



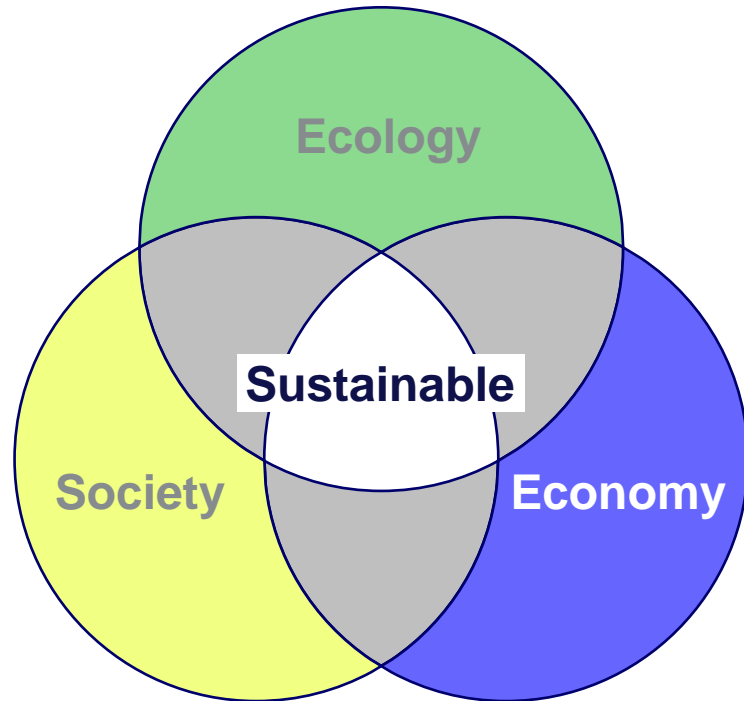
THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE ■

Harnessing Big Science: Expanding CERN's global impact through strategic policies

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FCC Week 2024

Design for a sustainable project: Focus on the economy sector



- **Economy** : science, technology and economy
 - Goal of the mission – the scientific excellence
 - Total costs (CAPEX + OPEX)
 - Risks
 - Direct, indirect and induced economic benefits
- **Society**
 - Socio-economic benefit potentials
 - Common good value (the value as perceived by people)
 - Social license - territorial feasibility
- **Ecology**
 - Negative externalities
 - Ecological benefit potentials



Pathways to increase the return for states

Broaden the Benefits of Sustainable Procurement

Foster Human Capital Formation and Brain Circulation

Enhance the Reach of Tourism Opportunities

Evaluate the Full Extent of Socio-economic Impacts

Focus on three pathways...

