Australian Bureau of Statistics

Energy Accounts

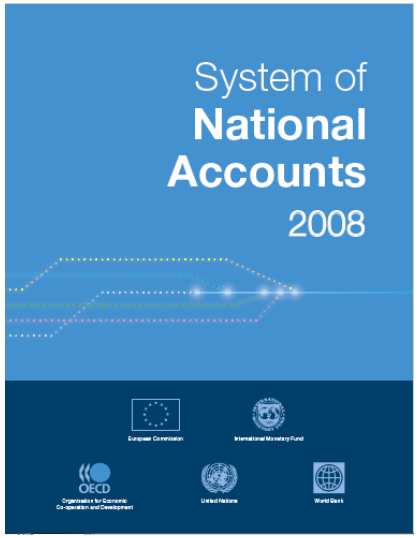
Introduction to Energy Accounts

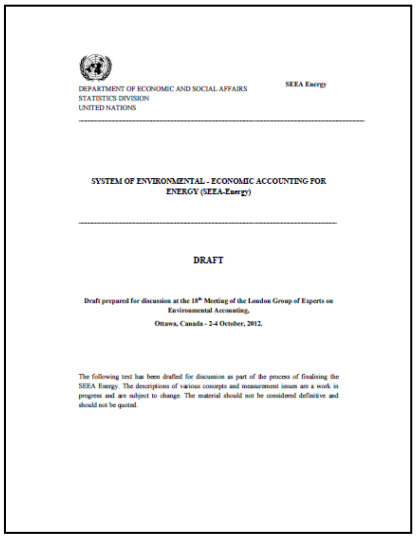
Lauren Binns

Malaysia 2016

SEEA – Energy

Overview




DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS

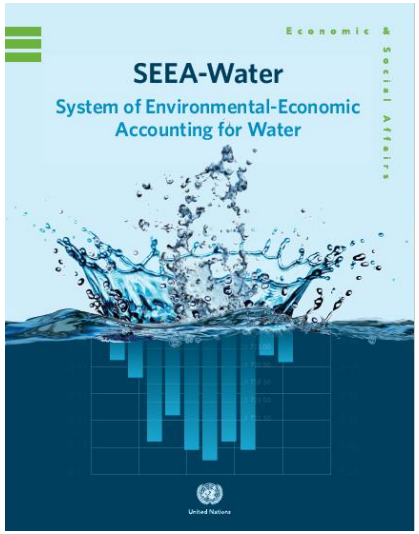
SEEA Energy

SYSTEM OF ENVIRONMENTAL - ECONOMIC ACCOUNTING FOR ENERGY (SEEA-Energy)

DRAFT

Draft prepared for discussion at the 18th Meeting of the London Group of Experts on Environmental Accounting,
Ottawa, Canada - 2-4 October, 2012.

The following text has been drafted for discussion as part of the process of finalising the SEEA Energy. The descriptions of various concepts and measurement issues are a work in progress and are subject to change. The material should not be considered definitive and should not be quoted.



The *System of Environmental – Economic Accounting for Energy* (SEEA-Energy) is a subsystem of the SEEA – Central Framework

SEEA – Energy

Introduction

- conceptual framework for organising energy related statistical information
- Lists agreed concepts, definitions, classifications and tables and accounts related to energy
- Concepts and definitions are designed to be applicable across all countries

SEEA – Energy

Introduction

- records the stocks and flows of energy within the economy as well as energy related aspects of environmental issues

- elaborates on the links between energy balances and energy accounts.

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Types of accounts

There are three main types of accounts in the SEEA framework:

(i) physical flow accounts

(ii) accounts for energy-related transactions and

(iii) asset accounts in physical and monetary terms.

