

Mineral and energy asset accounts

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Definition

Mineral and energy resources comprise known deposits of oil resources, natural gas resources, coal and peat resources, non-metallic minerals and metallic minerals.
(SEEA CF)

Definition

Mineral and energy resources: Known deposits of oil resources, natural gas resources, coal and peat resources, non-metallic minerals and metallic minerals located on or below the Earth's surface, and renewable energy resources (especially related to the capture of energy from wind, solar radiation, moving water, and geothermal sources), that are economically exploitable, given current technology and relative prices. (SNA 2025)

Classification of mineral and energy resources

Classification of environmental assets in the SEEA Central Framework

- | | |
|----------|--|
| 1 | Mineral and energy resources |
| 1.1 | Oil resources |
| 1.2 | Natural gas resources |
| 1.3 | Coal and peat resources |
| 1.4 | Non-metallic mineral resources (excluding coal and peat resources) |
| 1.5 | Metallic mineral resources |

Classification of mineral and energy resources—SNA 2025

AN32	Mineral and energy resources
AN321	Non-renewable mineral and energy resources
	Supplementary classification based on type of resources
AN321S1	Coal and lignite resources
AN321S2	Oil and natural gas resources
AN321S21	Oil resources
AN321S22	Natural gas resources
AN321S3	Mineral resources
AN321S9	Other non-renewable mineral and energy resources
AN322	Renewable energy resources
	Supplementary classification based on type of resources
AN3221	Wind energy resources
AN3222	Solar energy resources
AN3223	Water energy resources
AN3224	Geothermal energy resources
AN3229	Other renewable energy resources

Categorization of known deposits

Since mineral and energy resources are found generally below ground, it is often impossible to determine, with complete precision, the quantity of those resources.

The framework used to define the scope of known deposits is the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009. There could be a national system as well.

For each deposit we look at three dimensions:

- * Economic and social viability (E);
- * Field project status and feasibility (F);
- * Geologic knowledge (G)

Categorization of known deposits

Class A: Commercially recoverable resources

- * Economic and social viability (E)
 - Extraction and sale have been confirmed to be economically viable
- * Field project status and feasibility (F)
 - Feasibility of extraction by a defined development project or mining operation has been confirmed
- * Geologic knowledge (G)
 - Quantities associated with a known deposit that can be estimated with a high (G1), moderate (G2) or low (G3) level of confidence



Categorization of known deposits

Class B: Potentially commercially recoverable resource

- * Economic and social viability (E)
 - Extraction and sale are expected to become economically viable in the foreseeable future
- * Field project status and feasibility (F)
 - Project activities are ongoing to justify development in the foreseeable future
 - Project activities are on hold and/or where justification as a commercial development may be subject to significant delay
- * Geologic knowledge (G)
 - Quantities associated with a known deposit that can be estimated with a high (G1), moderate (G2) or low (G3) level of confidence

Categorization of known deposits

Class C: Non-commercial and other known deposits

- * Economic and social viability (E)
 - Extraction and sale are not expected to become economically viable in the foreseeable future or evaluation is at too early a stage to determine economic viability
- * Field project status and feasibility (F)
 - Project activities are on hold and/or where justification as a commercial development may be subject to significant delay
 - There are no current plans to develop or to acquire additional data at the time owing to limited potential
 - No development project or mining operation has been identified
- * Geologic knowledge (G)
 - Quantities associated with a known deposit that can be estimated with a high (G1), moderate (G2) or low (G3) level of confidence

Stocks of mineral and energy resources

Stocks of mineral and energy resources

Type of mineral or energy resource	Class of known deposit		
	A: Commercially recoverable resources	B: Potentially commercially recoverable resources	C: Non-commercial and other known deposits
Oil resources (thousands of barrels)	800	600	400
Natural gas resources (cubic metres)	1 200	1 000	1 500
Coal and peat resources (thousands of tonnes)	600	50	50
Non-metallic mineral resources (tonnes)	150	200	100
Metallic mineral resources (thousands of tonnes)	60	40	60

Let's recall some definitions and the structure of the asset account

Physical asset account for mineral and energy resources



Opening stock of mineral and energy resources

Additions to stock

Discoveries

Upward reappraisals

Reclassifications

Total additions to stock

Reductions in stock

Extractions

Catastrophic losses

Downward reappraisals

Reclassifications

Total reductions in stock

Closing stock of mineral and energy resources

Stocks of mineral and energy resources

Physical asset account for mineral and energy resources

	Type of mineral and energy resource				
	(Class A: Commercially recoverable resources)				
	Oil resources (thousands of barrels)	Natural gas resources (cubic metres)	Coal and peat resources (thousands of tonnes)	Non-metallic minerals (tonnes)	Metallic minerals (thousands of tonnes)
Opening stock of mineral and energy resources	800	1 200	600	150	60
Additions to stock					
Discoveries					20
Upward reappraisals		200		40	
Reclassifications					
<i>Total additions to stock</i>		200		40	20
Reductions in stock					
Extractions	40	50	60	10	4
Catastrophic losses					
Downward reappraisals			60		
Reclassifications					
<i>Total reductions in stock</i>	40	50	120	10	4
Closing stock of mineral and energy resources	760	1 350	480	180	76

Lets recall the definition of depletion in SNA and SEEA

- * Depletion in physical terms, represents the decrease in the quantity of the stock of a non-produced natural resource over an accounting period that is due to the extraction of the natural resource by economic units occurring at a level greater than that of its growth.
- * How do we calculate depletion for mineral and energy resources?

Depletion in physical terms

- * Depletion must be a physical flow before valuation takes place
 - * Only for natural resources (not cultivated resources)
 - * Only extraction by economic units – not all reductions in stock
 - * Discoveries of non-renewable resources are not considered regeneration
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- * In the upcoming SNA, depletion is treated as a cost of production, alongside depreciation, in the calculation of net domestic product and other net measures.

Energy asset account exercise



Exercise on completing the asset account.

Thank you