Main impact pathways

Scientific
Production

Environmental
Benefits

Data and ICT

**Industry
Benefits**

Training

**Cultural
Benefits**

... with four policy recommendations

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Broaden the benefits of
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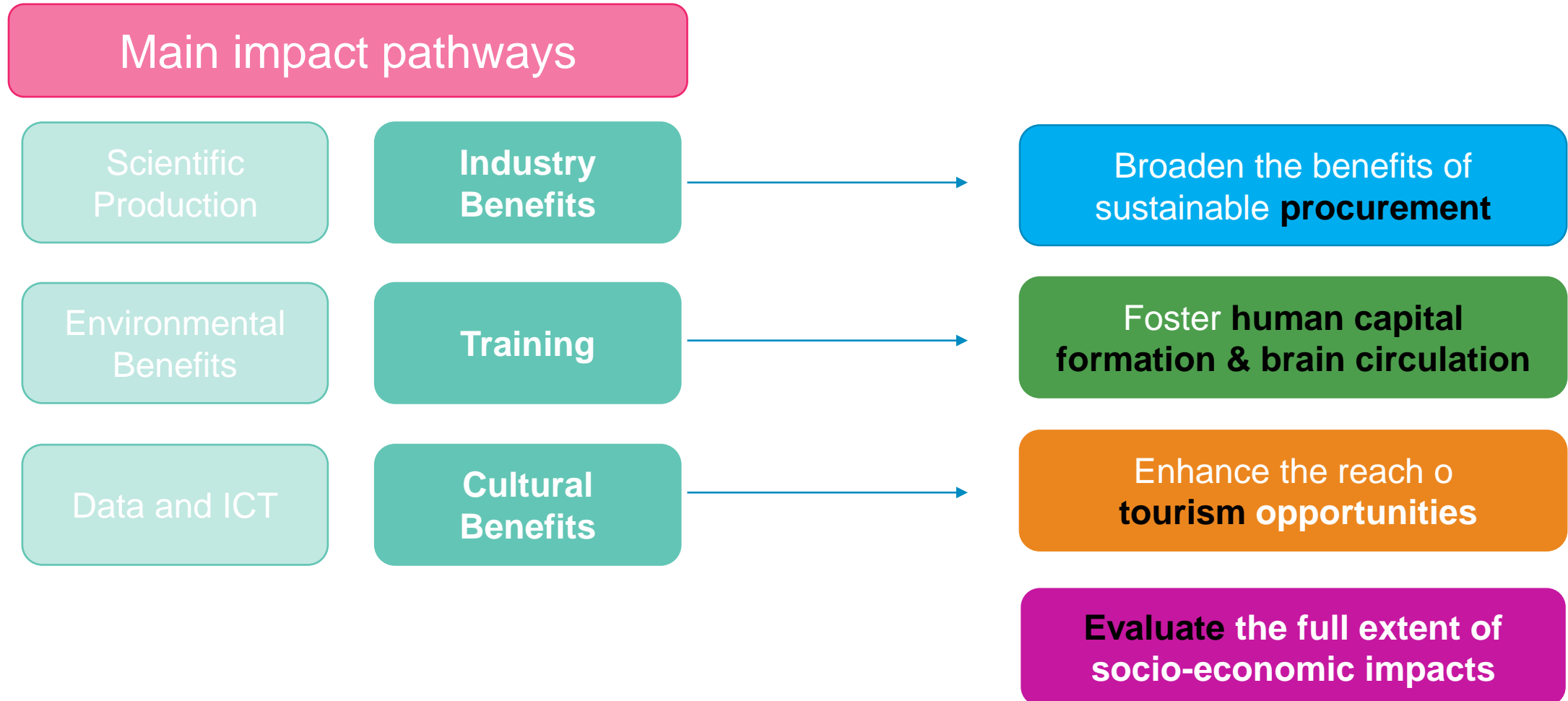
Foster human capital
formation & brain circulation