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Concepts and classifications

There are a number of important concepts, classifications and definitions to consider:

- Residency concept
- Natural inputs, products and residuals
- Energy Product Classification
- Industry Classification
- Unit of measurement for physical flow accounts

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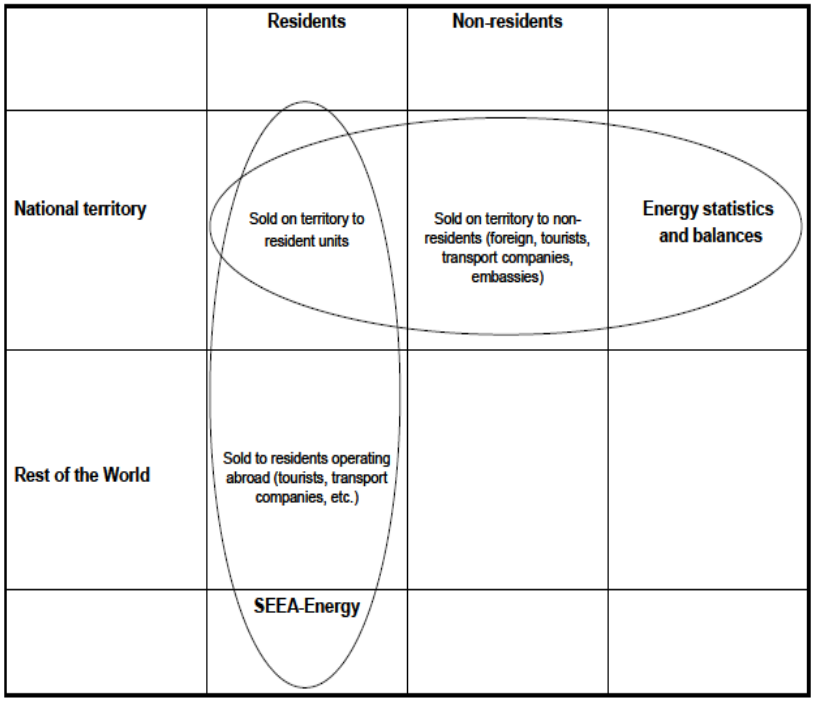
Residence

Both SNA and SEEA define economic territory as the area under effective economic control of a single government.

Different geographic boundary to that used by many energy statistics and energy balances



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Natural inputs, products & residuals

SEEA view of energy

- Natural inputs from environment
- Products supplied by the economy
  - Primary – energy flows from the environment with minimal processing
  - Secondary – energy flows after transformation from (mainly) primary energy
- Residuals to environment

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Classifications

Product = Standard International Energy Classification (SIEC)

Industry = International Standard Industry Classification on All Economic Activities (ISIC)

Depends on Country

Needs to be consistent with or concord to other classifications in use

Standard International Energy Product Classification (SIEC)

Classes of energy products
0 Coal
1 Peat and peat products
2 Oil shale / oil sands
3 Natural gas
4 Oil
5 Biofuels
6 Waste
7 Electricity
8 Heat
9 Nuclear fuels and other fuels n.e.c

Source: IRES, 2011

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Units of measurement

Within SEEA Energy physical flows are expressed in energetic units – usually Joules

Need to pick a consistent level of energy content (PJ (10^{15}) or TJ(10^{12}) for example) to allow different flows to be compared

For monetary accounts the national currency will be the relevant unit

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Main types of accounts

Asset Accounts

Energy from natural inputs

Supply of primary inputs and imports

Transformation of primary inputs

Energy end use

Energy residuals

Physical

National balance sheet
Non-produced, non-financial assets (subsoil)

Supply

Use

Monetary

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Possible Extensions

Investment in fixed assets
International investment in energy industries

Hybrid Supply

Hybrid Use

Energy balance bridging tables

Energy end use by stationary/non-stationary

Energy residuals from stationary/non-stationary

Defensive measures to protect the environment
Ambient air and climate

Environment protection expenditure

Physical

Monetary

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Why compile energy accounts?

Energy Accounts are an integrating framework for energy statistics.

- Allows a wide range of data sources to be used. Easy to feed back quality concerns.
- Conversion processes usually reveal data quality problems.
- Can be used to establish data items for in-house energy surveys.

Energy accounting is useful to guide statistical development and to influence administrative data collection.

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Why compile energy accounts?

Energy accounts can be useful in the construction of supply and use tables for national accounting purposes

- Can produce good volume series for energy products (outputs of energy industries).
- Can match with basic and producer prices for intermediate consumption.
- Usually provides better information for energy products purchase by households (Household final demand).
- Can help to clear up conceptual issues with vertical integrated businesses

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Why compile energy accounts?

