



# The macroeconomics of a circular economy transition

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# Key policy questions for a circular economy

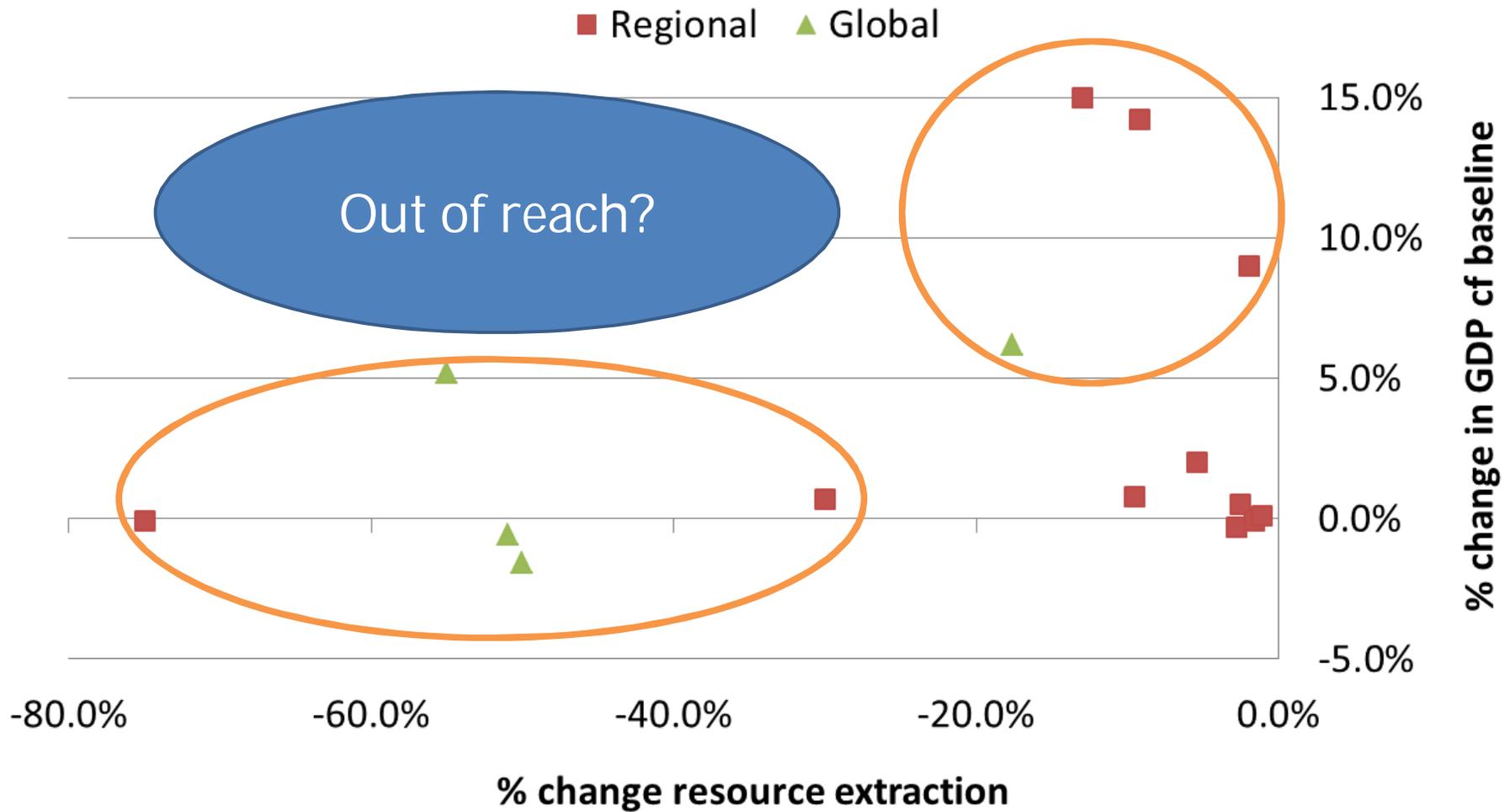
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- Expected benefits of a more circular economy
  - Reduced demand for virgin material resources
  - Reduced environmental pressures (incl. GHGs)
  - New economic opportunities
  - Lessened exposure to (geo-political) supply risk
- But what are the macroeconomic impacts?
  - CE transition will involve structural changes in production and consumption
  - Which, together with other trends (digitalisation, technological change, interconnected global value chains...) – will, among other things, lead to
    - Impacts on the size and distribution of GDP
    - Changes in employment and skills requirements (job opportunities, as well as potential dislocations)
    - Spill over effects, via relative prices, trade ...
- Requires quantitative modelling approaches





