

# Industrial Waste Mapping Guidance and lessons from the EAP Pilots

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# Recap and summary

- **Large financial savings possible.** Waste prevention measures yield greatest results
- **Collaboration.** Numerous opportunities between industry. Opportunities to build on business networks
- **Mindset.** Avoid temptation to think of better waste management. Think of “**circular economy systems**”.
- **Incomplete data.** This was a challenge throughout. Data strategies should be prioritised
- **Procurement and market stimulation.** Green procurement can help develop markets
- **Fiscal tools.** Landfill is often cheaper than recycling
- **Regulation.** Needs to support reuse and recycling, e.g. end of waste protocols
- **Strategy.** Need greater alignment of policy and goals with waste hierarchy

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# Purpose of the guidance

- Lessons from pilots
- Replicable methodology
- Flexibilities for local conditions

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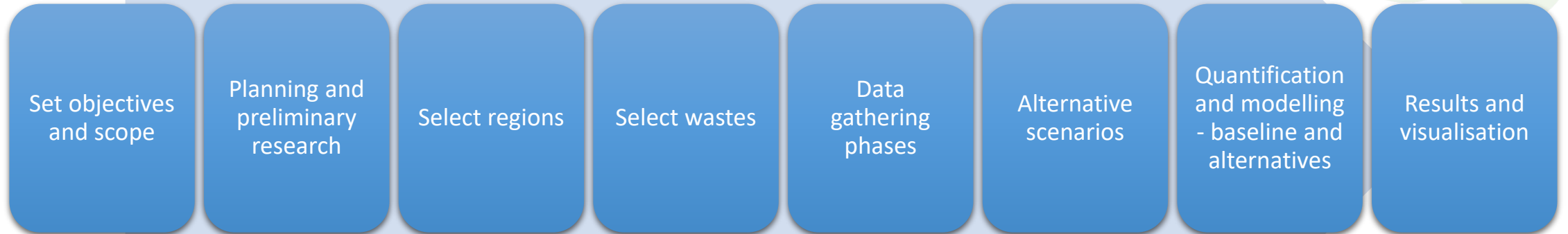


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# The waste mapping process



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# Define the scope

- Financial
- Environmental
- Geographic
- Who – sectors, stakeholders

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# Identify stakeholders

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# Critical early tasks

## Characterise the industrial sector

Key economic sectors

Size

Key players

## Characterise waste management sector

Legislative

Strategic direction

Current service provision

Gaps

## Understand data availability

Who holds data?

Is it complete?

Is it detailed?

Gaps?

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# Selecting regions - lessons

- ✓ Is there already a need to focus on a region?
- ✓ Match mapping with geographic data reporting
- ✓ Oftentimes, it is better to look at larger areas
- ✓ Avoid over-complicating a selection process (if possible)

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# Selecting wastes - lessons

- ✓ Budget: how many can you map?
- ✓ Background research: any wastes of special interest?
- ✓ How "industrial" is it?
- ✓ Is it universal or niche?
- ✓ Is there a potential for circularity?
- ✓ Whole categories of waste or just sub-sets?
- ✓ By-products?

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# Data gathering strategy - lessons

- ✓ Up-front research pays
- ✓ Understand data availability
- ✓ Data types – who to target in surveys
- ✓ Need for sampling?
- ✓ Plan for different phases – initial gathering and follow up
- ✓ Local cultural conventions
- ✓ Keep it simple

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# Possible data sets and strategy

## Characterizing the industrial base

- NACE lists of businesses
- Data on turnover
- Data on employment
- External sources for benchmarking

## Waste data

- European Waste Catalogue codes
- Sources of waste

- Onward destinations of wastes (including sorted and segregated fractions)
- By-products that are not listed as wastes
- Classification (non-hazardous, hazardous or inert)
- Treatment capacities
- Waste composition analyses
- Process diagrams and/or photos

## Financial

- Collection costs for mixed household waste and sorted fractions
- Post-treatment market value
- Taxation rates levied
- Gate fees at facilities
- Storage fees

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# Presenting results


- Baseline
- Alternatives and why
- What changes are needed
- Underlying systemic/institutional factors
- Specific action plans
- Less is more

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# Example: Pellet machines, Davydiv VTC

- Investment in a machine by 3 local areas is **paid off within a year.**
  - Companies then earn **UAH 25,000 per year** (sale of wood)
  - Extrapolated to all companies in Davydiv income is **UAH 60,000 per year.**
- 
- Quantified opportunity
  - Regulatory issues
  - Business case
  - Collaboration between businesses incl. Symbioses
  - Data, logistics