Data and ICT

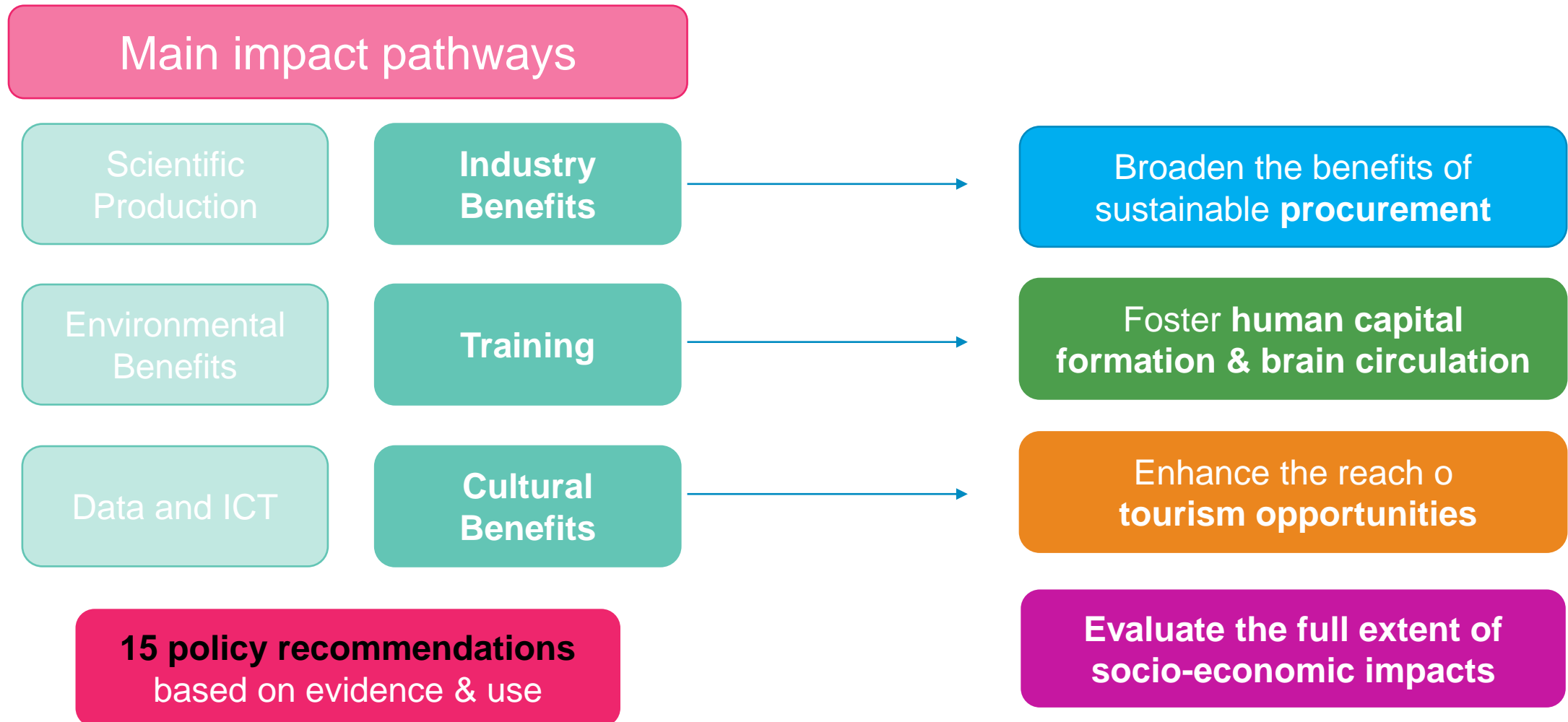
Cultural
Benefits

Enhance the reach o
tourism opportunities

... with four policy recommendations



... with four policy objectives



All policies are based on existing, successful instruments in Europe

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15 policy recommendations
based on evidence & use

