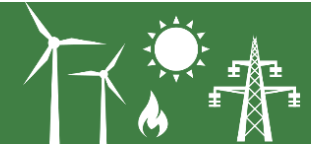




ENERGY



Managing Efficient Recovery of Materials and Energy from Wastes:

UNFC Specifications and Guidelines



THE BODY OF KNOWLEDGE AND ITS STRUCTURE

UNFC ADOPTION



Nodic guidelines



African Continental System



South east and east Asia

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

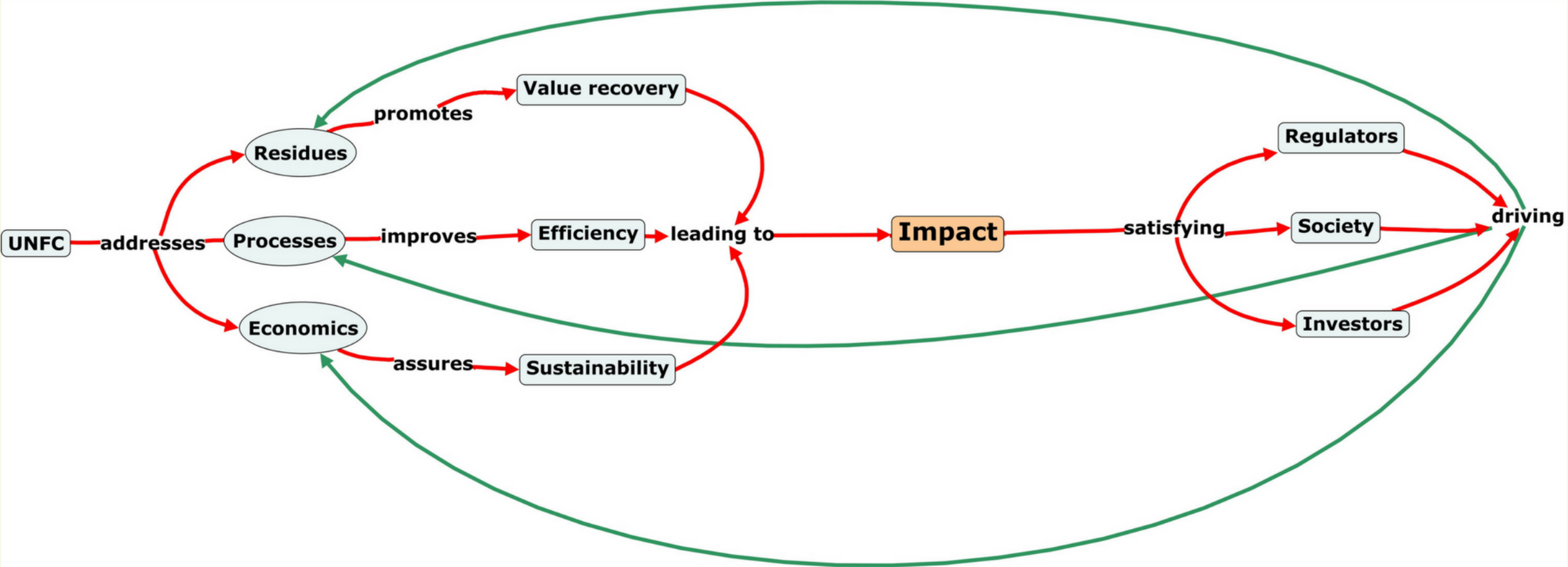
A large part of the raw materials extracted worldwide ends up as waste – and hence is lost to the economy. Also the process of creating the raw material produces wastes.

What is missing is a framework for reliable, coherent and consistent estimates of recoverable quantities from anthropogenic resources.

20%

RAW MATERIALS WASTED

THE BUSINESS OF CIRCULARITY



ANTHROPOGENIC RESOURCES

THE DEFINITION

The Anthroposphere denominates the part of the environment that is made or modified by humans.

Resource stocks that are found in the anthroposphere (mineral resources, energy resources, soil resources, water resources, biological resources).

Recovery depends on

Technologies used
Socio-Economics
Uncertainties

The recoverable quantities of resources are most relevant for governments, companies, and society at large.

