Greening transport
Seeking employment-friendly sustainability

UNECE
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WESO 2018: Estimating the employment impact of a green transition

What will employment look like in a green economy? (direct + indirect)

• Energy scenario
  • Electricity, industry, electric vehicles, construction
• Agriculture scenario
  • Organic and conservation agriculture
• Circular economy scenario

The logic can be extended to other sectors

Employment in a green energy scenario, 2030, compared to BAU, by region.

Source: ILO calculations based on Exiobase and IEA scenarios
Exiobase and MRIO scenario analysis

Data: Exiobase
- Multi-regional input-output table: Models the world economy through linkages across industries
- 43 countries (most UNECE) + 5 RoW regions
- 163 industries & 200 products
- Maps international and national value chains
- Direct and indirect effects
- Satellite accounts: CO2, PM2.5 employment, skills, gender

Methods
- Technological change:
  - Change the input structure of the goods and industries
- Change in demand
  - Change the final or intermediate demand for the goods and industries
- Projections to 2030 using IMF (GDP) and ILO (employment)
- Assumptions
The transport sector in Exiobase

**Direct**
- Transport via railways and other land transport
- Transport via pipelines
- Sea and coastal water transport
- Inland water transport
- Air transport

**Indirect**
- Sale, maintenance, repair of vehicles
- Retail sale of fuel
- Manufacture of motor vehicles
- Manufacture of transport equipment

Currently, Exiobase has limited detail in bicycling, construction of specific infrastructure, public transport.
Compare job impacts of a Business as Usual with a Green Transport scenario:

- Map the **direct and indirect employment** linkages to the transport sector

- Model job impacts of a rise in **electric vehicle sales and use** (not the infrastructure investments, see last bullet)

- Model job impacts of a rise in the **private transport industry as a service** (car rental, ride sharing & hail services)
Sustainable transport: What we could do in addition

• Model the employment implications of a rise in the **public transport industry** as a service

• Model the direct and indirect employment implications of the **bicycling industry** as manufacturing and repair service

• Model the direct and indirect employment implications of **infrastructure investments** into public transport and bicycles transport

• **CO2 and PM2** emissions comparing green vs. BAU
What we need!

- Detailed green vs BAU transport scenarios by country and by sub-transport industry
- Public and private investment by sub-transport industry
- Final demand by sub-transport industry
- Development path of investment & final demand up to 2030
As a token of our appreciation, Some relevant references

Some papers using Exiobase


Some papers using the methodology