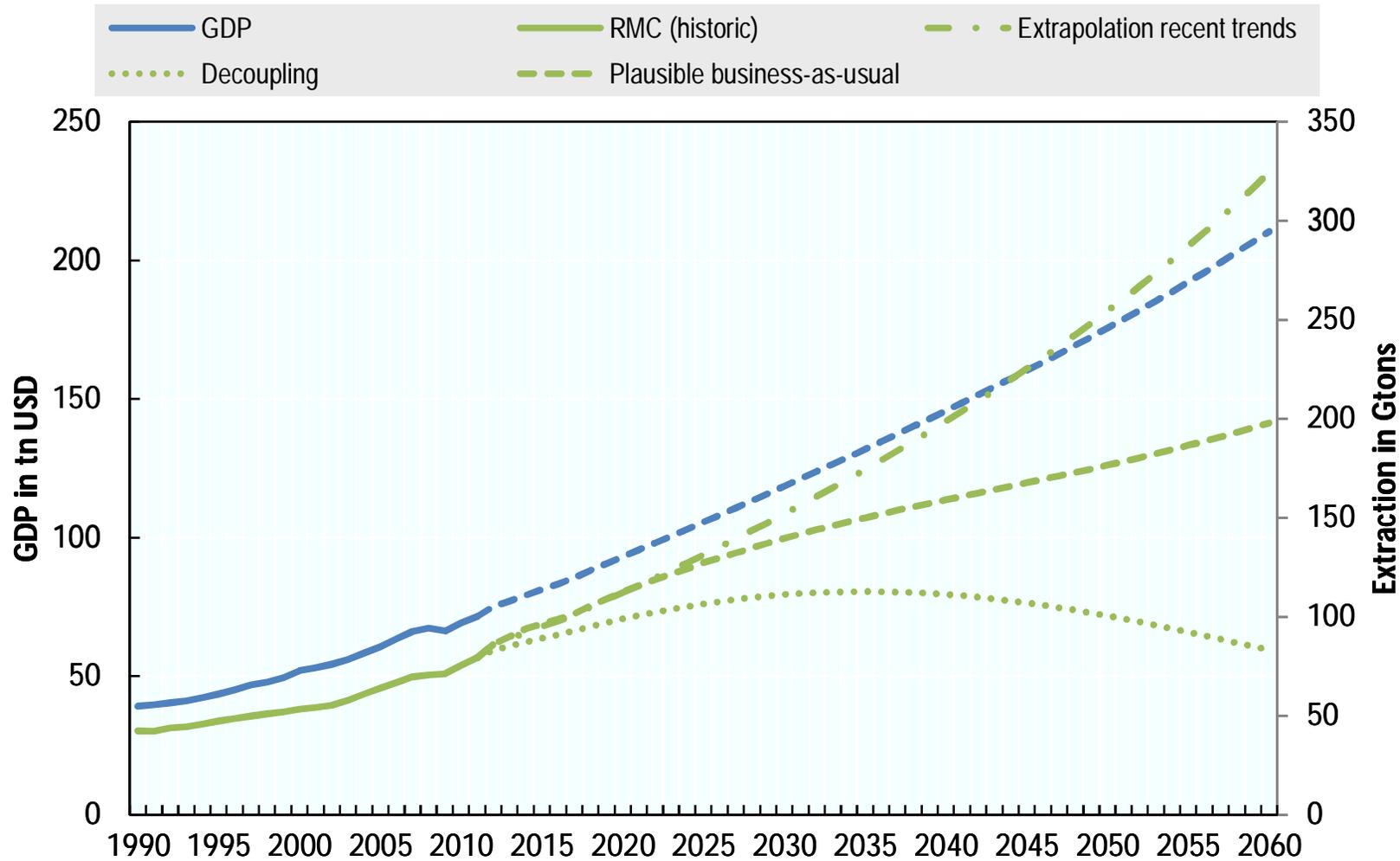
# There seems to be a trade-off in decoupling: Inconclusive evidence from the literature



Source: McCarthy et al. (2017), "The macroeconomics of the circular economy transition: a critical review of modelling approaches", OECD Environment Working Papers



