

# UNECE develops Specifications to classify material recovery projects in the circular economy

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# Context

The **availability of raw materials** influences the

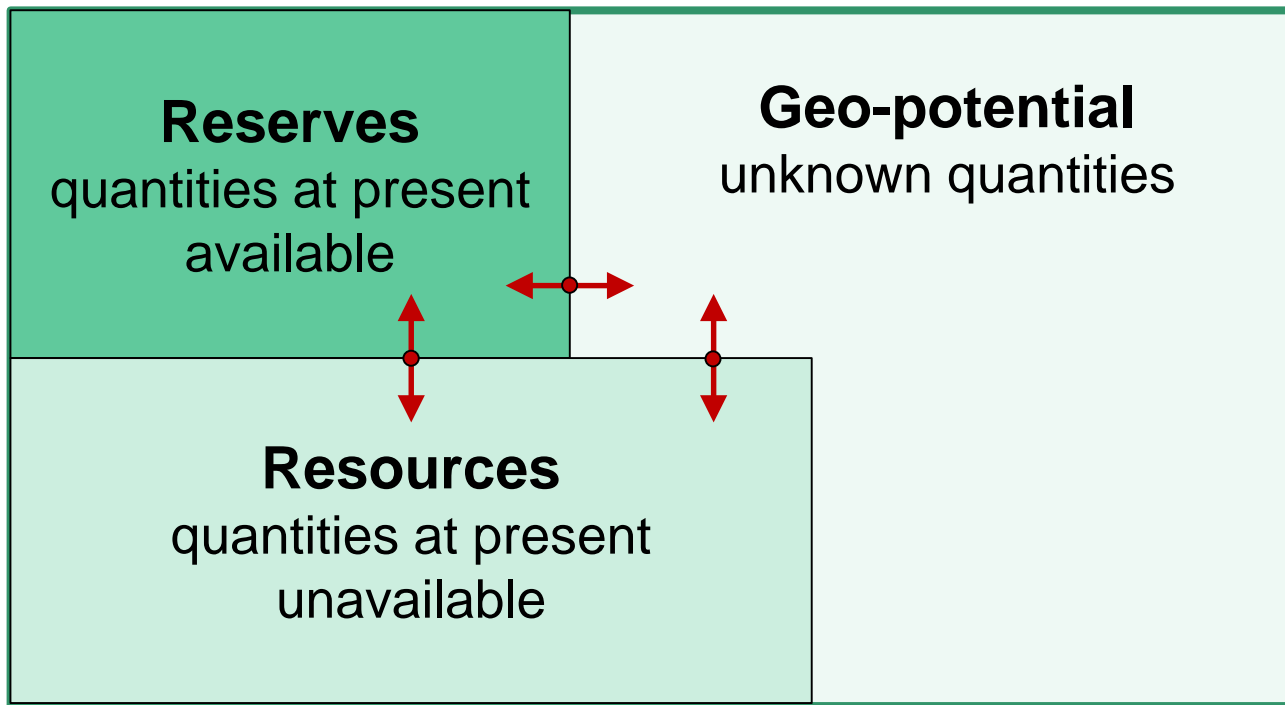
- economic and political rank of nations,
- competitive positions of industries and
- living standards.

Raw material **supply** is and will be **dominated by primary raw materials**, but **secondary raw materials** play in **increasing** role in diversifying sources of supply.

Communicating the **availability of primary raw materials** is **common practice today**. For **secondary raw materials**, it is not. That's why UNECE develops Specifications to classify recovery projects in the circular economy.

# Availability of mineral and energy resources

## Total quantities



Adapted from Wellmer, F.-W. (2008). Reserves and resources of the geosphere, terms so often misunderstood. Is the life index of reserves of natural resources a guide to the future? *Zeitschrift der Deutschen Gesellschaft für Geowissenschaften* 159(4): 575-590

# Knowledge on the availability For what?

## Policy formulation

## Developing recovery projects in public/private partnerships

- Capital market provides finance
- Government sets the legal, regulatory, fiscal and infrastructural framework conditions
- Industry provides capabilities (competence and capacity)

