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Piloting Industrial Waste Mapping: Preliminary findings and first results from Azerbaijan, Georgia and Ukraine

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Introduction and objectives

- 2 pilot ”regions” per country
- 3-4 wastes per pilot region
- Create replicable methodologies
- Slightly staggered timescales per country

- Slightly different approaches per country:
  - **Ukraine**: Slavuta City Territorial Community and Davydiv Village Territorial Community. Direct engagement with as many businesses as possible
  - **Georgia**: Rustavi and Zestaponi municipalities. Smaller areas, each with dominant industries. Published waste management plans as starting points.
  - **Azerbaijan**: Baku and Absheron-Khizi. Due to the large areas contact is made with key businesses

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Intended outputs

- Describe the current status and map journeys of selected wastes and unutilised materials
- Establish legislative, strategic and industrial context
- Visuals to portray flows of materials
- Help build national capacity and demonstrate Resource Efficient and Cleaner Production (RECP) in SMEs
- Help municipalities support innovative waste management
- Identify circular economy opportunities, estimate/calculate impacts
- Provide recommendations for application in EaP countries
- Events to disseminate findings and lessons learned for future replication

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Mapping

- Visual depiction of flows of material from waste generation to treatment, identifying key staging posts and stakeholders
- Representation of linearity or circularity
- Supporting documents e.g. presentations, reports, data.

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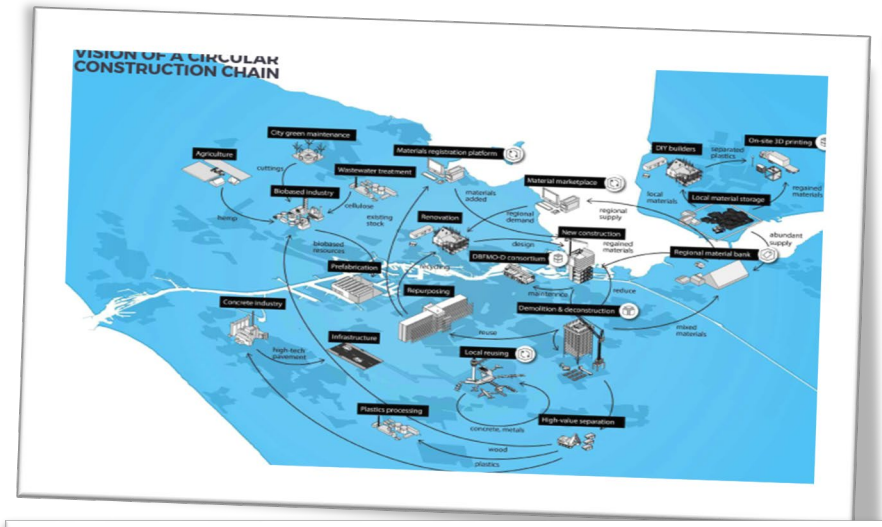
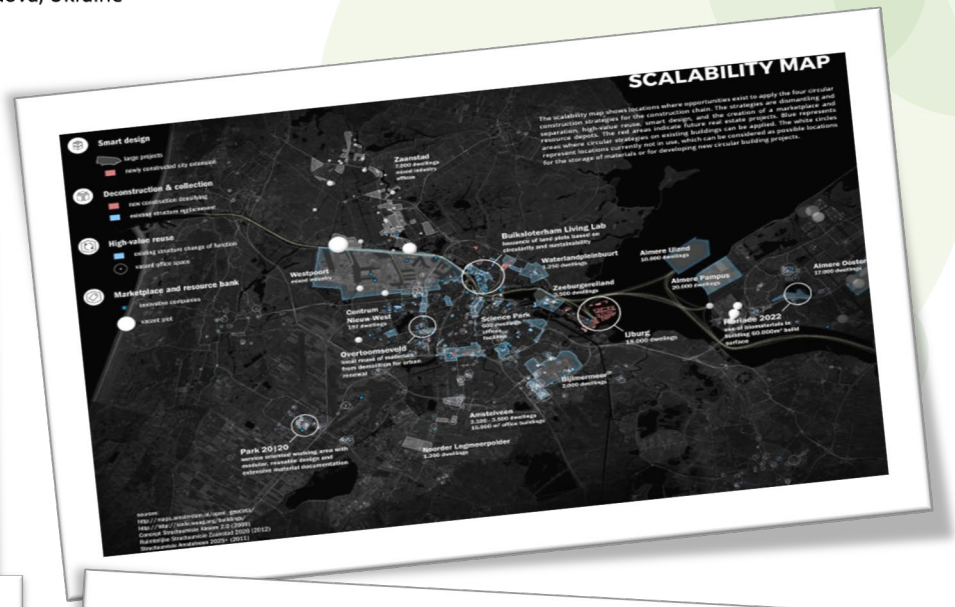
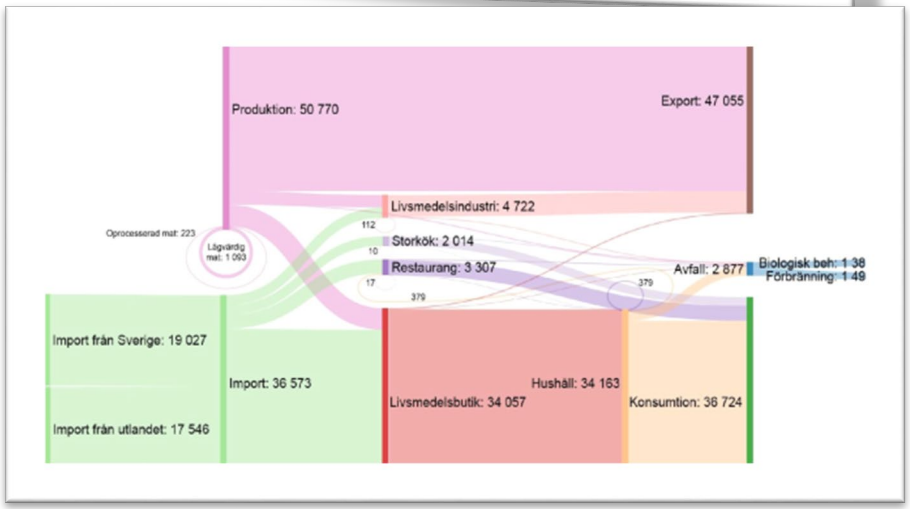
Examples of mapping in the EU







