Australian Bureau of Statistics

Water Accounts

Physical Supply and Use Tables

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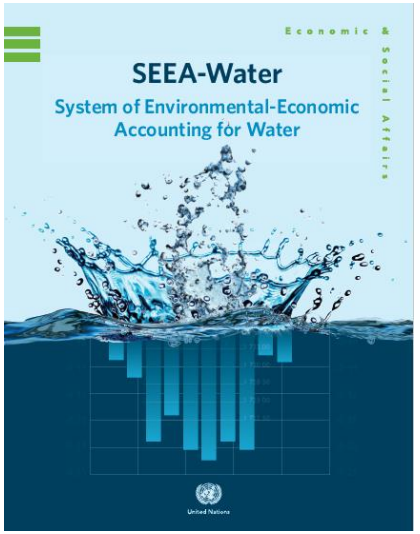
Physical Supply Use Tables for Water

Overview

Overview

Components

Worked examples



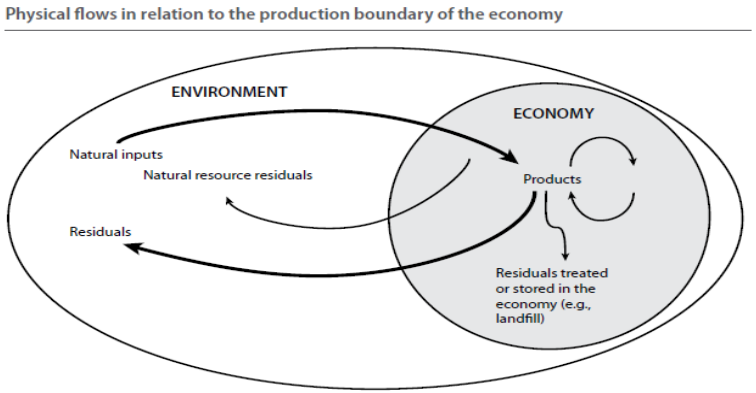
Chapter 3

Physical Supply Use Tables for Water

Overview

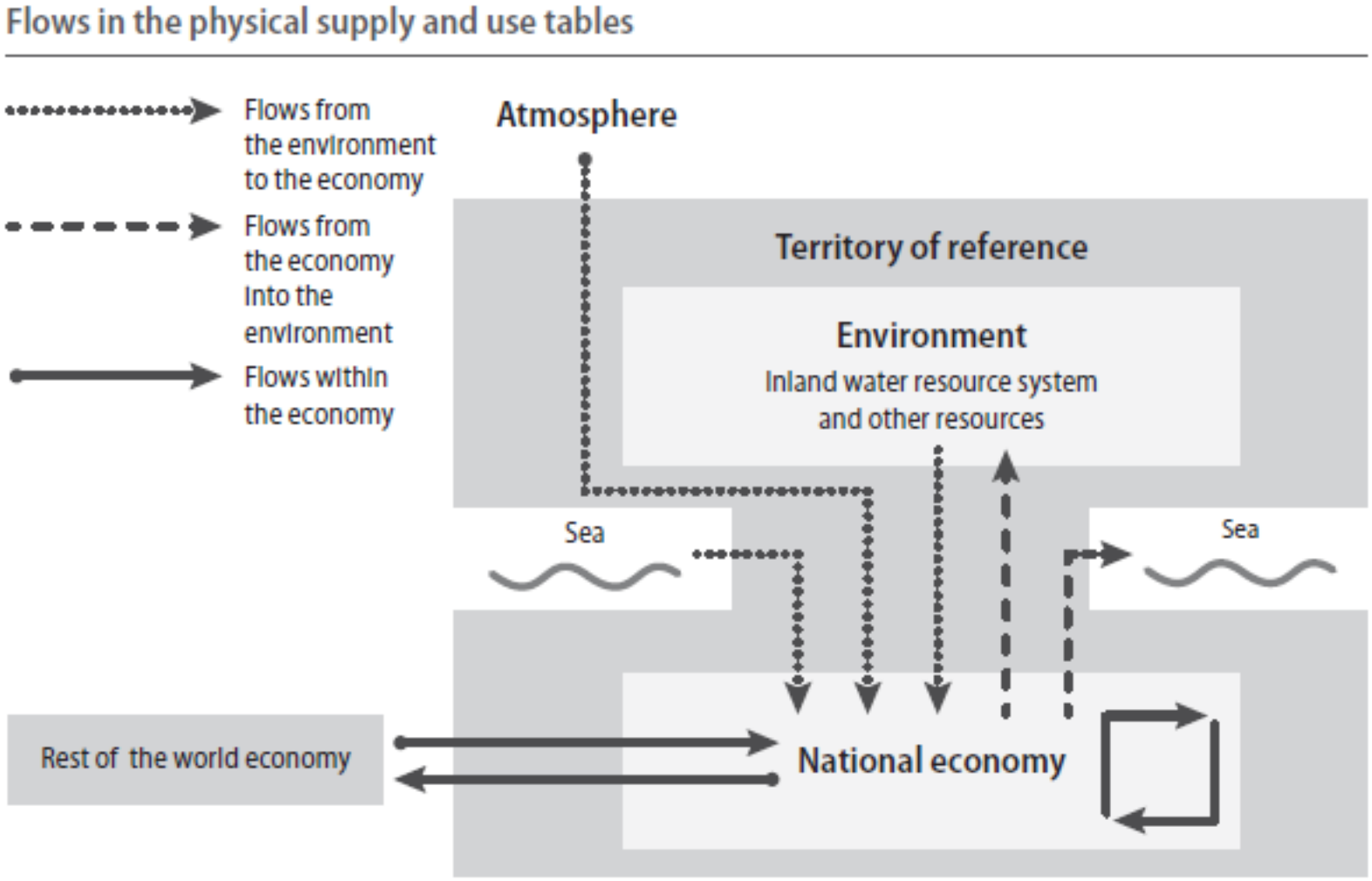
The **Physical Supply and Use Tables** (PSUT) measure;

