

United Nations Framework Classification for Resources (UNFC) for CBM Resource Assessment



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UNECE



INTERNATIONAL WEBINAR
ON CBM RESOURCE-RESERVE
ASSESSMENT, 29 SEPTEMBER
2020

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Atmanirbhar Bharat Abhiyan



Macro environment overlay

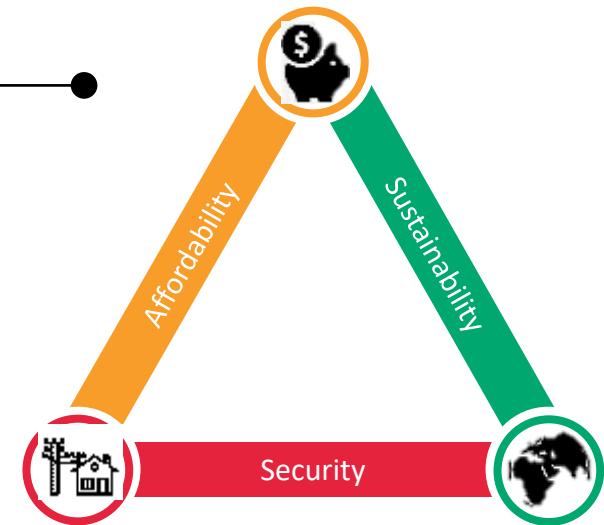
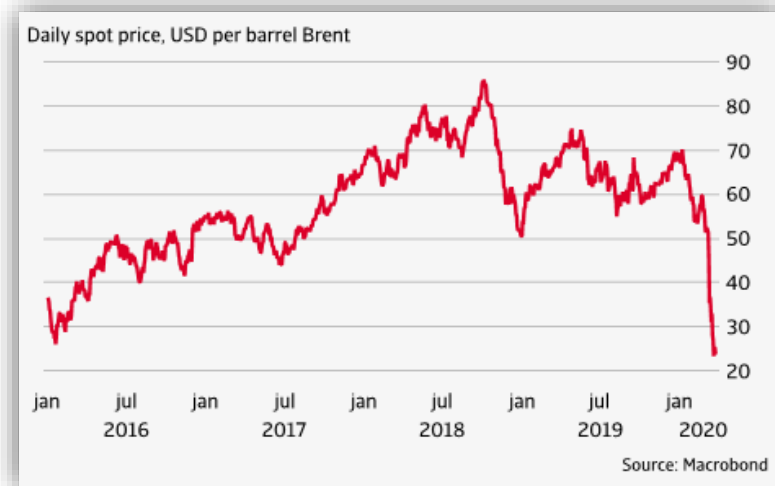
Complex system considerations



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Balancing the energy trilemma

- Reliability of supply
- Affordability and energy equity
- Environmental and social responsibility



Global economic volatility

- COVID-19 uncertainty
- Supply and demand
- Marginal operating environment

Investors are demanding more than profits



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Norway's \$1tn wealth fund to divest from oil and gas exploration

World's largest sovereign wealth fund was created to invest North Sea oil profits



Sustainability as BlackRock's New Standard for Investing

Global Investors Driving Business Transition

Sep 25, 2020, 06:05pm EDT

Financial Institutions Leading The Drive Toward Methane Reduction

“Extractive” Industry

Energy production and mining are seen as “drain industry” that “extract” wealth and leave behind social and environmental problems.

- Exponentially increasing material footprint
- Resource depletion
- Carbon footprint
- Water use
- Mounting Wastes
- Environmental issues
- Diminishing social licence to operate

Current systems are based on century-old ideas



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- Existing standards are based on ideas dating a century or more, when
 - Resources are thought to be very limited
 - Blind “extraction” was the norm
 - Benefits only stockholder interests
 - Response was essential to number of scams
- Today, challenges are different
 - Resources are plentiful, but face mounting social opposition
 - Aligned interest of stockholders and stakeholders
 - Investors are reluctant to invest conventional projects for minerals or petroleum
 - Change from projects to programmes

Are current policies and industry & regulatory standards fit for purpose?

What is lacking?

