Introduction to the System of Environmental-Economic Accounting Central Framework

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Contributed presentation at the 60th AARES Annual Conference,
Canberra, ACT, 2-5 February 2016

DAY 03: SESSION 7D

Introduction to the System of Environmental-Economic Accounting Central Framework

60TH ANNUAL CONFERENCE OF THE AUSTRALIAN AGRICULTURAL AND RESOURCE ECONOMICS SOCIETY

CANBERRA, AUSTRALIA **05 FEBRUARY 2016**

Outline

- environmental assets
- a framework for environmental accounts
- the environment in national accounts

Introduction

My name is Ross Alexander:

- I joined the Environment Statistics Section (ABS) in December 2014
- I worked in the National Accounts Branch (ABS) for a period of twelve years before joining ESS
- I bring knowledge of the System of National Accounts (SNA) to Environmental Accounts
- I also bring knowledge of the Input-Output Tables which are a primary data source for Environmental Accounts

Development of environmental statistics

Since the 1980s, environmental statistics have played a role in shaping policy in many countries. It is important to note that environmental statistics:

- **were not collected and reported through a standard accounting framework for much of this period**
- **were often not well integrated with other datasets**

Development of environmental statistics

Environmental statistics in the past:

- used a variety of concepts, methods and classifications
- used different definitions of "environment"
- were often developed to answer one particular question or problem

  e.g. economics, social science, ecology, hydrology, earth science, meteorology, etc.

Development of Environmental Accounts

In the 1990s, there was a shift in policy focus away from considering the economy, society and the environment as separate issues, to a more integrated approach aimed at sustainable development.

Many countries realised that accounting frameworks have the potential to link economic, social and environmental data, proving useful to structure economic statistics, and to derive economic indicators.

Development of Environmental Accounts

Integration of these concerns required development of a statistical framework that combined the System of National Accounts — an economic tool — with appropriate environmental and social indicators:

- **Rio Conference (1992)**
- **Agenda 21 proposed 'a program to develop national systems of integrated environmental and economic accounting in all countries'.**

A Framework for Environmental Accounts

In 1993, the United Nations (UN) endorsed the link between Gross Domestic Product (GDP) and the environment with the introduction of the revised System of National Accounts manual (or 1993 SNA).

A Framework for Environmental Accounts

The 1993 SNA:

- replaced the 1968 edition of SNA
- included a new chapter on satellite accounts covering environmental accounting and other topics
- recommended development of balance sheets with valuation of produced and non-produced assets, including tangible non-produced assets such as land and subsoil assets

A Framework for Environmental Accounts

In the same year, the United Nations also:

- published a *Handbook of National Accounting: Integrated Environmental and Economic Accounting* (SEEA-1993), functioning as a satellite system to SNA
- established the *London Group on Resource Accounting* to advance principles and methodologies in environmental accounting

A Framework for Environmental Accounts

UNSC at its 2006 session established the mechanisms to elevate SEEA to status of an international statistical standard:

- **United Nations Statistical Commission (or UNSC) adopts the *System of Environmental-Economic Accounting – Central Framework* (SEEA-2012) as an international standard in 2012**
- **environmental concerns were to be integrated into mainstream economic reporting by member countries**

A Framework for Environmental Accounts

System of Environmental-Economic Accounting 2012 — Central Framework

- also known as the SEEA Central Framework (or SEEA-CF)
- consistent with the UN System of National Accounts

System of National Accounts (2008 Edition)

- also known as 2008 SNA
- replaced 1993 SNA
- consolidated work on balance sheets

SEEA Central Framework

Environmental (or *environmental-economic*) accounts are a tool to measure sustainability of economic behaviour.

These accounts provide an integrated framework for consistent analysis of the contribution of the environment to the economy, and the impact of the economy on the environment.

SEEA Central Framework

SEEA measures the interdependency of the economy and the environment by integrating economic, environment and energy statistics.

Australia has implemented SEEA in some accounts, and is implementing its recommendations into other accounts.

Background in Australia

Australia was crucial to development and implementation of the System of Environmental-Economics Accounting:

- **Carl Obst was editor of SEEA Central Framework (or SEEA-CF)**
- **Carl headed Australia's National Accounts Branch in the 2000s**
- **Peter Harper (former Deputy Statistician) chaired the UN Committee of Experts on Environmental-Economic Accounting (or UNCEEA) between 2009 and 2013**

Examples of Environmental Accounts produced by Australian Bureau of Statistics

cat. no. 4610.0	*Water Account, Australia, 2011-12*
cat. no. 4604.0	*Energy Account, Australia, 2011-12*
cat. no. 4602.0.55.005	*Waste Account, Australia, Experimental Estimates*
cat. no. 4610.0.55.008	*Gross Value of Irrigated Agricultural Production*
cat. no. 4655.0	*Australian Environmental-Economic Accounts, 2015*
cat. no. 4609.4.55.005	*Land Account, South Australia, Experimental Estimates*
cat. no. 4680.0.55.001	*Information Paper: An Experimental Ecosystem Account for the GBR Region, 2015*