Provides an alternative view to energy balances

- Alignment with standard economic measures
- Easier to integrate with productivity or input-output analysis

Building bridging tables can help to explain differences.

The following example is a good way of demonstrating to policy about the usefulness of a set of energy accounts.

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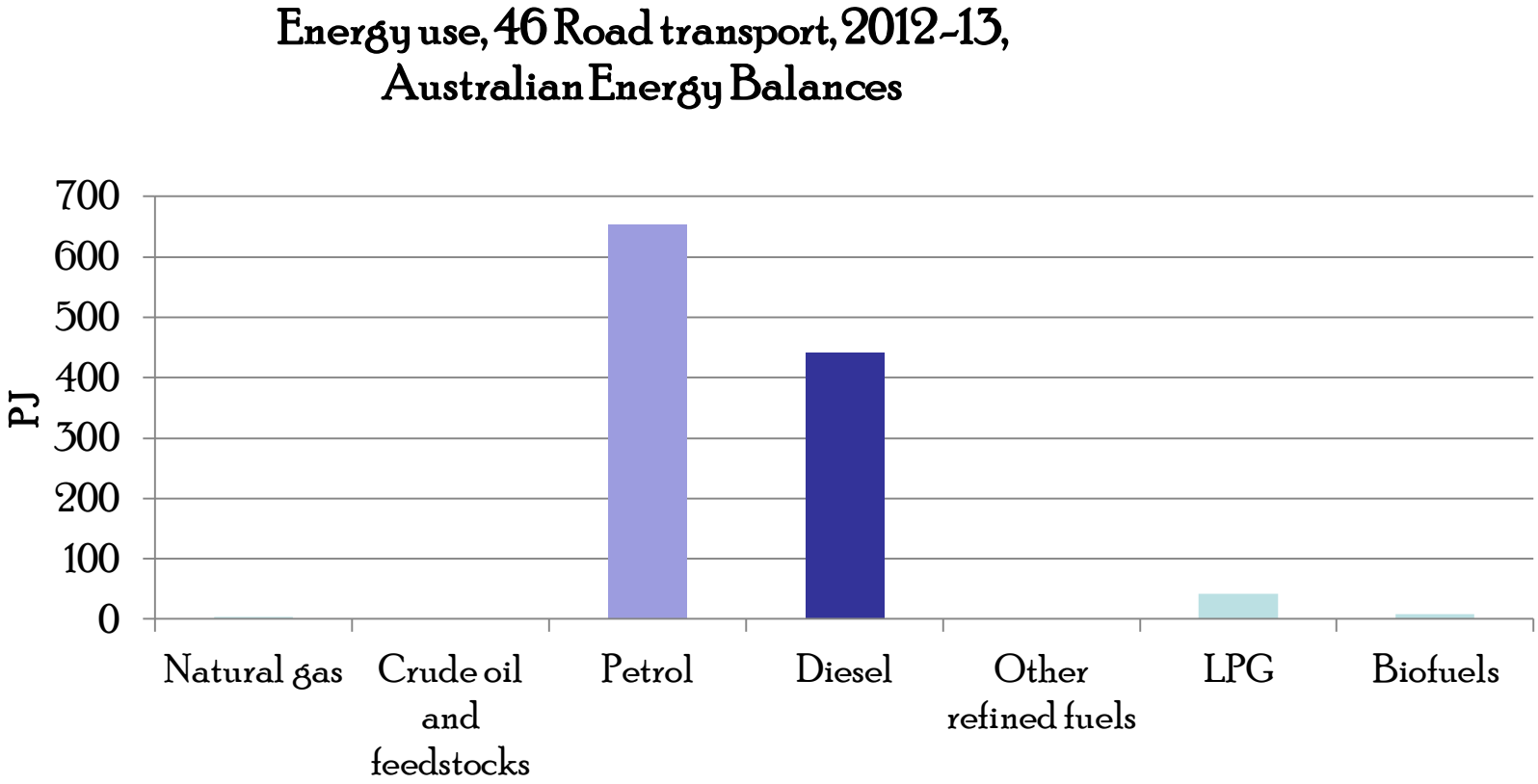
An example – energy balances