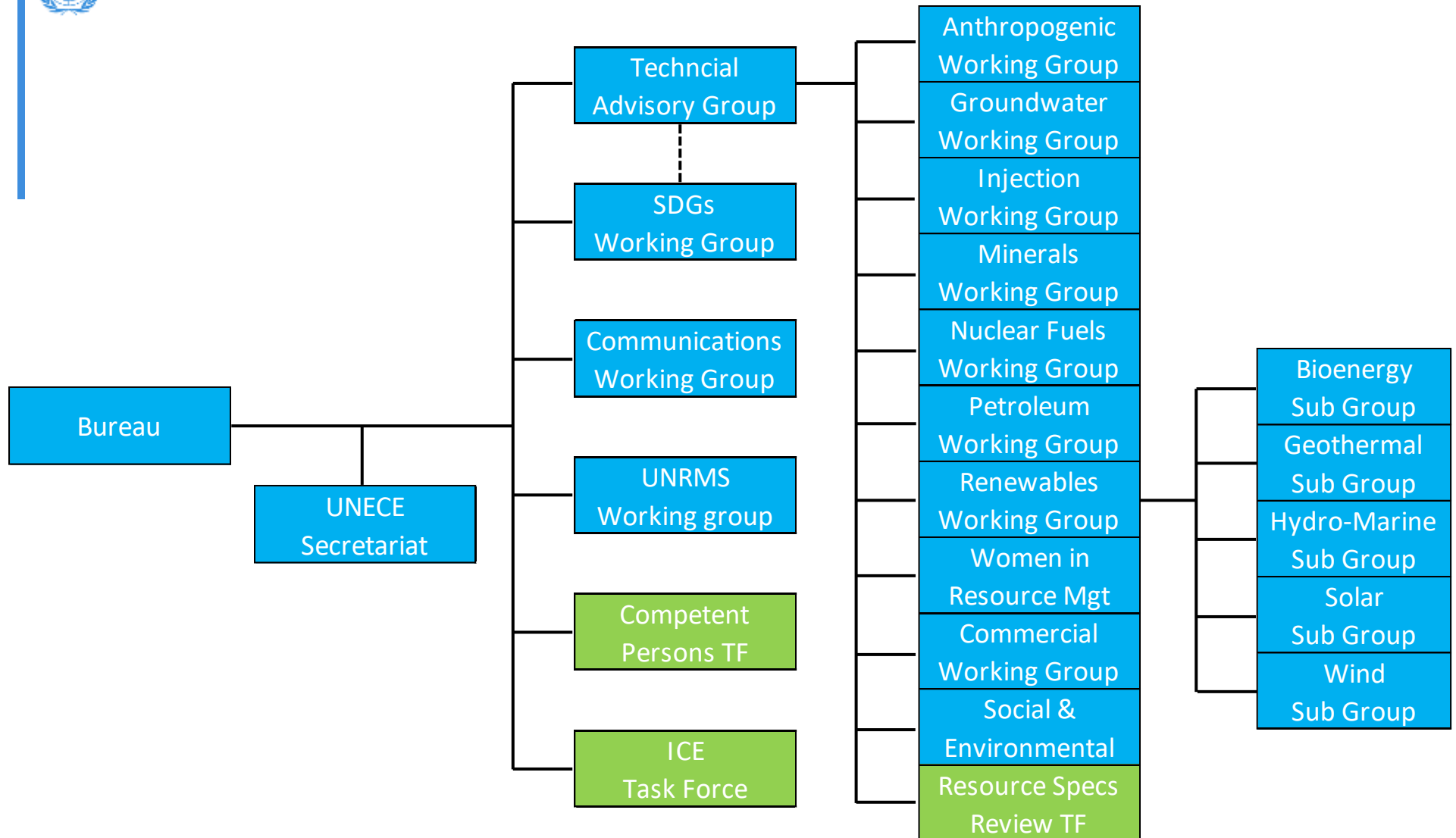
A tool-kit for sustainable management of resources by governments, industry and other stakeholders.