# Requirements for reporting

**Reliability**

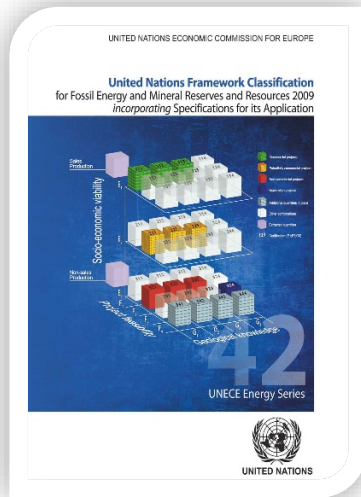
**Transparency**

Over the 20<sup>th</sup> century,

- 150 different resource classifications evolved
- industry and finance became globalized

**Comparability**

# United Nations Framework Classification for Resources



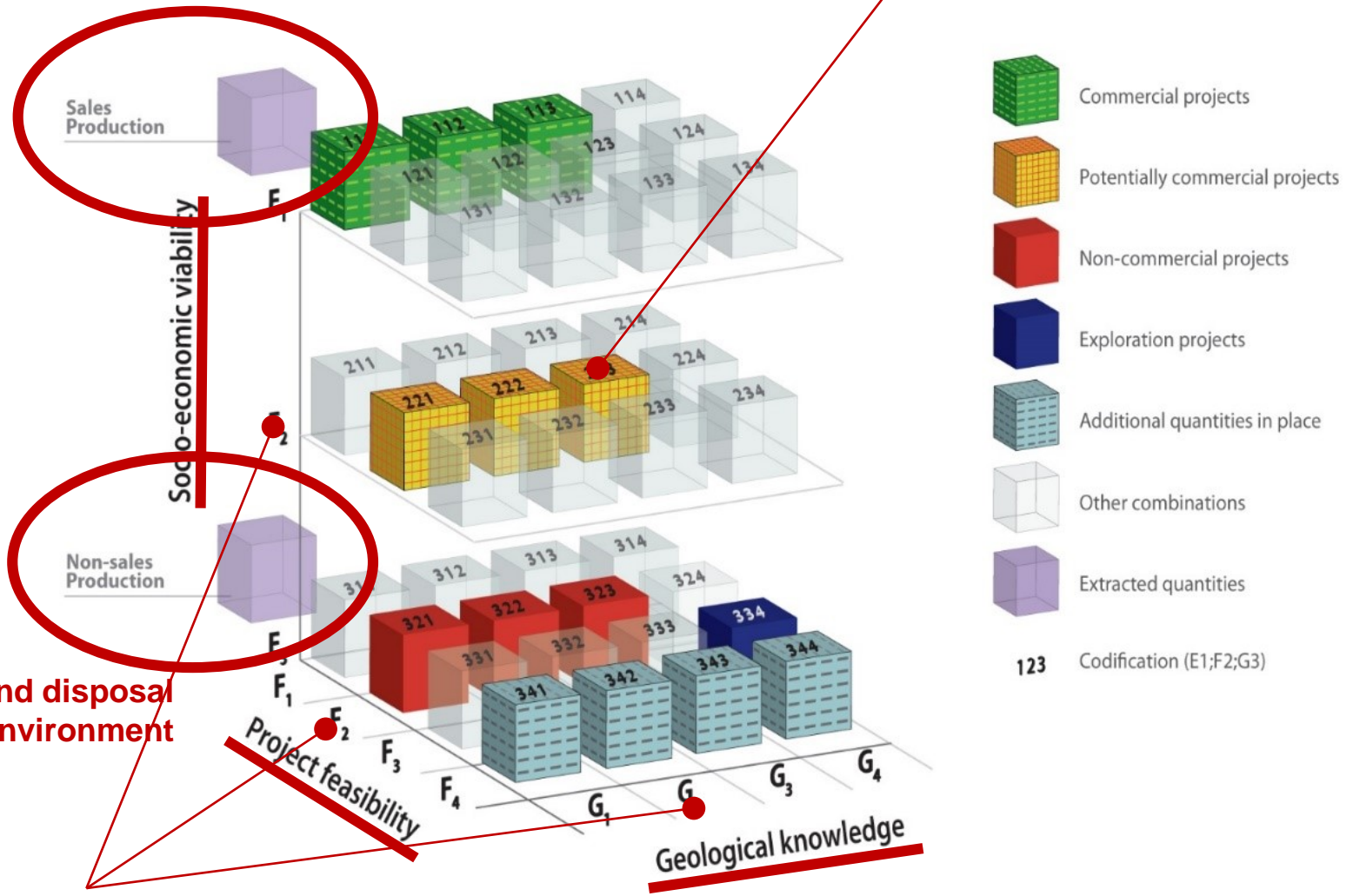
Universally acceptable &  
internationally applicable

