

ERA-NET SKEP Project EIPOT (www.eipot.eu)

“Development of a methodology for the assessment of global environmental impacts of traded goods and services”

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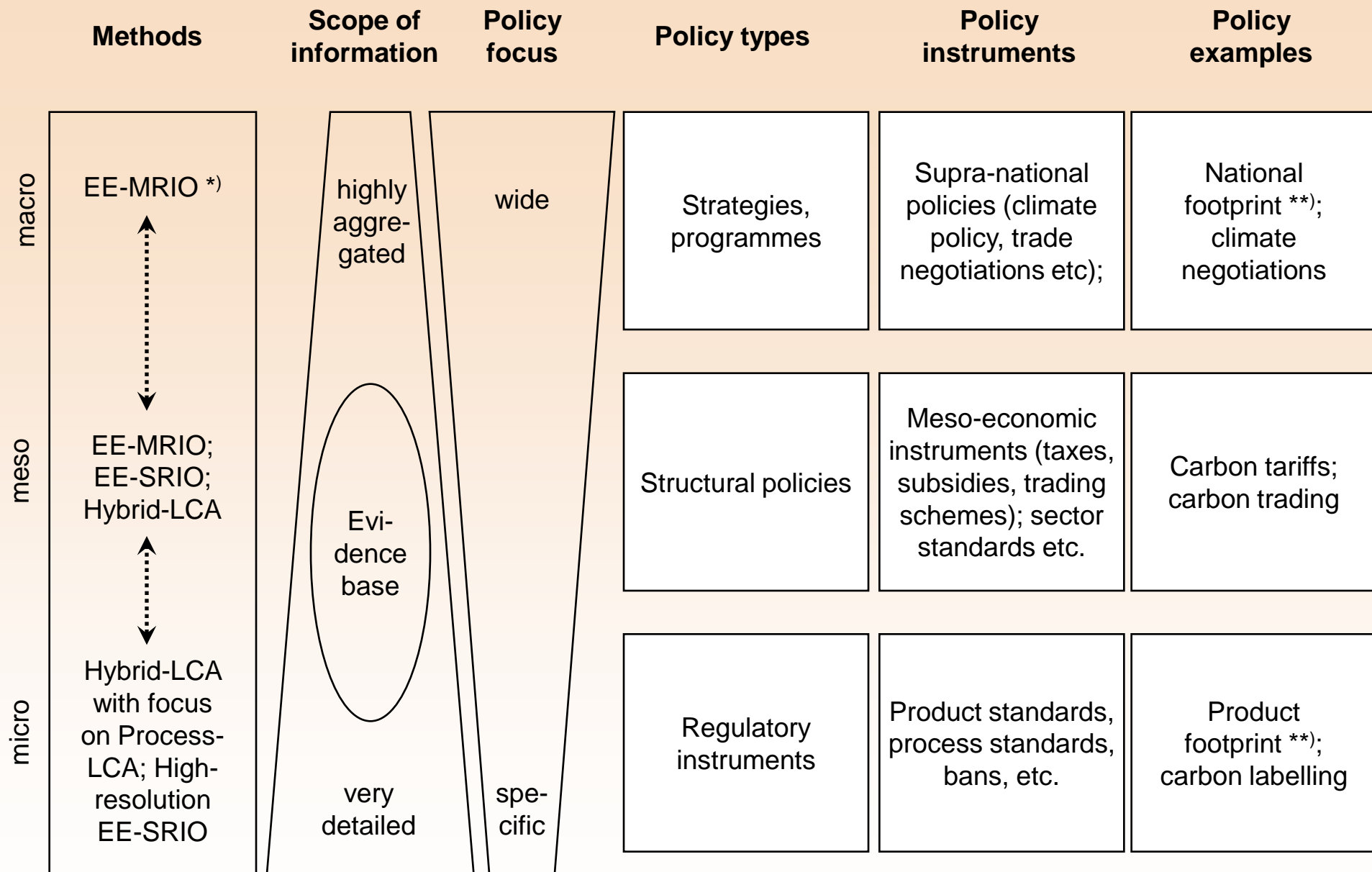
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Project Aim

The EIPOT project aimed to

- ❑ review and evaluate existing methods
- ❑ identify the “most suitable” methodology
- ❑ develop and specify this methodology further
- ❑ identify data requirements and sources
- ❑ elaborate the roles of different authorities



*) EE = environmentally extended, i.e. incl. environmental pressure data such as emissions, energy, materials, land use, water EF, etc.