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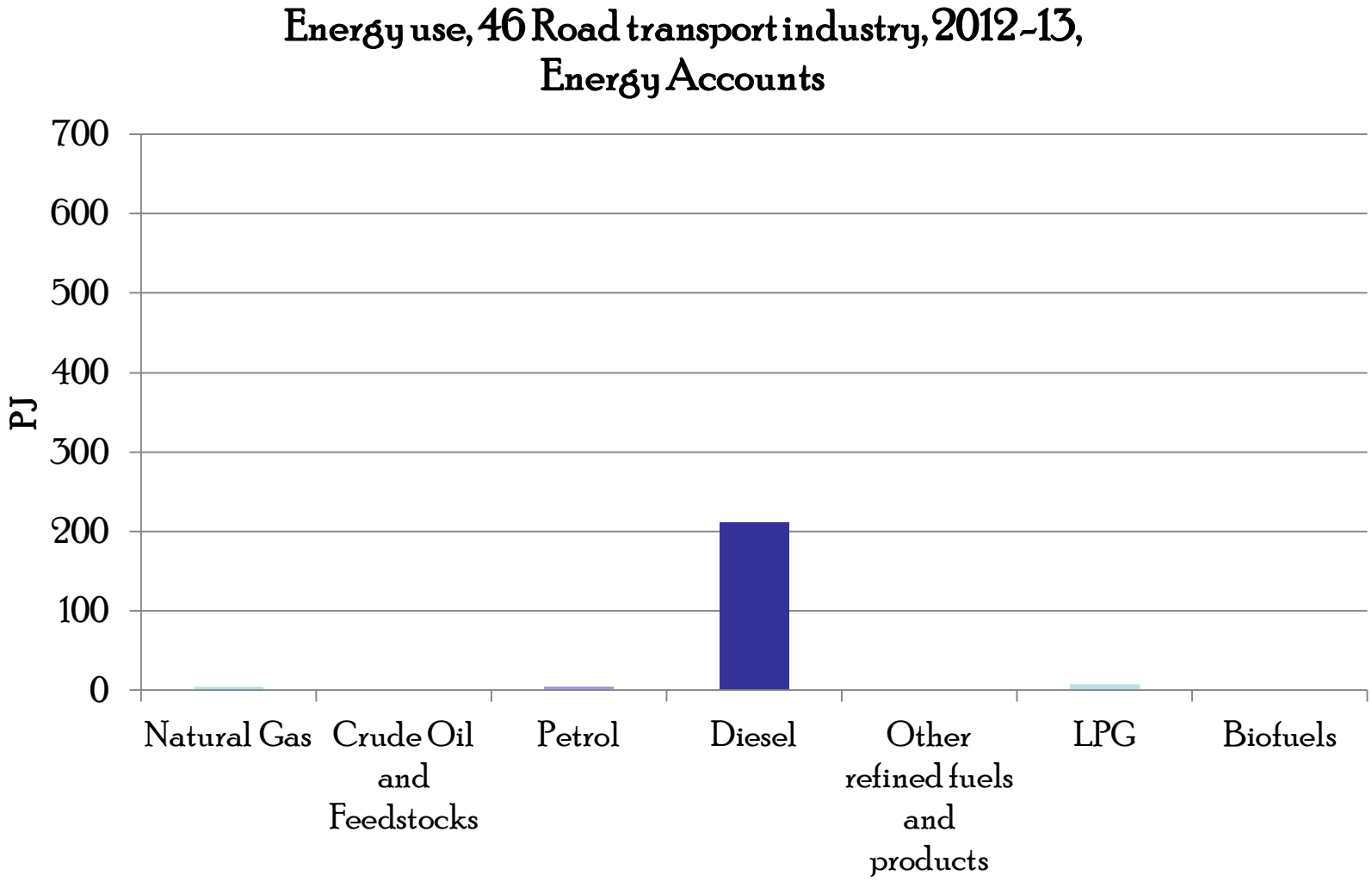
An example – energy accounts