1) the flows of water (i.e. volume) entering the economy, which are either abstracted from the environment or imported;
2) the flows of water between different economic units within the economy
3) return flows of water from the economy to the environment (often via sewerage treatment plants).



Physical Supply Use Tables for Water

Overview



Physical Supply Use Tables for Water

Components

The SEEA – Central Framework PSUT for Water is divided into five components:

(i) the abstraction of water from the environment;

(ii) the distribution and use of abstracted water across enterprises and households;

(iii) flows of wastewater and reused water (between households and enterprises);

(iv) return flows of water to the environment; and

(v) evaporation, transpiration and water incorporated into products.

Physical Supply Use Tables for Water
Components – CF Supply Table

Physical supply table for water	Abstraction of water; Production of water; Generation of return flows								Flows from the rest of the world	Flows from the	Total supply
	Agriculture, forestry and fishing	Mining & quarrying, Manufacturing and Construction	Electricity, gas, steam and air conditioning	Water collection, treatment and supply		Sewerage	Other industries		Imports		
				Total (excluding household	Household activity						
Sources of abstracted water											
Inland water resources											
Surface water										440.6	440.6
Groundwater										476.3	476.3
Soil water										50	50
Total										966.9	966.9
Other water sources											
Precipitation										101	101
Sea water										101.1	101.1
Total										202.1	202.1
Total supply abstracted water										1169	1169
Abstracted water											
For distribution				405.6							405.6
For own-use	108.4	114.6	404.2	23	10.8	100.1	2.3				763.4
Wastewater and reused water											
Wastewater											
Wastewater to treatment	17.9	117.6	5.6	1.4	235.5	0	49.1				427.1
Own treatment											0
Reused water produced											
For distribution						42.7					42.7
For own use		10									10
Return flows of water											
To inland water resources											
Surface water			300		0.5	52.5	0.2				352.7
Ground water	65	23.5		47.3	4.1	175	0.5				311.3
Soil water											0
Total	65	23.5	300	47.3	4.6	227.5	0.7				664
To other sources		5.9	100		0.2	256.3					362.2
Total Return flows	65	29.4	400	47.3	4.8	483.8	0.7				1026.2
Evaporation of abstracted water, transpiration and water incorporated into products											
Evaporation of abstracted wat	76.2	43.2	2.5	1.8	10	0.7	3.6				138
Transpiration											
Water incorporated into products											
Total supply	267.5	314.8	812.3	479.1	261.1	627.3	55.7		0	1169	3986.8
Physical use table for water											