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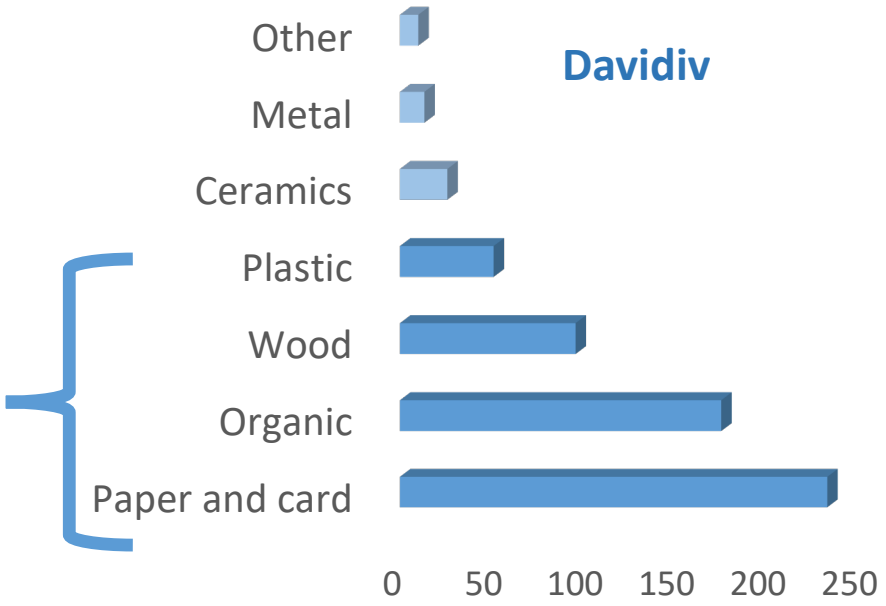
UKRAINE



Waste maps in progress!

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Potential solutions, lessons learned

- **Paper and cardboard.** Diversion from landfill. Avoidance of cement packaging. Reusable packaging. Takeback. Combustion.
- **Plastic.** Reduce duct tape from packaging. Opportunities for increased recycling. Non-recyclable plastics to combustion.
- **Wood.** Opportunities for recycling instead of downcycling, diversion from combustion e.g. particle boards
- **Organic.** Use of agrarian waste and byproducts as fertiliser.
- **Ceramics.** Crushing and creation of new tiles.

Key lessons learned on method: Frontload research, decisive choice of materials, emphasise positive nature of project

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GEORGIA

Rustavi (Kvemo Kartli)

- *Paper and cardboard*
- *End of life tyres*
- *Mixed municipal waste*

Zestaponi (Imereti)

- *Waste from processing of slag, and unprocessed slag*
- *Synthetic hydraulic oil*
- *End of life tyres*
- *Mixed municipal waste*

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Results to date

Rustavi (Kvemo Kartli)

- Data focussed on a few published waste management plans
- Lack of data on different waste fractions, so inference needed
- Reliance on landfill, focussed on more ”general” wastes e.g. paper and card
- Opportunities for symbioses, though mainly for combustion
- Gaps in infrastructure and services

Zestaponi (Imereti)

- Focussed on more typical ”industrial” wastes e.g. slag, oils
- Already closed loops for slag > metallurgy
- Reliance on landfill and combustion
- Challenges and opportunities more about supply chain than technical feasibility

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AZERBAIJAN

- Baku and Absheron-Khizi:
  - *Metal smelting*
  - *Metal processing*
  - *Construction materials*
  - *Furniture production*
  - *Production or use of chemicals*
  - *Production of glass and porcelain-faience*
- Data collection only recently commenced

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Lessons learned

- Early research. Do as much on the industrial base and waste arisings as early as possible. This can shape decisions on selection of regions, materials and inform data collection strategies
- Data is often very limited, set aside time for workarounds
- Keep project process as streamlined as possible e.g. selection of materials.
- Businesses can be sceptical when asked for data. Emphasise the positive nature of the project - nothing to lose, much to gain
- Keep data requests as simple as possible to maximise response
- Try to be specific when mapping wastes e.g. “paper”, “wood” – there are several categories of each

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Next steps

- Complete data gathering
- Characterise flows and material journeys
- Creation of visuals
- Reporting
- Dissemination events
- Lessons learned, replicable methodologies
- *NB: Maps used are for presentational purposes only, they are not representative*

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Thank you for your attention.

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