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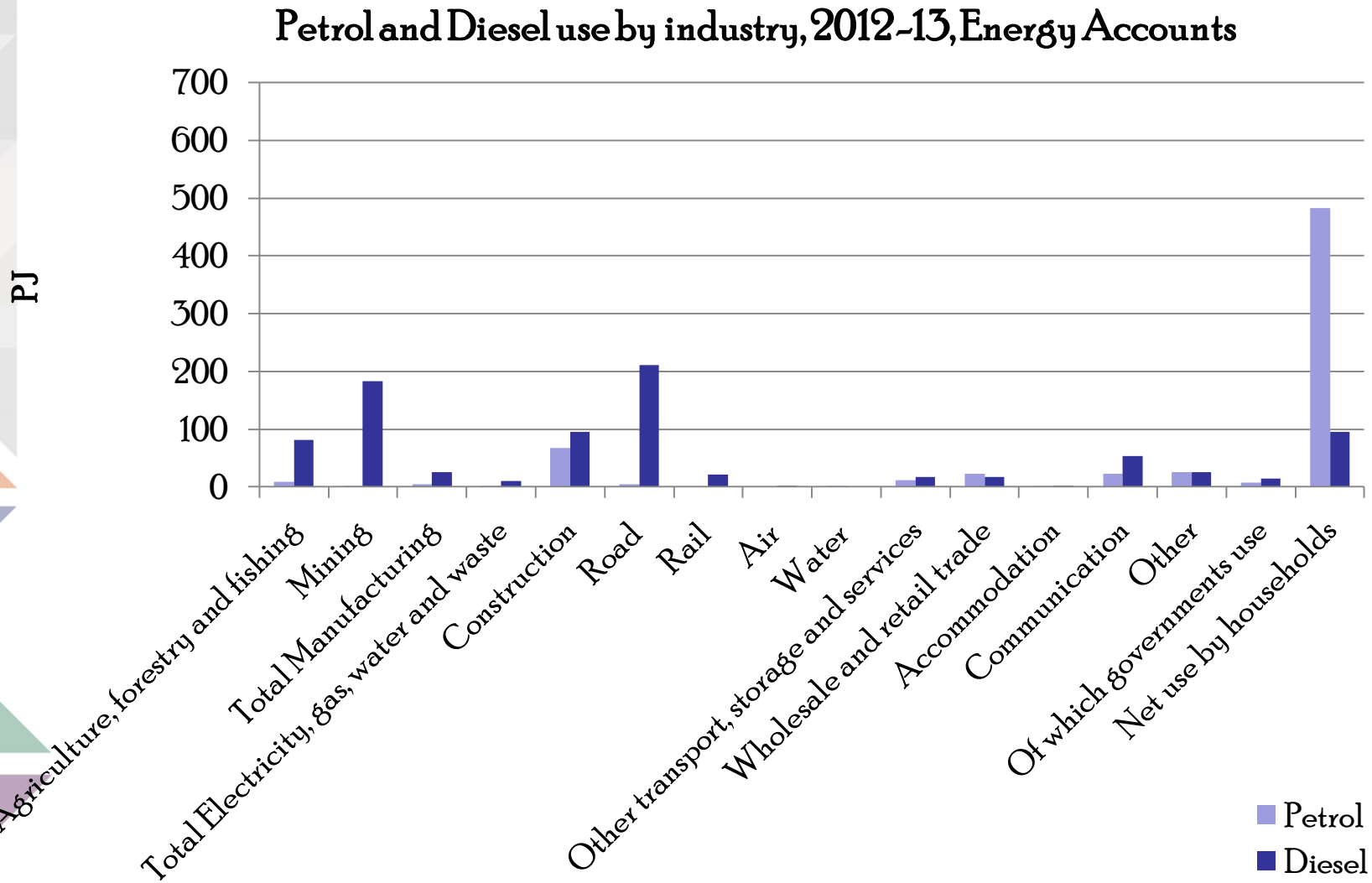
An example – energy accounts



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On Thursday afternoon we will extend this introductory session to look at:

- Energy Accounts – Compilation
- Energy accounts with policy; analysis & application of energy accountings

Thankyou!