**Evaluate the full extent of
socio-economic impacts**



Overview



Broaden the Benefits of Sustainable Procurement



Foster Human Capital Formation and Brain Circulation

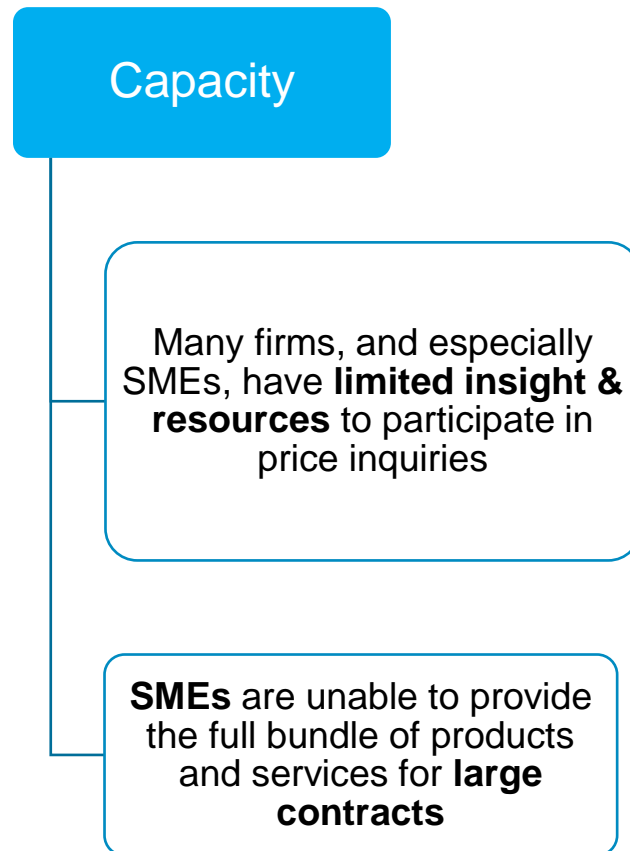


Enhance the Reach of Tourism Opportunities

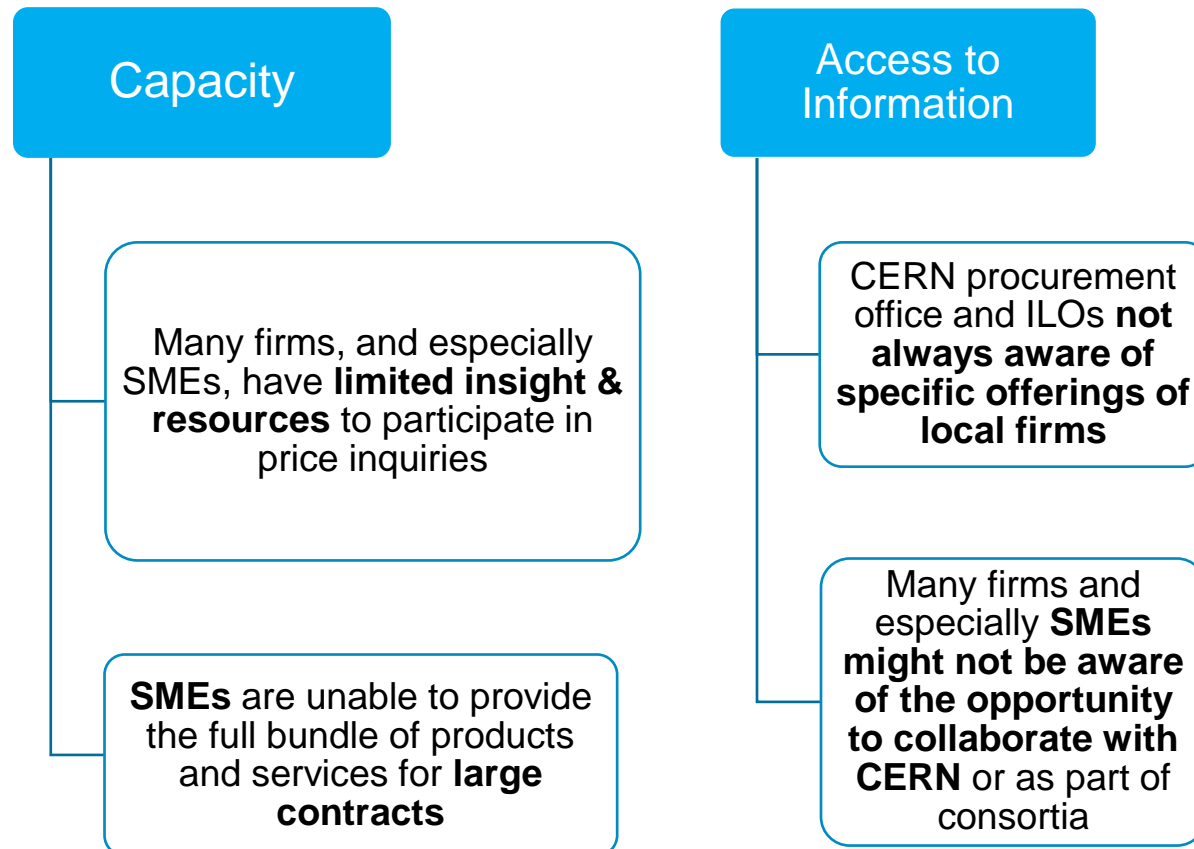


Evaluate the Full Extent of Socio-economic Impacts

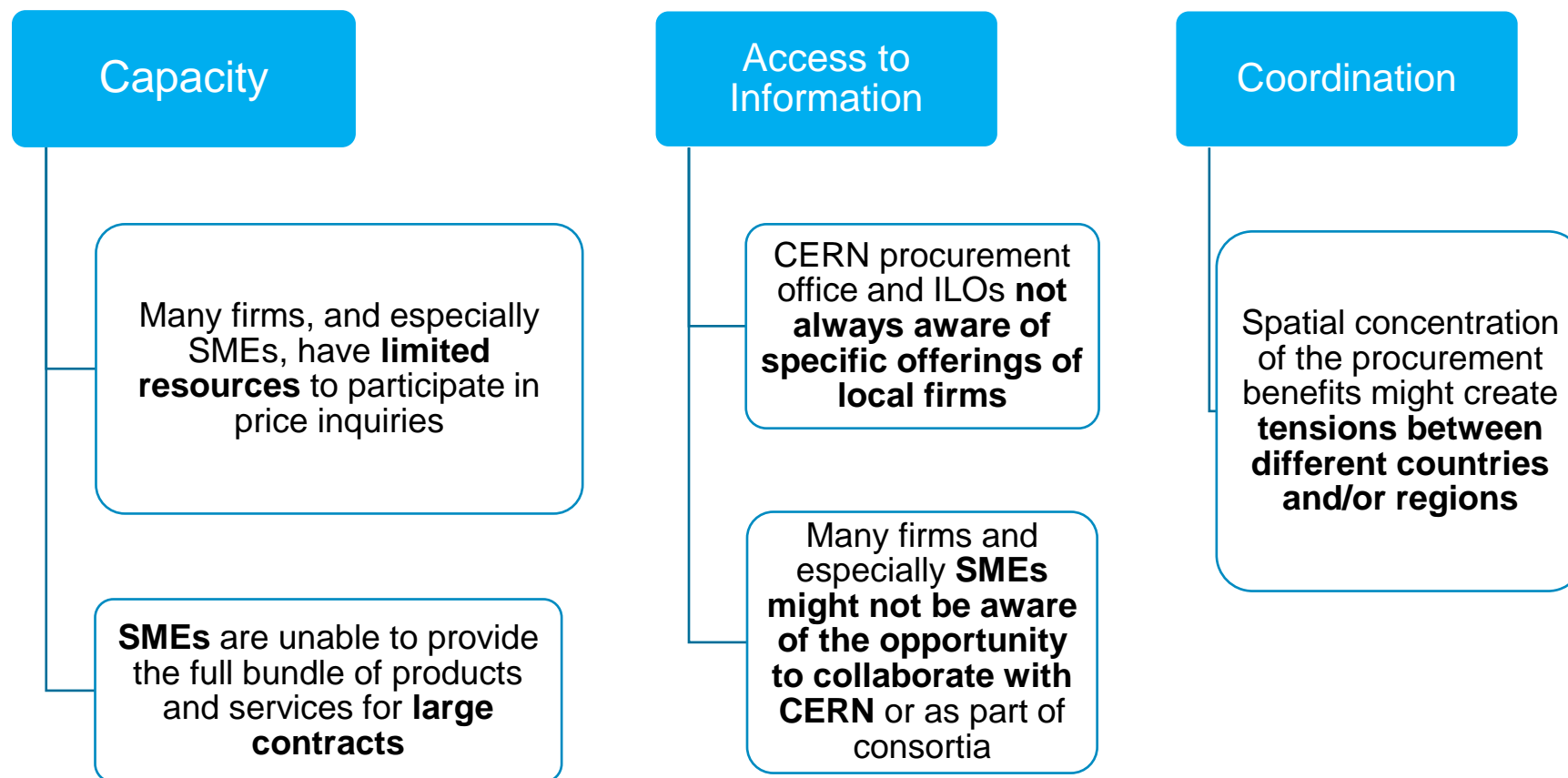
Factors that limit the broadening of the benefits of procurement