A Framework for Environmental Accounts

SEEA and SNA share accounting rules and building blocks. Examples include institutional units, transactions, classifications, valuations etc. Key differences exist for:

- **asset boundary and**
- **production boundary**

A Framework for Environmental Accounts

SNA is concerned with economic assets (flows and stocks):

- **does not separately group economic transactions according to their environmental status**
- **provides monetary valuations only**

Both economic and environmental assets are in scope of SEEA.

A Framework for Environmental Accounts

The main building blocks of SEEA are:

1. physical supply-use tables and hybrid accounts
2. physical asset accounts for both environmental and economic assets (natural capital)
3. accounts for economic activities related to environment
4. monetary asset accounts and balance sheets for economic assets

A Framework for Environmental Accounts

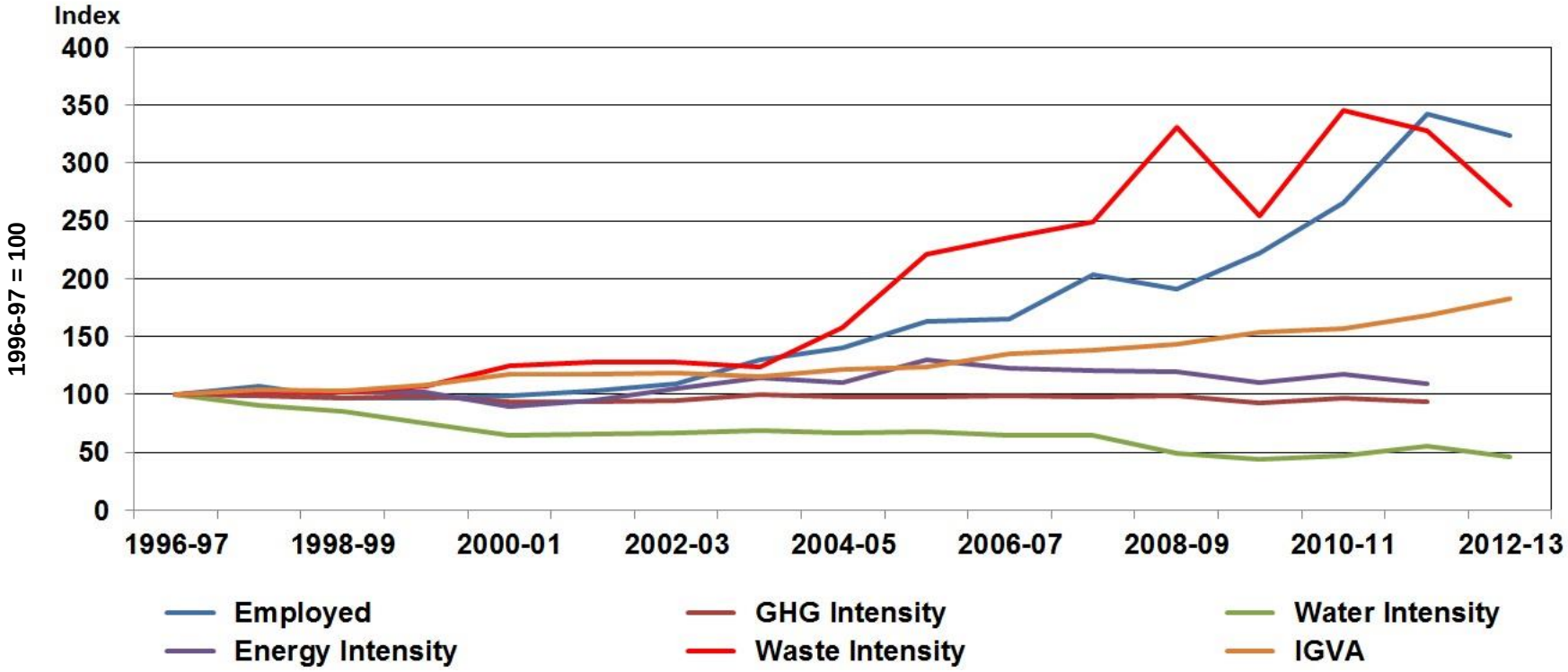
The main building blocks of SEEA are:

- measures physical characteristics on production and consumption processes
- main (S-U) flows are natural resources, products and residuals
- use the same economic classifications as SNA

  e.g. ISIC and CPC
- hybrid or combined tables to produce indicators

Introduction to SEEA Central Framework

Graph 01: Economic Growth and Selected Environmental Indicators, Australia, 1996-97 to 2012-13, Index (1996-97 = 100)