Physical Supply Use Tables for Water
Components – CF Use Table

Physical use table for water

	Abstraction of water; Intermediate consumption; Return flows							Final consumption	Accumulation	Flows to the rest of the world	Flows to the environment	Total use
	Agriculture, forestry and fishing	Mining & quarrying, Manufacturing and Construction	Electricity, gas, steam and air conditioning	Water collection, treatment and supply		Sewerage	Other industries	Households		Exports		
				Total (excluding household	Household activity							
Sources of abstracted water												
Inland water resources												
Surface water	55.3	79.7	301	4.5	0	0.1						440.6
Groundwater	3.1	34.8	3.2	423.1	9.8		2.3					466.5
Soil water	50											50
Total	108.4	114.5	304.2	427.6	9.8	0.1	2.3					957.1
Other water sources												
Precipitation				0	1	100						100
Sea water			100	1.1								101.1
Total	0	0	100	1.1	1	100	0					201.1
Total use abstracted water	108.4	114.5	404.2	428.7	10.8	100.1	2.3					1158.2
Abstracted water												
Distributed water	38.7	45	3.9	27.4	0	0	51.1	239.5		0		405.6
Own use	108.4	114.6	404.2	23	0	100.1	2.3	10.8				763.4
Wastewater and reused water												
Wastewater												
Wastewater received from other units				0		427.1				0		427.1
Own treatment	12	40.7										52.7
Reused water												
Distributed reuse												
Own use												
Total	12	40.7	0	0	0	427.1	0	0		0		479.8
Return flows of water												
Returns of water to the environment												
To inland water resources											668.6	668.6
To other sources											362.4	362.4
Total return flows											1031	1031
Evaporation of abstracted water, transpiration and water incorporated into products												
Evaporation of abstracted water											138	138
Transpiration												
Water incorporated into products												
Total use	267.5	314.8	812.3	479.1	10.8	627.3	55.7	250.3	0	0	1169	3986.8

Physical Supply Use Tables for Water

Abstraction from environment

The abstraction of water from the environment can be organised according to the source of water:

(i) From inland water resources;
- Surface water
- Ground water
- Soil water

(ii) Collection of precipitation

(iii) Abstraction from the sea

Physical Supply Use Tables for Water

Distribution of abstracted water

Or according to the purpose of abstraction:

(i) Abstraction for own use;
(ii) Abstraction for distribution;

Physical Supply Use Tables for Water

Water within the economy

Flows of water already within the economy include wastewater and re-used water

Wastewater – of no further immediate value because of quality, quantity or time of occurrence

Reused water – wastewater supplied to a user for further use
AKA "reclaimed wastewater"

Physical Supply Use Tables for Water

Return flows

Return flows are split out by receiving media in both the central framework and SEEA – Water standard tables

(i) To inland water resources

- Surface water
- Ground water
- Soil water

(ii) To other sources

Physical Supply Use Tables for Water

Evaporation, transpiration and water incorporated into products

Final Water Use includes:

(i) Evaporation of abstracted water

(ii) Transpiration and

(iii) Water incorporated into products

Also known as "water consumption" in SEEA – Water

Physical Supply Use Tables for Water

SEEA – Water

Table III.1
Standard physical supply and use tables for water

A. Physical use table (*physical units*)		Industries (by ISIC category)							Households	Rest of the world	Total
		1-3	5-33, 41-43	35	36	37	38, 39, 45-99	Total			
From the environment	1. Total abstraction (= 1.a + 1.b = 1.i + 1.ii)										
	1.a. Abstraction for own use										
	1.b. Abstraction for distribution										
	1.i. From inland water resources:										
	1.i.1. Surface water										
	1.i.2. Groundwater										
	1.i.3. Soil water										
	1.ii. Collection of precipitation										
	1.iii. Abstraction from the sea										
Within the economy	2. Use of water received from other economic units										
	of which:										
	2.a. Reused water										
	2.b. Wastewater to sewerage										
	3. Total use of water (= 1 + 2)										

B. Physical supply table (*physical units*)		Industries (by ISIC category)							Households	Rest of the world	Total
		1-3	5-33, 41-43	35	36	37	38, 39, 45-99	Total			
Within the economy	4. Supply of water to other economic units										
	of which:										
	4.a. Reused water										
	4.b. Wastewater to sewerage										
Into the environment	5. Total returns (= 5.a + 5.b)										
	5.a. To inland water resources										
	5.a.1. Surface water										
	5.a.2. Groundwater										
	5.a.3. Soil water										
	5.b. To other sources (e.g., sea water)										
	6. Total supply of water (= 4 + 5)										
	7. Consumption (= 3 - 6)										

Note: Dark grey cells indicate zero entries by definition.

