

HOW TO LEVERAGE INPUT-OUTPUT INVENTORY TEMPLATES

Using a template to fill out input-output data inventory, also known as life cycle inventory, information is beneficial because it streamlines and clarifies the complex process of defining the assessment objectives and scope. Templates ensure consistency with the system boundaries—whether cradle-to-gate, gate-to-gate, or cradle-to-grave—aiding users in capturing comprehensive data needs. By adhering to product category rules when available, templates guide users in aligning their assessment with recommended scoping criteria necessary for producing labels as demanded by procurement programs.

Data inventory templates provided by Pacific Northwest National Laboratory (PNNL) are tailored specifically to product categories within the buildings industry. Overall, these templates simplify the process, ensuring thoroughness and accuracy, which is imperative for impact assessment.

The templates are designed to help users:



Align with product
category rules



Maintain consistency
in system boundaries



Collect comprehensive
product data



Improve accuracy,
transparency of assessments

PNNL's data inventory templates, and associated documentation, can be found at <https://data.pnnl.gov/group/nodes/project/34302>.

One Step at a Time

The following preparation steps help users gather comprehensive data for a thorough data inventory, supporting deeper insight and more informed decision-making in impact-related and other types of studies.

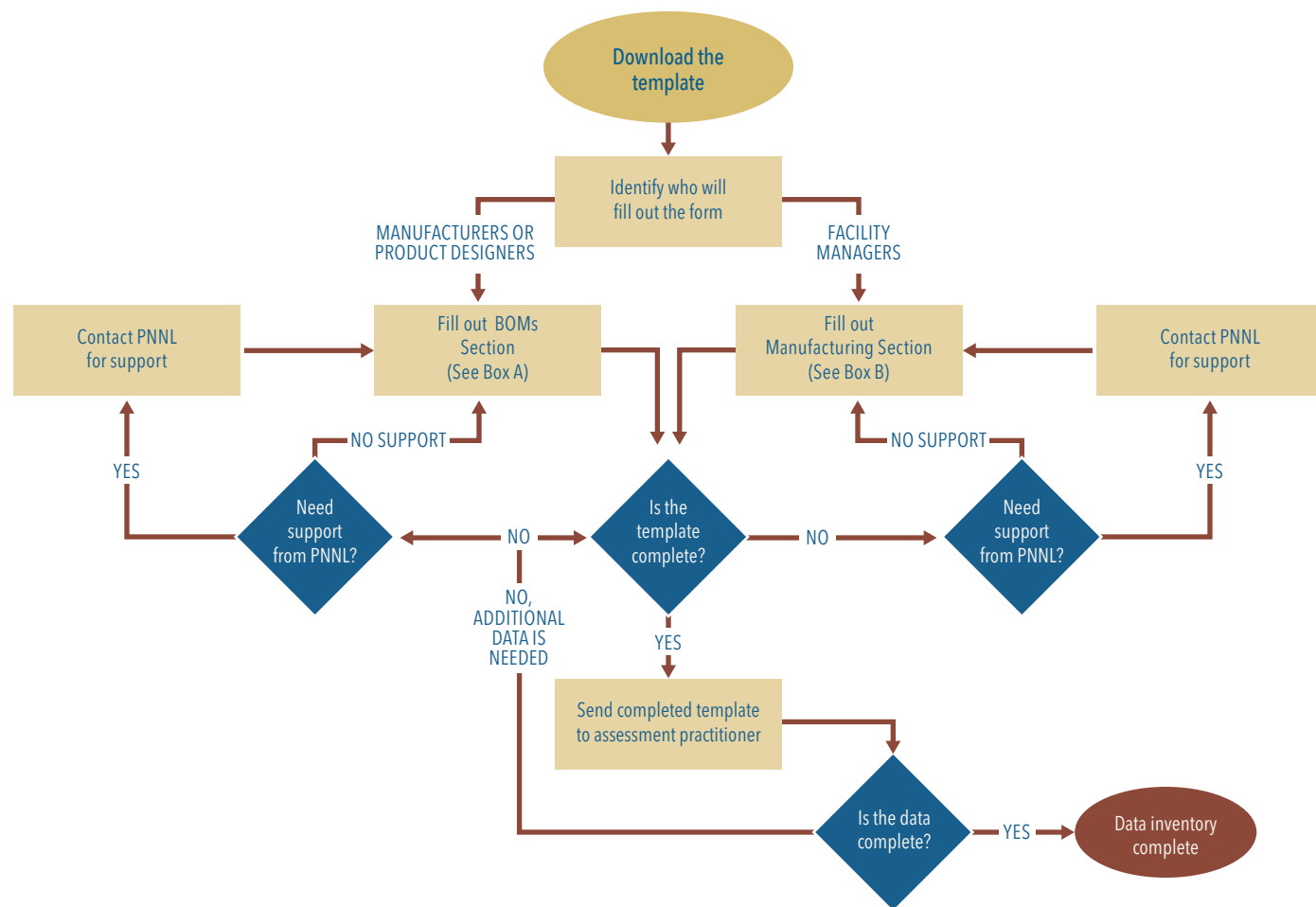
First, users should familiarize themselves with internal systems like supply chain and manufacturing execution systems, which provide essential metrics.

Next, they should engage with departments responsible for sourcing, production, and waste management to ensure access to necessary data.

To complete the data inventory template, users collect detailed data, including bills of materials (BOMs) with information on material weights, identification, origins, and transportation modes. Additionally, users identify foreground manufacturing inputs and outputs, such as inventory and production records, emissions, (e.g., to water or land) waste types, and handling methods.

Facility inputs like materials, energy usage from utility records, and water sources, including quantities and origins, are crucial as well. This comprehensive approach to data collection ensures accurate assessments by highlighting resource use and ecological and economic impacts.

Filling Out PNNL's Input-Output Data Inventory Template



BOX A Input BOMs

Columns for your BOM:

- Name of the input material, component, or substance
- Weight of the material (kg)
- Type or formulation of the material
- Country or region where the material is sourced
- Mode of transport used for delivering the material

BOX B Foreground Manufacturing Inputs and Outputs

Columns for data inputs:

- Annual average product output for representative facility or producer in units appropriate to the product (e.g., kg, units, linear feet, m², m³, kW power rating, etc.)
- Amount of heat input required per year (MJ/facility/year)
- Electricity input required per year (kWh/facility/year)
- Water body source and amount of water input needed per year (L/facility/year) + (source)
- Water body receiver and amount of water output per year (L/facility/year) + (output location)
- Criteria pollutants in kg (pollutant/facility/year)
- Other emissions (kg/kW): kg emissions to water (per water body type) and to land per year
- Solid waste (kg/year): solid waste generated per year by type (municipal, hazardous)
- Recycled waste (kg/year): solid waste sent to recycling per year



For more information or to get started visit:

<https://data.pnnl.gov/group/nodes/project/34302> or email: LCI-template@pnnl.gov