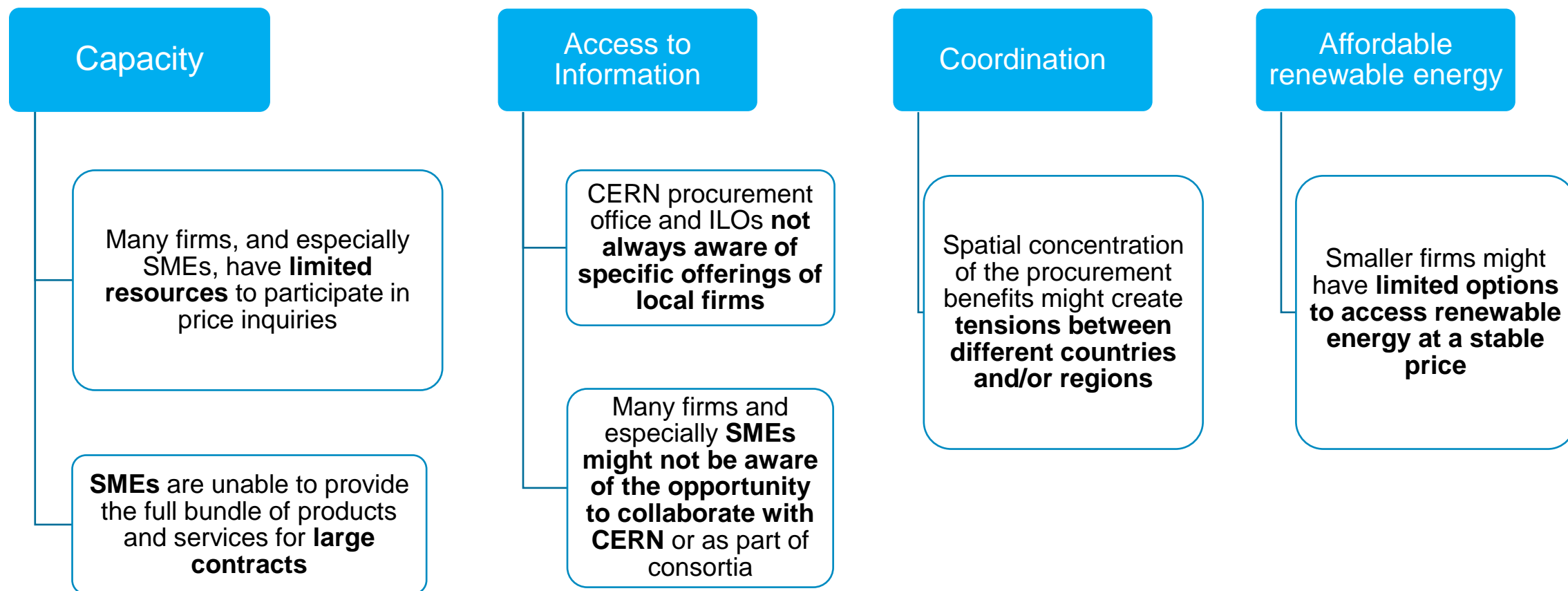
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Sustainable procurement policies in a nutshell