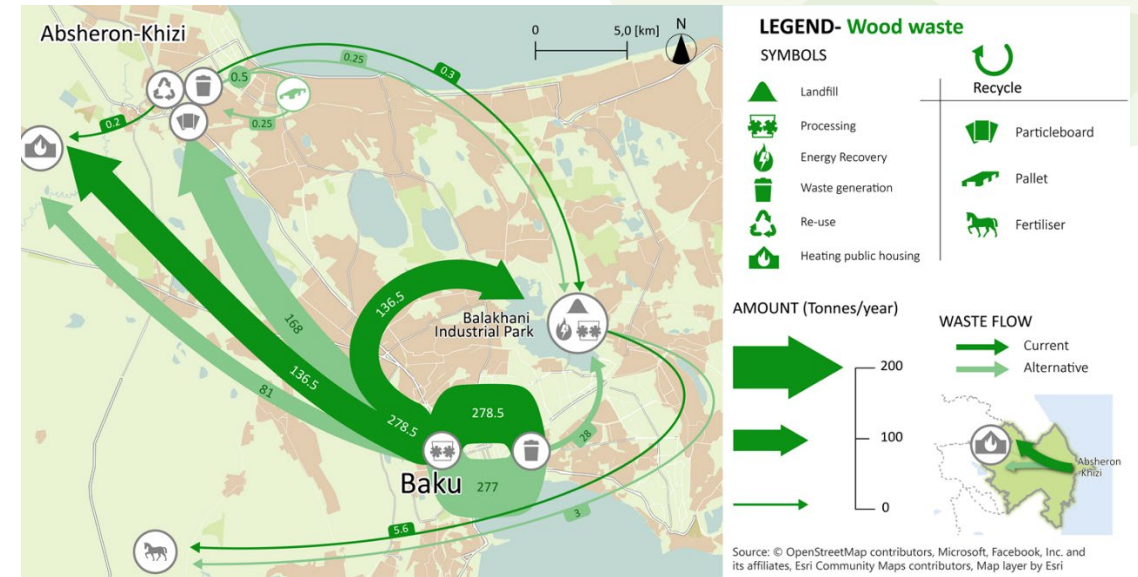
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# Insights from the countries – Azerbaijan, Georgia and Ukraine

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## Lessons learned: Azerbaijan

- **Establish business relations** with MENR, SSK and KOBIA and obtain the necessary preliminary information
- **Create a long list of enterprises**, taking into account their production profile and types of waste
  - include *medium and large* enterprises
- **Create a personal questionnaire for the enterprises** (on waste mapping)
- **Contact the enterprises**, informing the authorized representatives about the project and the benefits of cooperation, and visit the enterprises which agree to participate
- **Collect *on-site visit data*** (and prepare confidentiality agreement with the business entities)
- Create a short **list of enterprises** involved in the project
- Establish **long-term coordinated communication** with enterprises
- **Present and discuss** the obtained **results** and the report to the representatives of enterprises



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## Lessons learned: Georgia

- **Data:** Accelerate development of waste data flow and reporting
- **Digital tools:** Can measure materials, calculate financial and environmental impacts.
- **Fiscal tools:** Discourage disposal (e.g. landfill tax) and incentives for reuse and recycling
- **Regulation:** Support reuse and recycling
- **Collaboration:** Importance of collaboration and symbioses between industry
- **Information sharing:** industries access the information on legal requirements and waste treatment possibilities
- **Mindset:** Minimization of waste disposal and think of “circular economy systems”.

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## Lessons learned: Ukraine

- Select territorial communities where there is production of big and medium-sized industrial enterprises in various branches of industry
- Enlist the support of representatives of the authorities in the territory of the community
- Compile a long list and short list of industrial enterprises on the territory of the community
- Inform all representatives of community enterprises about the project content and benefits of cooperation
- Send a request with an individual survey form on industrial waste mapping
- Conduct individual visits to each production and fill out the data collection form on the spot. If necessary, sign a confidentiality agreement with enterprises. Visit with a community representative
- Establish long-term coordinated communication with enterprises
- Present and discuss the obtained results and the report to representatives of enterprises and territorial communities



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## Recap: Main lessons from pilots

- Expect incomplete data
- Build data incrementally
- Keep it simple
- Think circular
- What are the root issues?

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