**Communicates the  
availability of quantities based on the  
maturity level of recovery projects**

# UNFC Cube

Commodities to market

Combining categories  
results classes



Residues to land disposal  
Emissions to environment

Allocating in-situ quantities  
to categories



# UNFC Applications

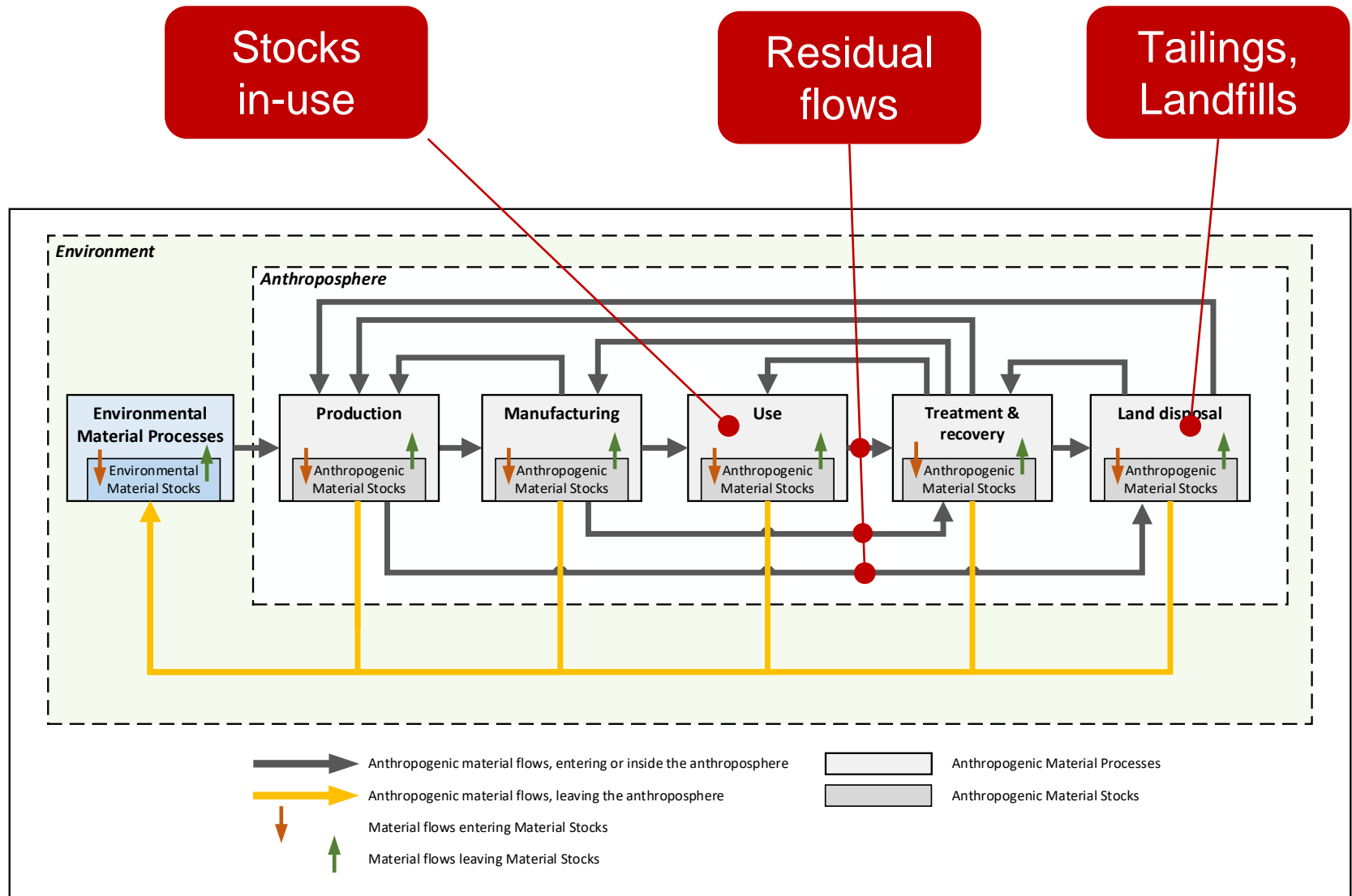
Year	Resource
1997	Solid fuels and mineral commodities
2004	Oil, gas and uranium
2016	Renewable energy and underground storage (for CO <sub>2</sub> storage)
2017	Bioenergy
2018	Anthropogenic resources