Levelling the playing field to
encourage more firms to apply

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SMEs-targeted
Assistance

2. **Set up support
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business association
offices to support
SMEs participate in
procurement

3. **Unbundle** large
procurement
contracts

4. **Earmark**
contracts for SMEs
or requiring
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SMEs-Targeted Assistance

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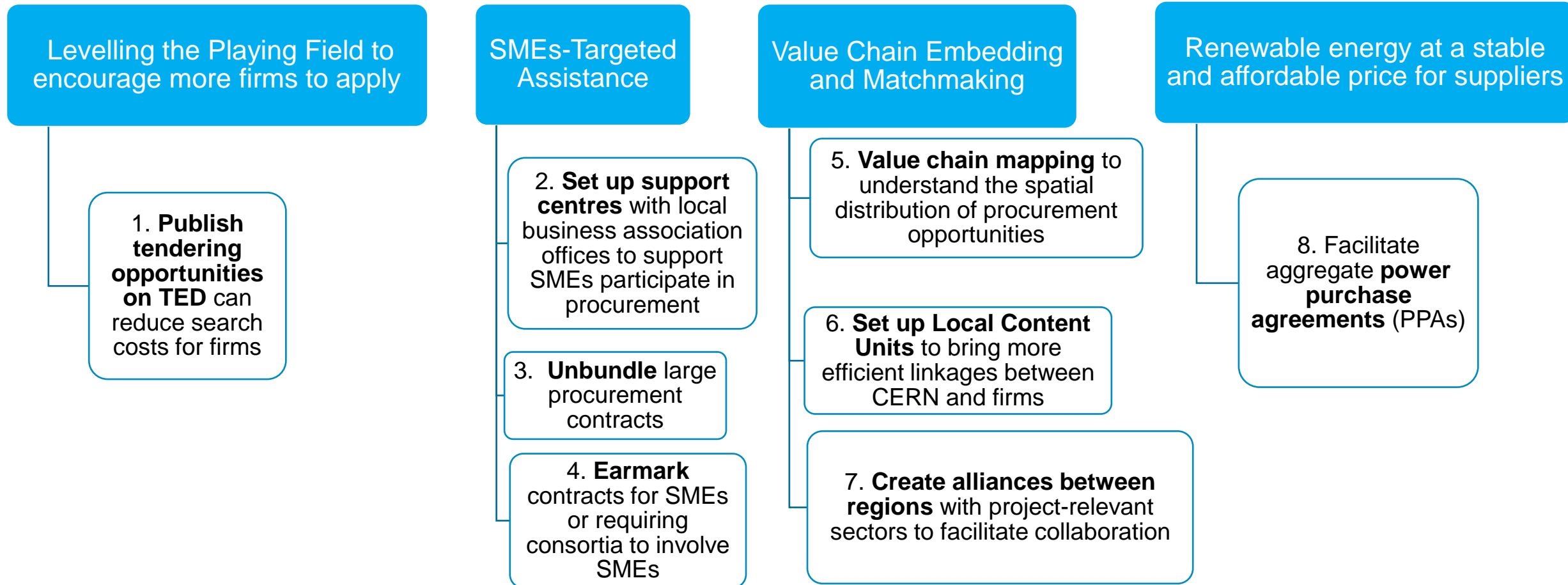
Value chain embedding and matchmaking

5. **Value chain mapping** to understand the spatial distribution of procurement opportunities

6. **Set up Local Content Units** to bring more efficient linkages between CERN and firms

7. **Create alliances between regions** with project-relevant sectors to facilitate collaboration