Global Resources

Recoverable Resources

UNFC ASSESSMENT

Quantities associated with known and potential resources

Contained in available intermediate products

Not extracted

Available in raffinate and slags

Available in tailings

Not Commercial at present

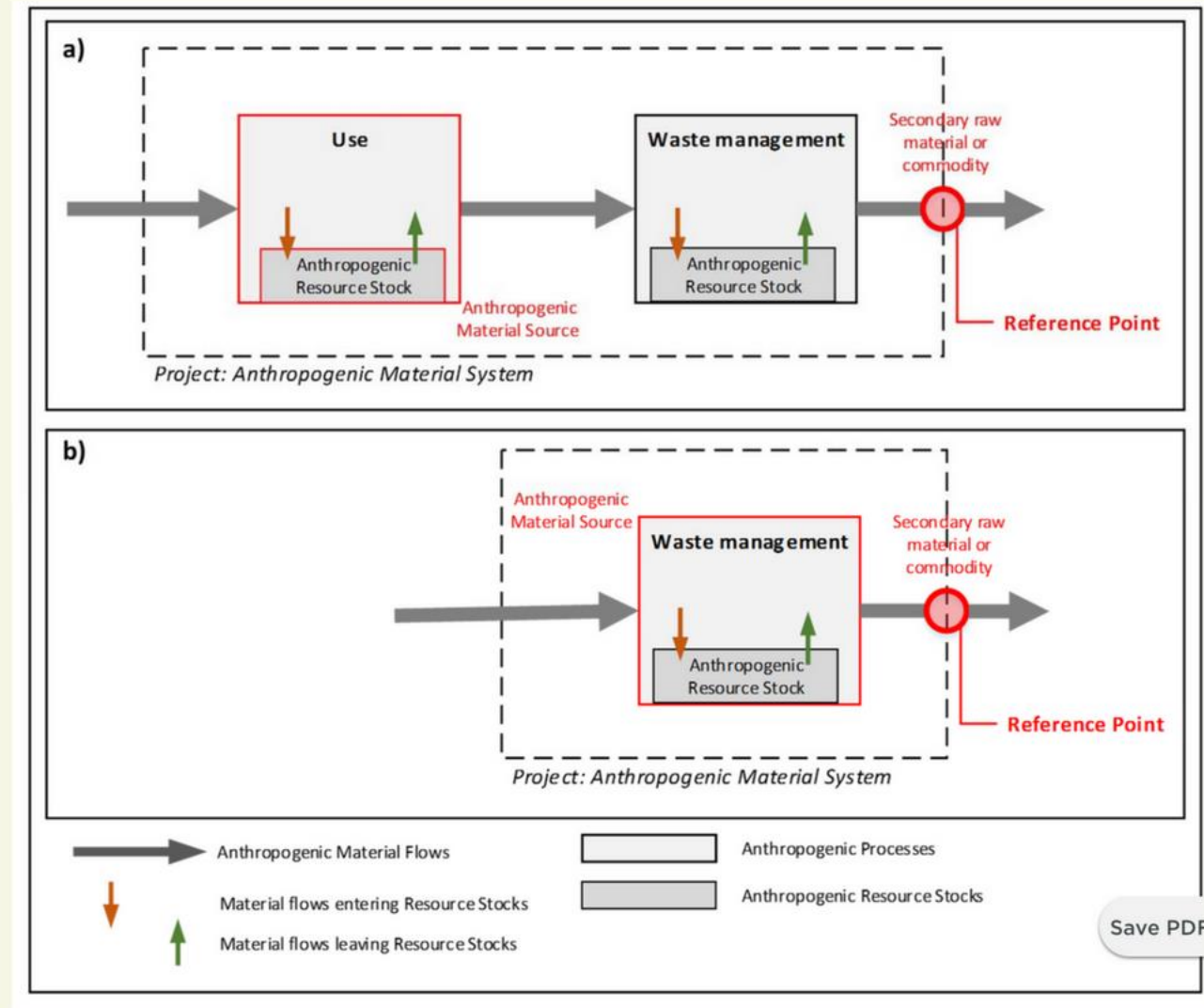
Potential for Commercial Recovery

Commercially Recovered

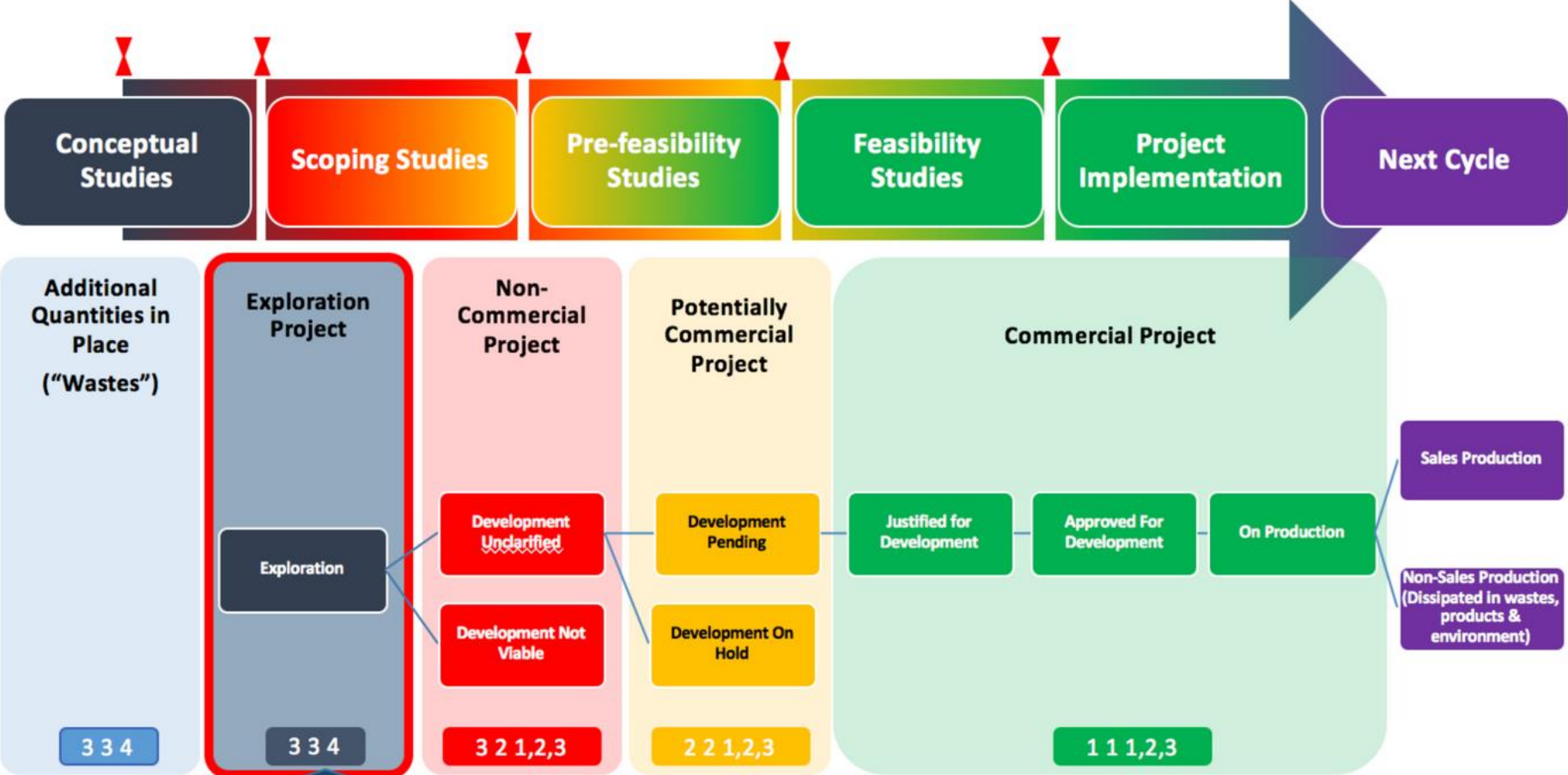
Dissipated in products, other wastes, environment

ANTHROPOGENIC RESOURCE PROJECT PRESPECTIVE

UNFC flexibly considers anthropogenic sources and processes together or only the process aspect of a single project.



MEASURING PROGRESS



Exploration of business models by developing a minimum viable product and testing in field; iterate and pivot until accepted by customers.

ANTHROPOGENIC RESOURCES SPECIFICATIONS

Economic Commission for Europe
Committee on Sustainable Energy
Expert Group on Resource Classification

Eighth session

Geneva, 25–28 April 2017

Item 11(e) of the provisional agenda

**Update on the applications of the United Nations
Framework Classification for Fossil Energy and
Mineral Reserves and Resources 2009:
Injection projects**

**Initial Draft Specifications for the application of the United
Nations Framework Classification for Fossil Energy and
Mineral Reserves and Resources 2009 to Anthropogenic
Resources**

**Prepared by the Working Group on “Classification and reporting of
material resources/reserves” of the COST Action CA15115 “Mining the
European Anthroposphere”**

Summary

This document provides the Initial Draft Specifications that enable the application of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009) incorporating Specifications for its Application (as set out in United Nations Economic Commission for Europe (UNECE) Energy Series No. 42 and ECE/ENERGY/94) to Anthropogenic Resources. The intended use of this document is in conjunction with UNFC-2009 incorporating Specifications for its Application and with the aligned commodity-specific specifications (currently under development) for specific types of Anthropogenic Resources.

These Initial Draft Specifications are submitted by the Working Group of “Classification and reporting of material resources/reserves” of COST Action CA15115 “Mining the European Anthroposphere” to the Technical Advisory Group (TAG) of the UNECE Expert Group on Resource Classification for review and for subsequent presentation at the eighth session of the Expert Group, 25-28 April 2017, and for a public review phase in 2017.

Definitions
Classes
Defining a project
Corporate Vs National reporting
Project lifetime
Entitlement
Development plan
Generic specifications
Economic assumptions
Uncertainties
Evaluator qualifications

ANTHROPOGENIC RESOURCES SPECIFICATIONS



Thank you!

Harikrishnan Tulsidas
Economic Affairs Officer
UNECE
Date 14 | 06 | 2017, Astana