# What are anthropogenic resources?

“A concentration or occurrence of Anthropogenic Material of intrinsic economic interest, in such form, quality and quantity that there are reasonable prospects for eventual economic exploitation.”

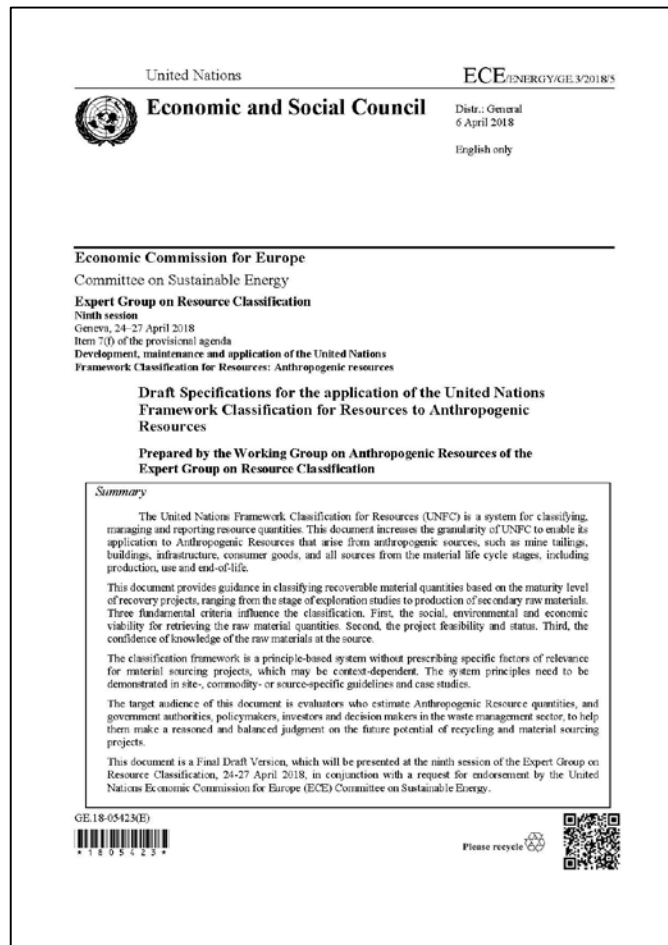
UNECE (2018). Draft Specification for the application of UNFC for Resources to Anthropogenic resources (ECE/ENERGY/GE.3/2018). Geneva.

# Where do we find anthropogenic resources?



UNECE (2018). Draft Specification for the application of UNFC for Resources to Anthropogenic resources (ECE/ENERGY/GE.3/2018). Geneva.

# Draft Specifications for the Application of the UNFC to Anthropogenic Resources



## Purpose

Communicating the availability of quantities from secondary sources

## Content

- Terms and definitions
- Rules for applying the UNFC
- History of development of these Specifications

## Potential next steps

Specifications + Guidelines =  
Reporting Standards for national,  
sector, product- or waste-specific  
levels

# Take home messages

1. **Resource classifications** need to be **reliable, transparent and comparable**
2. **The UNFC and its Specifications for Anthropogenic Resources**
  - communicate the availability of quantities from secondary sources
  - can be applied in case studies
  - can be integrated into Reporting Standards and Codes
  - facilitates raw material supply planning

# Thank you for listening

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**UNECE Expert Group on Resource Classification**

<https://www.unece.org/energy/se/reserves.html>

**COST Action MINEA**

[www.minea-network.eu](http://www.minea-network.eu)  
[http://www.cost.eu/COST\\_Actions/ca/CA15115](http://www.cost.eu/COST_Actions/ca/CA15115)