# Future materials use is quite uncertain



Source: historical from WIOD and UNEP, projections purely illustrative



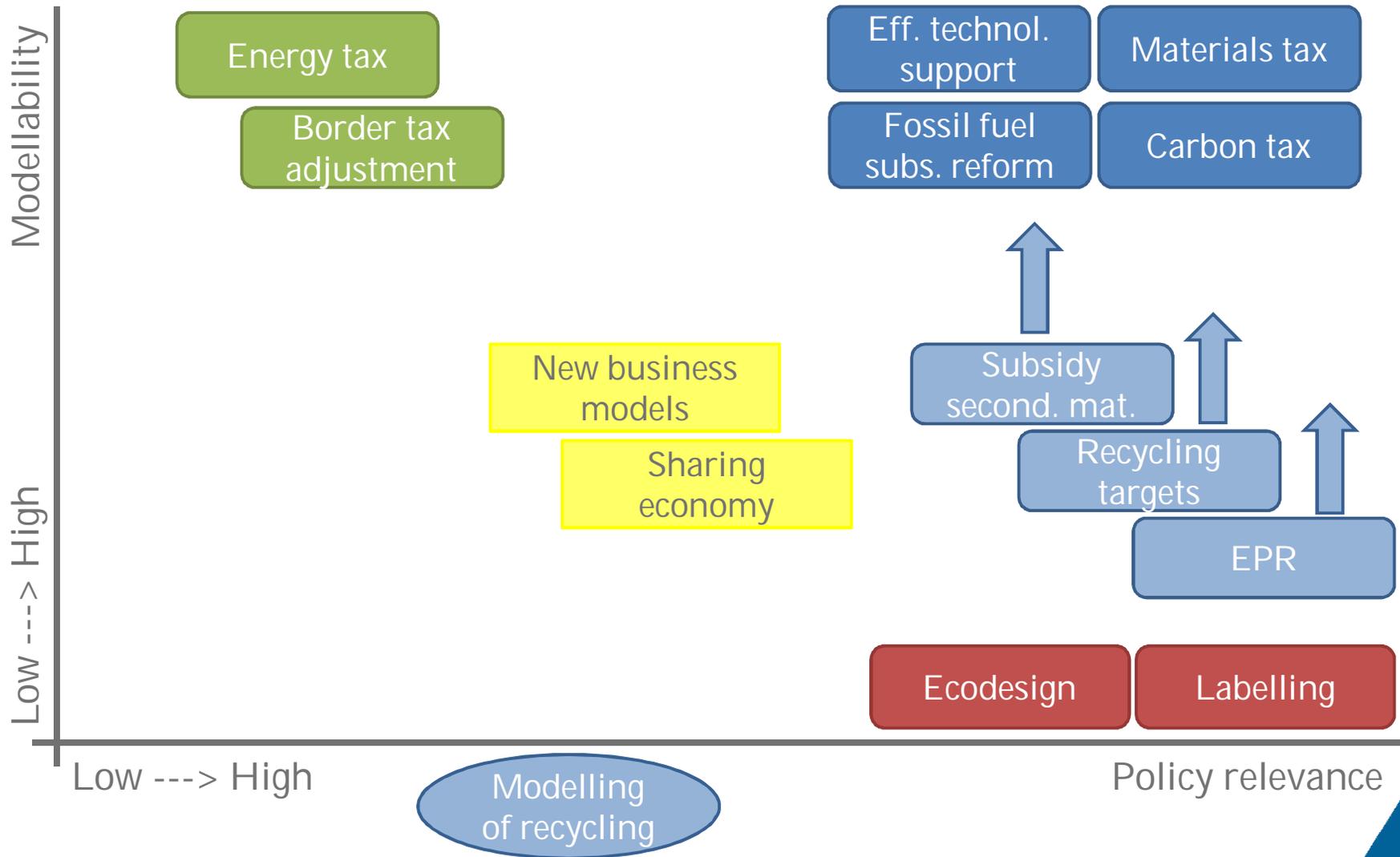
# Five main drivers of future materials use

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- Population growth as scaling factor on economic activity and materials use
- Income convergence: emerging and developing countries are projected to have higher growth rates
  - Growth booms are linked to investment, infrastructure, construction and materials use
- Structural change: increasing share of services
  - More demand (by households and government) for services; servitisation of production – as services are relatively less materials-intensive, this leads to (relative) decoupling of GDP and materials use
- Technological change
  - Economic activities, incl. materials processing, become more efficient over time (e.g. energy efficiency improvements)
- Policies!