Physical Supply Use Tables for Water

SEEA – Water – Physical Use Table

Table III.3
Detailed physical water supply and use tables[a]

A. Physical use table (*millions of cubic metres*)		Industries (by ISIC category)							Households	Rest of the world	Total
		1-3	5-33, 41-43	35	36	37	38, 39, 45-99	Total			
From the environment	**1. Total abstraction (= 1.a + 1.b = 1.i + 1.ii)**	108.4	114.5	404.2	428.7	100.1	2.3	**1 158.2**	10.8		**1 169.0**
	1.a. Abstraction for own use	108.4	114.6	404.2	23.0	100.1	2.3	**752.6**	10.8		**763.4**
	Hydroelectric power generation			*300.0*				***300.0***			***300.0***
	Irrigation water	*108.4*						***108.4***			***108.4***
	Mine water							***0.0***			***0.0***
	Urban run-off					*100.0*		***100.0***			***100.0***
	Cooling water			*100.0*							
	Other		*114.6*	*4.2*	*23.0*	*0.1*	*2.3*	***144.2***	*10.8*		***155.0***
	1.b. Abstraction for distribution				405.7			**405.7**			**405.7**
	1.i. From inland water resources:	108.4	114.5	304.2	427.6	0.1	2.3	**957.1**	9.8		**966.9**
	1.i.1. Surface water	55.3	79.7	301.0	4.5	0.1	0.0	**440.6**	0.0		**440.6**
	1.i.2. Groundwater	3.1	34.8	3.2	423.1	0.0	2.3	**466.5**	9.8		**476.3**
	1.i.3. Soil water	50.0						**50.0**			**50.0**
	1.ii. Collection of precipitation					100.0	0.0	**100.0**	1.0		**101.0**
	1.iii. Abstraction from the sea			100.0	1.1			**101.1**			**101.1**
Within the economy	**2. Use of water received from other economic units**	50.7	85.7	3.9	0.0	427.1	51.1	**618.5**	239.5		**858.0**
	of which:										
	2.a. Reused water	*12.0*	*40.7*					***52.7***			***52.7***
	2.b. Wastewater to sewerage										
	2.c. Desalinated water										
	3. Total use of water (= 1 + 2)	**159.1**	**200.2**	**408.1**	**428.7**	**527.2**	**53.4**	**1 776.7**	**250.3**		**2 027.0**

Physical Supply Use Tables for Water

SEEA – Water – Physical Use Table

B. Physical supply table (millions of cubic metres)		Industries (by ISIC category)							Households	Rest of the world	Total
		1-3	5-33, 41-43	35	36	37	38, 39, 45-99	Total			
Within the economy	**4. Supply of water to other economic units**	17.9	127.6	5.6	379.6	42.7	49.1	**622.5**	235.5		**858.0**
	of which:										
	4.a. Reused water		10.0			42.7		**52.7**			**52.7**
	4.b. Wastewater to sewerage	17.9	117.6	5.6	1.4		49.1	**191.6**	235.5		**427.1**
	4.c. Desalinated water				*1.0*			***1.0***			***1.0***
Into the environment	**5. Total returns (= 5.a + 5.b)**	65.0	29.4	400.0	47.3	483.8	0.7	**1 026.2**	4.8		**1 031.0**
	Hydroelectric power generation			*300.0*				***300.0***			***300.0***
	Irrigation water	*65.0*						***65.0***			***65.0***
	Mine water							***0.0***			***0.0***
	Urban run-off					*99.7*		***99.7***			***99.7***
	Cooling water			*100.0*							
	Losses in distribution because of leakages				*24.5*			***24.5***			***24.5***
	Treated wastewater		*10.0*			*384.1*	*0.5*	***394.6***	*1.5*		***396.1***
	Other		*19.4*	*0.0*	*22.9*		*0.2*	***42.5***	*3.3*		***45.8***
	5.a. To inland water resources (= 5.a.1 + 5.a.2 + 5.a.3)	65.0	23.5	300.0	47.3	227.5	0.7	**664.0**	4.6		**668.6**
	5.a.1. Surface water			300.0		52.5	0.2	**352.7**	0.5		**353.2**
	5.a.2. Groundwater	65.0	23.5		47.3	175.0	0.5	**311.3**	4.1		**315.4**
	5.a.3. Soil water							**0.0**			**0.0**
	5.b. To other sources (e.g., sea water)		5.9	100.0		256.3		**362.2**	0.2		**362.4**
	6. Total supply of water (= 4 + 5)	**82.9**	**157.0**	**405.6**	**426.9**	**526.5**	**49.8**	**1 648.7**	**240.3**		**1 889.0**
	7. Consumption (= 3 - 6)	**76.2**	**43.2**	**2.5**	**1.8**	**0.7**	**3.6**	**128.0**	**10.0**		**138.0**
	of which:										
	7.a. Losses in distribution not because of leakages				0.5			**0.5**			**0.5**

Physical Supply Use Tables for Water

In the next session we will look at some worked examples in compiling physical supply use tables for water.

Thankyou!