***) carbon, water, ecological

(adapted from Femia and Moll 2005 and Wiedmann et al. 2006)

Table 9 from Moll and Watson (2009): SCP questions that can be answered using EE-IO and NAMEA tables

<i>Which consumed product groups are most responsible for indirect pressures activated by consumption? Ranking and comparison of products</i>	"consumption"	single year	all product groups in one economy;
<i>Eco- intensities of product groups: Which product groups are most (least) intensive in terms of 'embodied' environmental pressure per Euro?</i>	"consumption"	single year	all product groups in one economy; one product group across economies
How are indirect environmental pressures distributed across the categories of final use (private household consumption, government consumption, investments, exports)?	"consumption"	single year	all final use categories in one economy; one final use category across economies
<i>Have the indirect pressures caused by national consumption been decoupled from growth in consumption expenditure?</i>	"consumption"	two year points, or time series	one economy;
<i>To what extent has decoupling of indirect pressures from growth in consumption occurred as a result of changes in types of products being consumed, and to what extent as a result of eco-efficiency improvements along the production chain of individual product groups?</i>	"consumption"	two year points, or time series	one economy;
What is the ratio of indirect environmental pressures caused by national consumption which are emitted domestically compared to those taking place in the rest of the world? (problem shifting)	"consumption"	single year	one economy; across economies (can also be broken down by product groups)
How do environmental pressures activated by national consumption compare with environmental pressures activated by national production?	"consumption" versus 'production'	single year	one economy; across economies

Recommendations regarding methodology - 1

- MRIO analysis extended with environmental data based on the SEEA / NAMEA framework is the ideal basis for EIPOT related research.
- The EE-MRIO model should comprise all EU-countries plus a maximum number of EU trading partners.
- The required sectoral resolution is determined by the application. While for specific purposes more than 100 sectors seems desirable and feasible, for time series analysis based on official statistics, the sectoral resolution will probably not exceed 60 sectors in the foreseeable future.

Recommendations regarding methodology - 2

- For specific policy and research questions, data from process analysis and LCA can be used to hybridise the system (hybrid IO tables, hybrid LCA) and/or to enumerate specific processes (e.g. international transportation) and thereby increase the resolution of the analysis.
- All relevant environmental impact categories should be included in the model framework. In some areas further research is need to complete and harmonise data sets.

Recommendations regarding data - 1

- Data from the EXIOPOL project, once available, seem to be the ideal basis for a European-focussed EIPOT model and should be used in the first instance to construct the basic EE-MRIO framework.
- Data from other consistent meta-databases, such as GTAP, should be used to fill gaps in country coverage, sector data, and environmental extensions.
- SUTs, rather than SIOTs, should be used if they provide significantly more sectoral detail and are considerably more up to date.

Recommendations regarding data - 2

- Non-survey based balancing procedures should be used to re-balance hybridised IO tables, update matrices and produce time series if no superior original data is available.
- Bilateral trade data are essential to estimate off-diagonale trade flow matrices. We recommend using the UN Comtrade database in the first instance for consistency and world coverage.
- EXIOPOL will use process and LCA data for hybridisation; if further specification is required, additional LCI data sets should be utilised.

General Recommendations - 1

- We suggest the establishment of a 'steward' for analyses concerning the environmental impacts of trade (possible candidates: EC / Eurostat / Group of Four / SKEP).
- Several areas of research require long-term attention, including hybridisation of models, computational problems and widening the scope and linkages to other areas of interest.

General Recommendations - 2

- A long-term research strategy is needed that coordinates and links the various research activities that contribute to EIPOT analyses (as is currently being done by the EXIOPOL project).
- National governments should consider presenting environmental impacts embodied in imports as part of the environmental pressure connected to national consumption (e.g. consumption-based greenhouse gas accounts alongside NAMEA / UNFCCC reports).