Classification of physical flows
-A proposal –
Issue 2

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UNSD
London Group Meeting
Canberra 27-30 April 2009

Issues

- Definition of product, waste, residual
- Proposal for a reorganization of the structure of classification of physical flows
- Scope of waste accounts

Definition of products, by-products, waste, residual

- 2008 SNA

  Products are goods and services that are the result of production

  By-products are products necessarily produced with principal products (wheat and straw)

  Joint products are products produced simultaneously by a single activity (sugar and molasses)

  No definition of waste or residual

Definition of products, by-products and waste (Cont'ed)

- CPC ver.2
  - In general follows SNA definition
  - Covers everything that is transacted within the economy (products and waste)
  - Principles of CPC
    - Industrial origin
    - Physical characteristic of product
    - Harmonization with HS (waste)
  - Waste scattered in several CPC classes
  - Value is not a criterion

Definition of products, by-products and waste (Cont'ed)

- Waste Framework Directive
  - Products materials created in a production process
  - By-products materials deliberately produced in a production process but may or may not be waste.
  - For a material to be a by-product 3 tests have to hold simultaneously:
    - Further use is a certainty
    - Material can be reused without further processing
    - Part of a continuous process of production

Definition of products, by-products and waste (Cont'ed)

- Waste Framework Directive
  - Waste Material for which the generator has no further use for own purpose of production, transformation or consumption and which he discards or intends to or is required to discard
  - Can be generated at any stage of production or consumption
  - Commercial value and economic reutilization are irrelevant

Definition of products, by-products and waste (Cont'ed)

- SEEA-2003
  - Products are goods and services produced within the economic sphere and used within it. Include also residuals that have positive value to the generator
  - Residuals are not uniquely defined
    - Incidental and undesired outputs from the economy that have zero value to the generator
    - Flows from the economy to the environment
    - Include dissipative use of products
  - Waste is sub-item of residual – solid waste that stays within the economy

Comment

- Definition of products is in general consistent across frameworks
- Definition of residuals and waste is not:
  - SEEA-2003 definition is linked to value
  - WFD definition is linked to the notion of “discard”
  - Material discarded can be:
    - Delivered to another industry for further use without processing
    - Discharged to a landfill
    - (Discharged to the environment)

Proposals on definitions

- Definition of products should be fully consistent with that of the SNA
- Waste – use definition of WFD
- Explain the notion of discard and expand it to include also discharge of materials back to the environment (e.g. to uncontrolled landfill, to ambient water)

Physical flows classification

- SEEA-2003
  - Ecosystem inputs
  - Natural resources

  } Flows from the environment to the economy

  - Products
  - Residuals

  } Flows within the economy and from the economy to the environment

  - Each flow uses its own classification

Proposals – Structure of classification

- Flows from the economy to the environment
  - Natural resources
  - Additional items
- Flows within the economy
- Flows from the economy to the environment
  - Emissions to air
  - Emissions to water
  - Solid waste to uncontrolled landfill
  - Dissipative use and dissipative losses
  - Return flows of water
  - Additional items (evaporation, losses, etc.)