Sustainable procurement policies in a nutshell





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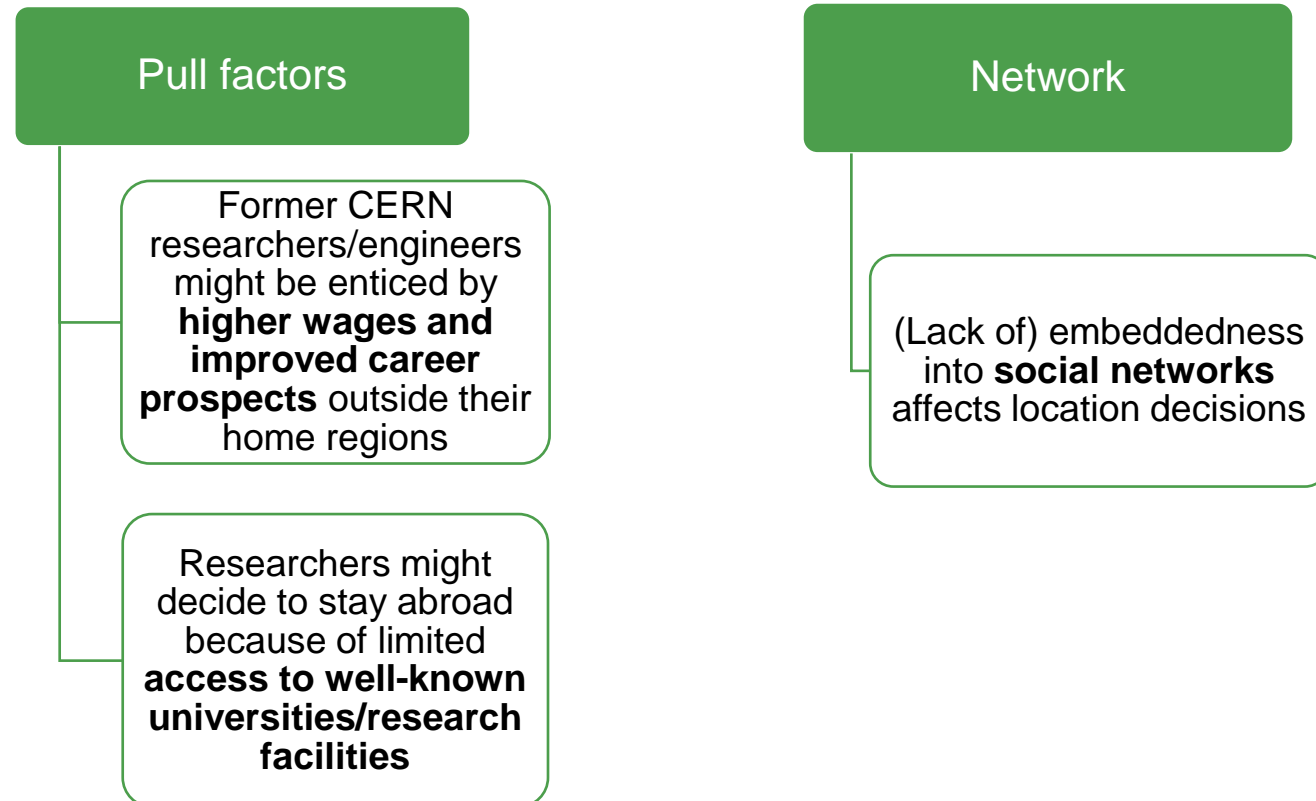
CERN attracts global talent, but return patterns remain too narrow

Pull factors

Former CERN researchers/engineers might be enticed by **higher wages and improved career prospects** outside their home regions

Researchers might decide to stay abroad because of limited **access to well-known universities/research facilities**

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Network

(Lack of) embeddedness into **social networks** affects location decisions

Brain circulation

Migration is not a one-off decision or a linear process, some migrants return other maintain a connection with their home region

Migration is not necessarily negative for a home region if it contributes to **knowledge flows between distant regions**

Human capital and brain circulation policies in a nutshell

Understand the local needs for talent

9. Regions identified as talent contributors, should conduct a **comprehensive analysis of the type of skills that the region needs to attract** with a special focus on those that joined CERN

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10. **Create and promote opportunities** through grants and fellowships targeting high-skilled individuals

11. Provide **repatriation incentives** to attract CERN alumni and staff

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Engage with CERN staff and alumni abroad

12. Promote knowledge exchange and entrepreneurship programme, mentorship schemes and awards to **engage with CERN staff and alumni abroad**



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Evaluate the Full Extent of Socio-economic Impacts

Each year CERN welcomes 150K+ visitors but only Geneva and French municipalities benefit

Geography and budget constraints

Reaching other sites requires **further travelling**

Given the Switzerland's high hospitality costs, visitors allocate a **significant part of their budget to CERN experience** and nearby tourist attractions in France