# Identifying a tentative CE policy package





## Policy guidance on resource efficiency

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1. Apply policy mixes to provide a coherent set of incentives for resource efficiency along the product value chain.
2. Implement policies that promote resource efficiency across the life-cycle of products. For example, via:
  - Extended Producer Responsibility Schemes
  - Green Public Procurement
  - Partnerships with business along value chains





## Policy guidance on resource efficiency (continued)

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### 3. Correct misalignments, harness synergies and mainstream resource efficiency objectives in sectoral policies

- Evaluating support for primary materials extraction
- Integrated low carbon and resource efficient objectives
- Mainstreaming resource efficiency considerations in innovation, investment, vocational and skill training

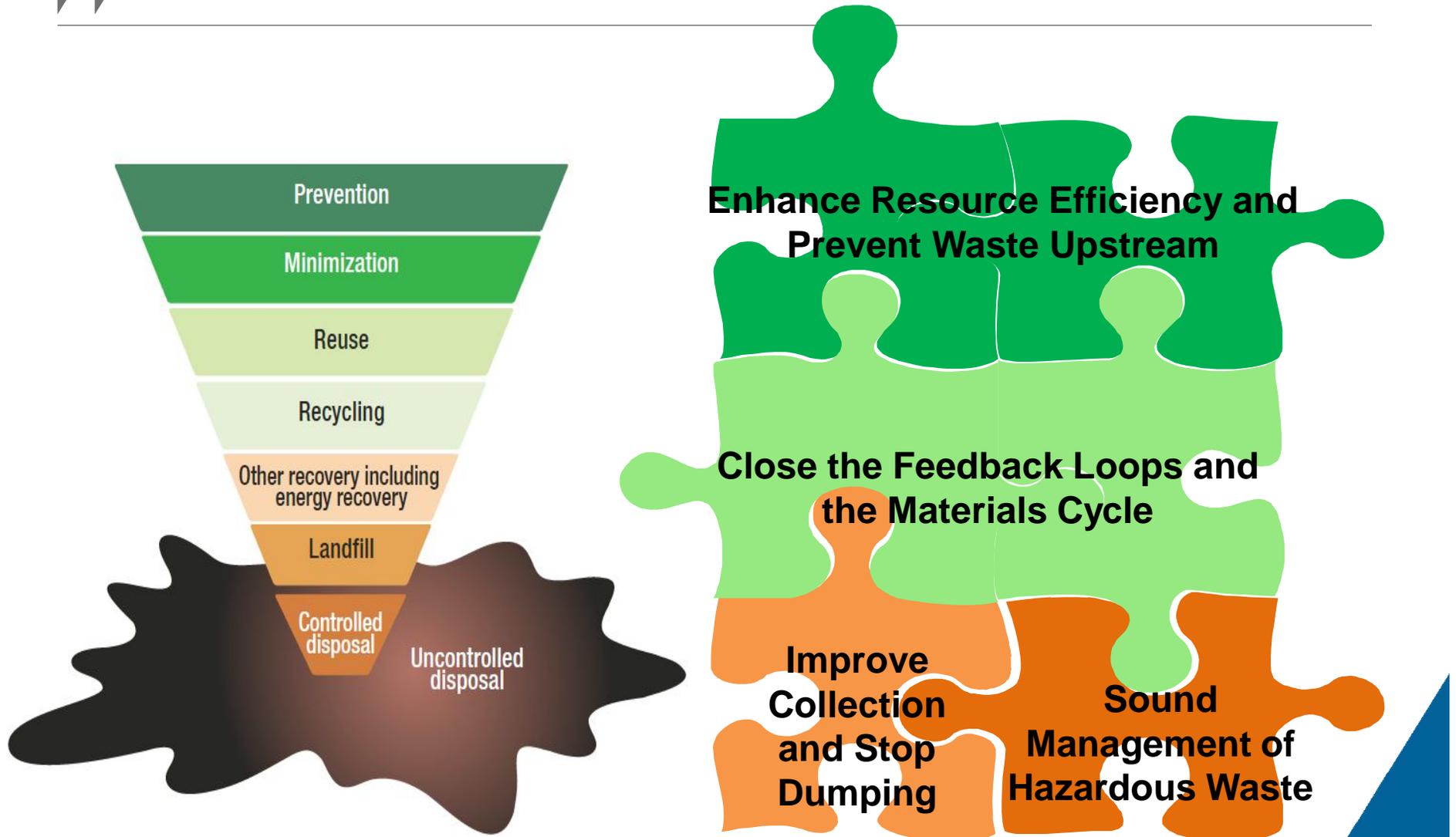
### 4. Strengthen policy development and evaluation through better data and analysis

- International flows of materials, including secondary materials and waste
- Economic data and analysis of the transition to a circular economy





## Diversity of challenges ... to be tackled concurrently



Source: UNEP and ISWA (2015)



# THANK YOU!

For more information:

[www.oecd.org/environment/modelling/oe.cd/recircle](http://www.oecd.org/environment/modelling/oe.cd/recircle)

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