The Environment in National Accounts

Environmental assets that are economic can include:

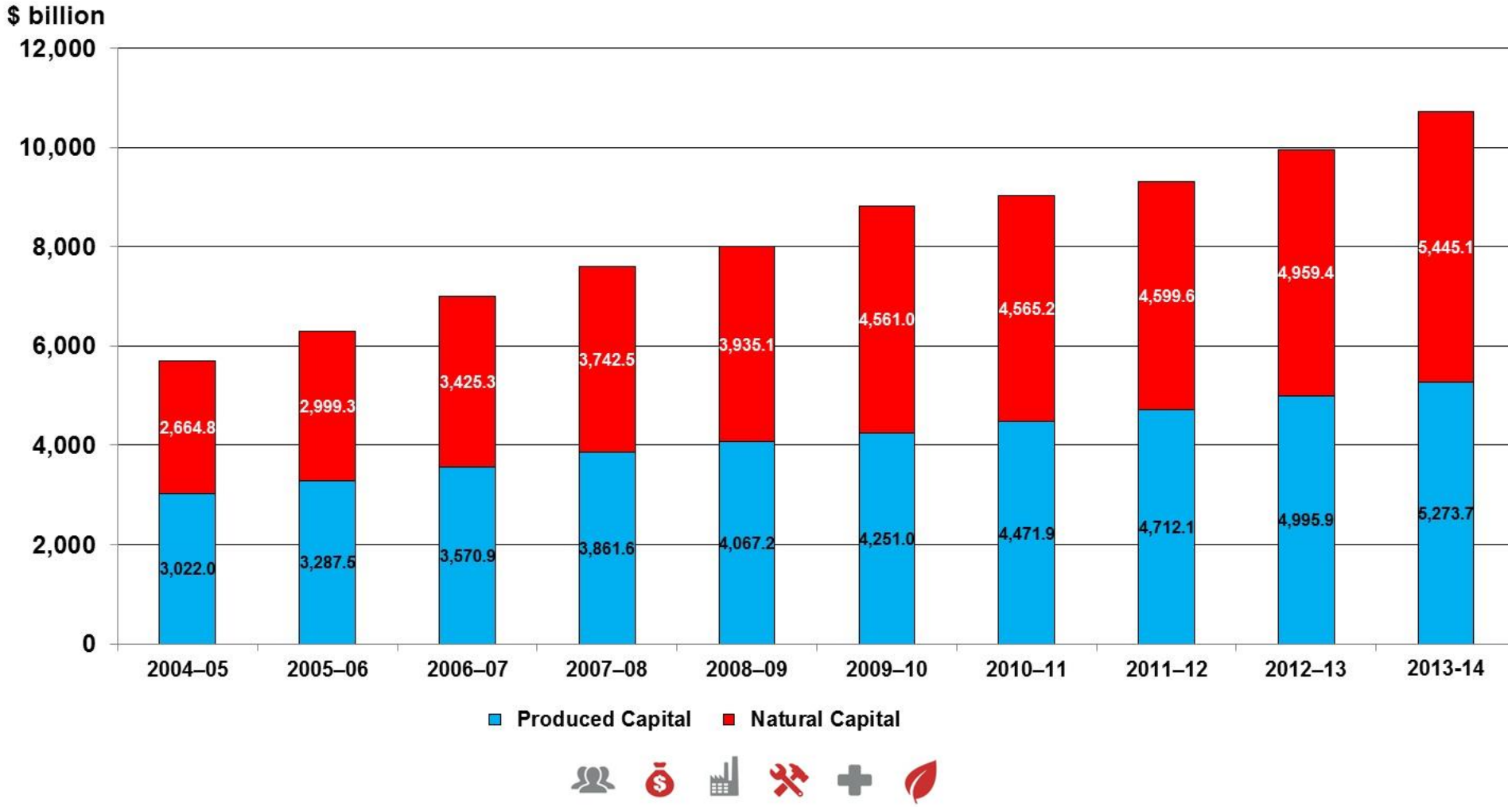
- land
- mineral and energy resources
- timber (natural and plantation)
- water
- fish stocks in open waters

Environmental assets that are not economic can include:

- national parks/forests – non-harvested
- the atmosphere
- oceans

Introduction to SEEA Central Framework

Graph 02: Capital Stock, Australia, Produced and Non-Produced Capital, 2004-05 to 2013-14, Current Prices ($ billion)



SEEA and Other Perspectives

- land accounts
- water accounts
- SEEA Experimental Ecosystem Accounting (SEEA-EEA)
- System of Environmental Economic Accounting for Agriculture (SEEA-AGRI)

SEEA Asset Classification