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Lack of promotion

Lack of promotion for other attractions that are either not distant to CERN or might appeal to this demographic group

Tourism policies in a nutshell

CERN as a gateway for science tourism

13. Develop, together with tourism boards, local governments and other research facilities, **tour packages** that feature additional attractions across Europe and technology hubs in combination with other activities



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Broaden the Benefits of Sustainable Procurement



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Enhance the Reach of Tourism Opportunities



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There is still gaps in our understanding of what works to maximize the socio-economic impacts

Resource allocation

Resources for conducting in-depth studies may be limited, as priority may be given to direct scientific work over socio-economic research

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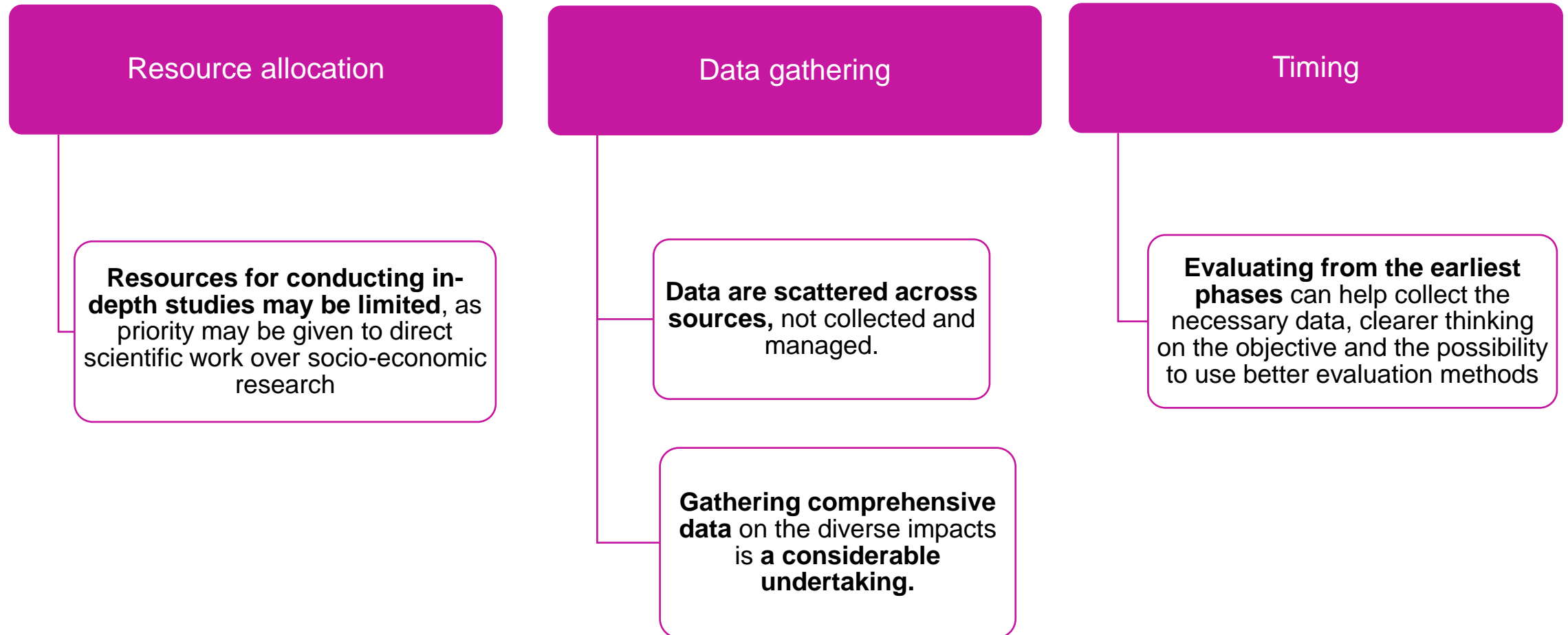
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Data gathering

Data are scattered across sources, not collected and managed.

Gathering comprehensive data on the diverse impacts is a **considerable undertaking**.

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Policies for Evaluating Socio-economic Impacts

Start Early

14. **Establish a funding stream or a specialist contract** to design the evaluation studies and data collection **from the beginning of the FCC project**

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Data portal for social scientists

15. Operate an **open data portal** that enables social scientists to use CERN data to continue to evaluate the socio-economic impact of investment in science

**Comprehensive report under review for publication
and for integration in the feasibility study report.**

Question or comments?

Please direct them to

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