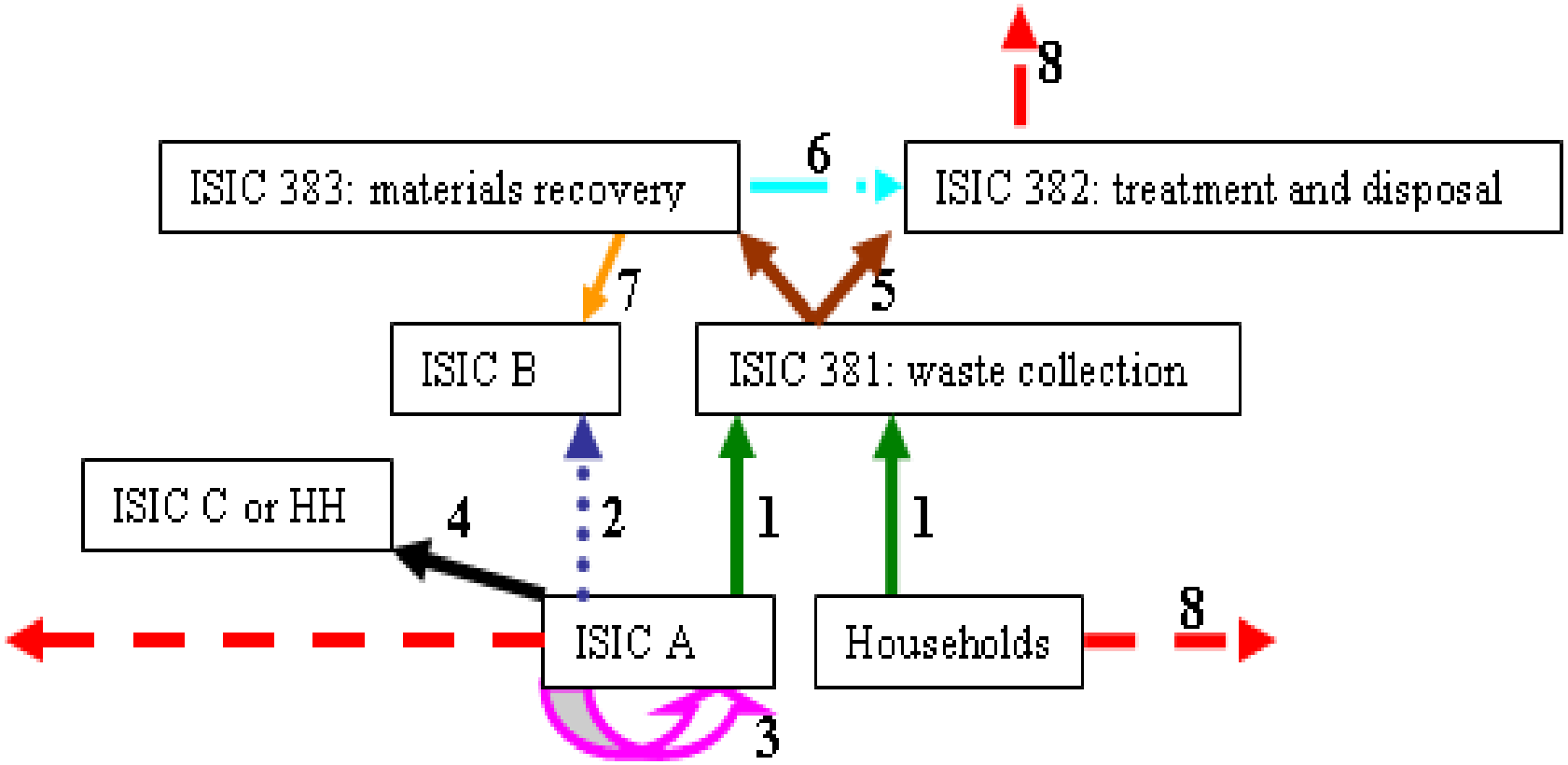
Proposals on classifications

- Use CPC for all physical flows, if relevant categories exist, and complement it with additional categories for flows from the environment to the economy and back to the environment
- CPC non appropriate for waste
- Use EWC Stat for waste – replace CPC 39 plus possibly other CPC classes

Advantages of the proposal

- Alignment with economic and waste statistics
  - SNA monetary flows relate to service paid (CPC 94)
  - SEEA physical flows present the volume (CPC 39)
  - Destination of flows seen in the SUT (waste product vs. waste residual)
- Integration with EW-MFA
- Coherence in recording dissipative use of products (not residuals but flows economy to the environment)
- Full consistency with the SEEAW

Waste flows


8
ISIC 383: materials recovery
6
ISIC 382: treatment and disposal
7
5
ISIC B
ISIC 381: waste collection
ISIC C or HH
4
2
1
1
ISIC A
Households
8
3

Proposal on scope of waste accounts

- Use broad scope of waste accounts to include:
  - Flows of discarded materials into ISIC 37
  - Flows used as intermediate consumption by other industries
  - Flows of materials discharged into the environment (e.g. uncontrolled landfill, ambient water – air emission covered by emission accounts)
  - Secondary waste

Next steps

- Outcome of LG discussions will be presented at the next UN Expert Group Meeting on Classifications (Sept 09)
- Outcome of EGM shared with LG

Questions to LG

1. *Do you agree with aligning the definition of products with the that of the 2008 SNA and CPC?*
2. *Do you agree to use the definition of waste based on EWC?*
3. *Do you agree with the typology of flows proposed: flows from the environment to the economy, flows within the economy, and flows from the economy to the environment?*
4. *Do you agree to use CPC to classify all physical flows (except for waste) complemented by additional categories?*
5. *Do you agree to replace CPC Division 39 covering solid waste and possibly the most important CPC classes with EWC Stat for classifying waste?*
6. *Do you agree with the suggested expanded scope of the waste accounts to include also solid waste discharged to the environment (e.g. uncontrolled landfill), including materials discharged to ambient water?*

Advantage of the proposal

- Physical flows in standard tables are consistent with the SNA monetary flows
- Standard tables identified, if information is available all types of losses, including theft
- Supplementary tables regroup the losses to show gross aggregates (and derivation of productivity indicators
- Theft is separately identified, if information is available as a different flow neither within the economy nor as a flow from the environment to the economy

Disadvantage of the proposal

- Energy statistics record
  - production of secondary products gross (including losses)
  - production of primary products net of losses
- For secondary energy products, standard tables are inconsistent with energy statistics

Questions to the London Group

1. Does the London Group agree with the typology of losses (Section B)?
2. Does the London Group considers useful a table on the presentation of gross supply (Tables 2 and 5)?
3. Does the London Group agree with the suggested recording of losses during extraction, distribution, storage and conversion as presented in Tables 3 and 5?
4. Does the London Group agree with the supplementary tables for theft?