT: CLIMATE PILOT

Did you already estimate mitigation potential of your solution in tonnes of CO2 equivalent in the proposal stage?

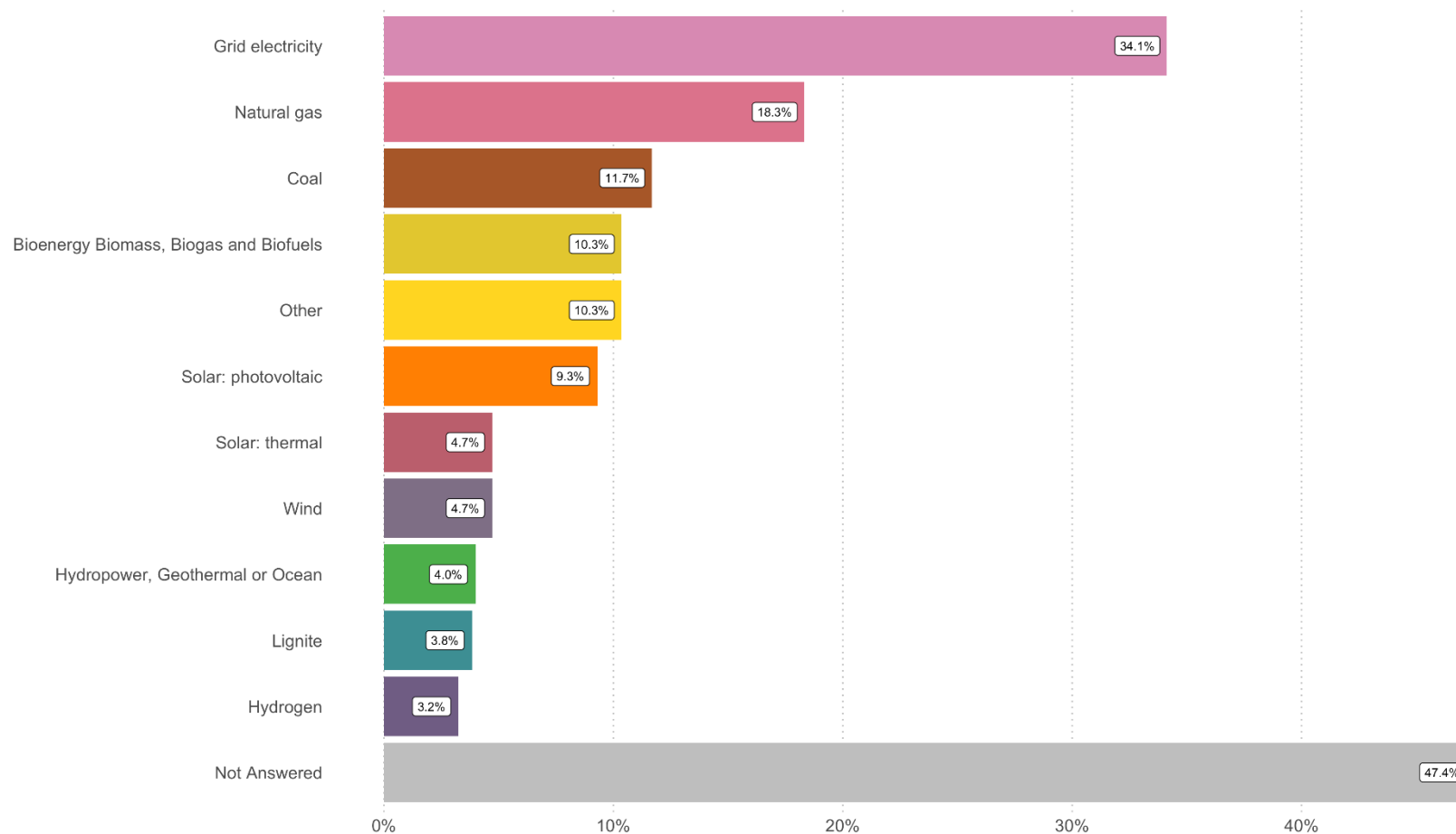


Number of participants: 677

Number of participants that provided more than one answer: 0

SOCIETAL IMPACT: CLIMATE PILOT

What kind of energy will be saved?



Number of participants: 677

Number of participants that provided more than one answer: 187

MONITORING: DASHBOARD

KEY IMPACT PATHWAY #7 GENERATING INNOVATION-BASED GROWTH

Apply filters Programme Year Discipline Mission

SHORT-TERM INDICATOR: INNOVATIVE OUTPUTS

Definition of indicator: Number of innovative products, processes and methods & Intellectual Property Rights (IPR) applications from FP.

X

Number of demonstrators, pilots, prototypes, plan designs

Source: EC monitoring data

1126

Number of IPR outputs, including patent applications, trademarks, utility designs, other

Source: EC monitoring data

MEDIUM-TERM INDICATOR: INNOVATIONS

Definition of indicator: Number of innovations from FP projects (by type of innovation) including from awarded IPRs.

559

Number of granted patent applications

Source: EC monitoring data, EPO Espacenet

Y companies

Planned to be launched by FP beneficiaries to exploit the results

Source: EC monitoring data

| | FP PATENTS | CONTROL GROUP |
|---|------------|---------------|
| Forward citations | 4.8 | 5.7 |
| Family size (INPADOC definition) | 4.8 | 6.5 |
| Scope (no of distinct 4-digit IPC subclasses) | 2.4 | 3.1 |

LONG-TERM INDICATOR: BENEFITS

Definition of indicator: Creation, growth & market shares of companies having developed FP innovations.

+23%

Estimated growth of FP firms by turnover, compared to the control group

Source: Orbis

+32 billion euros/year

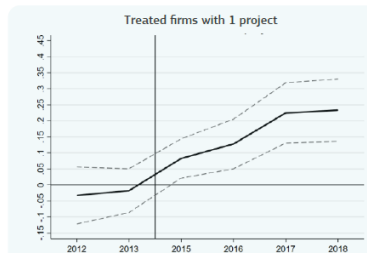
Estimated average yearly impact of HE on the EU's GDP

Source: NEMESIS

Between 10 and 11 euros

Estimated increase in GDP per each euro spent by the Commission in FPs

Source: EC monitoring data, OSDG



KEY IMPACT PATHWAY #9 LEVERAGING INVESTMENTS IN R&I

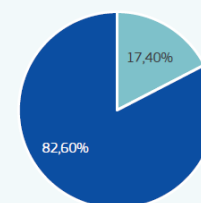
SHORT-TERM INDICATOR: CO-INVESTMENT

Definition of indicator: Amount of public & private investment mobilised with the initial FP investment.

74 billion euros

Total initial FP investment to date

Source: EC administrative data



■ EU contribution
■ Beneficiaries own funds

MEDIUM-TERM INDICATOR: SCALING-UP

Definition of indicator: Amount of public & private investment mobilised to exploit or scale-up FP results, including foreign direct investments.

X%

Share of FP projects that mobilized further investment to exploit or scale-up project results

Source: EC monitoring data

3 billion euros

Amount of private follow up investment attracted by the EIC

Source: EC monitoring data

2.34 euros

Amount of private follow up investment attracted by each 1 euro of EIC funding

Source: EC monitoring data

LONG-TERM INDICATOR: CONTRIBUTION TO '3% TARGET'

Definition of indicator: EU progress towards the 3% GDP target due to FP funding.

27.3 billion euros

Estimated total amount of additional leverage (direct and indirect) attracted by the FPs

Source: NEMESIS

+0.14%

Estimated contribution of FPs towards the 3% GDP target

Source: NEMESIS



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HORIZON EUROPE SOCIAL IMPACT

KEY LESSONS

Impact starts with design

Impact is uncertain and takes time

Classification is often the first step

Beneficiaries are cooperative

Issue-specific analytical methods are available