Expert Group on Resource Management



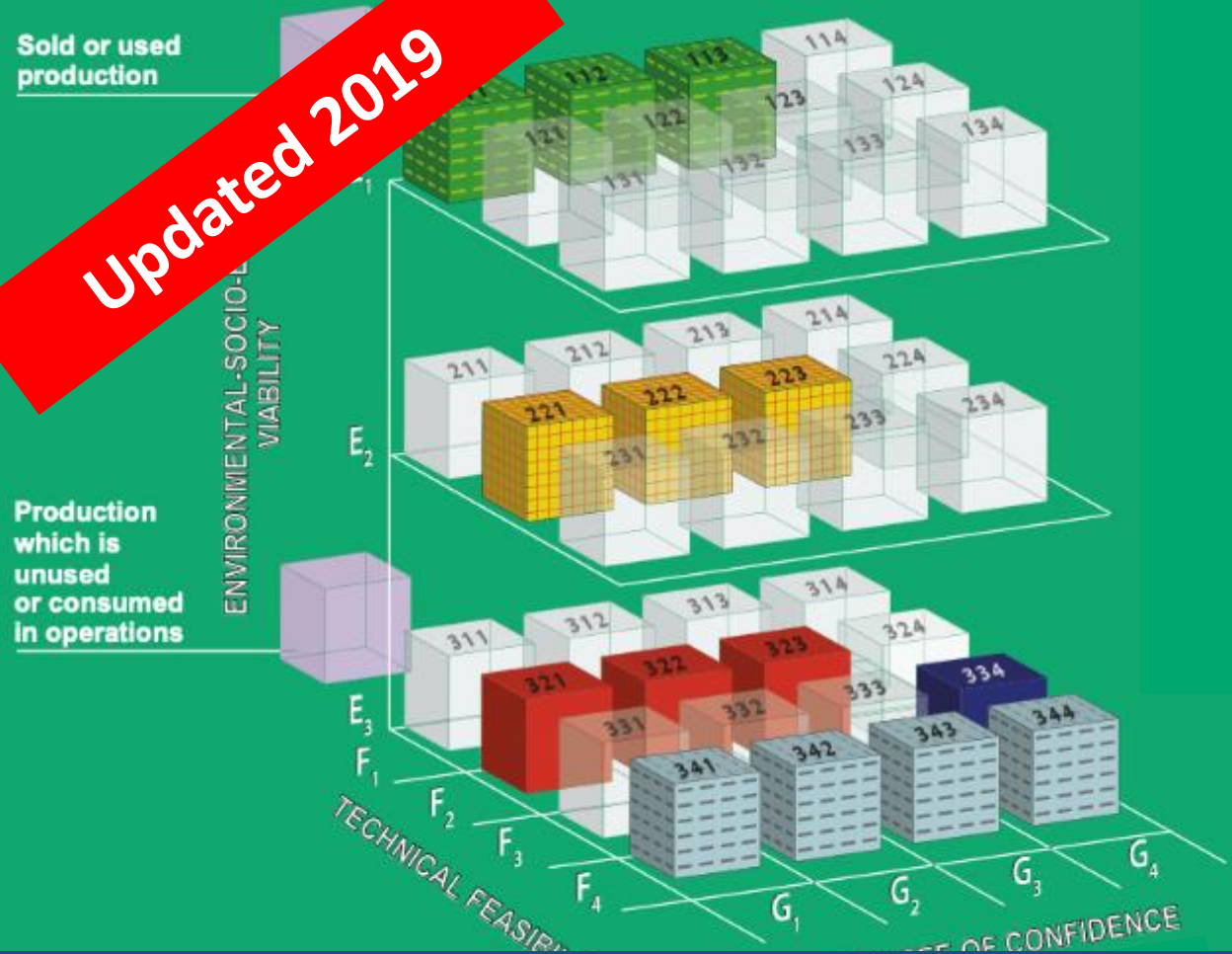
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United Nations Framework Classification (UNFC) and United Nations Resource Management System



Updated 2019



A unified, comparable, interoperable and harmonized approach to resource assessment and management.

Principles based

1. Responsibility to the planet
2. Integrated, indivisible management of resources
3. Systems view
4. Social license to operate
5. Full life cycle view
6. Service orientation

7. Comprehensive resource recovery
8. Circularity
9. Zero waste
10. Zero harm
11. Hybridization
12. Continuous strengthening of core competencies and capabilities.

A new industry reporting framework



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- Primary requirement to **2030 Agenda**
– measure and monitor performance
- Beyond “extractive” and
“commodity” mindsets to
“circularity”
- Trust in relation to stockholders and
stakeholders
- Supporting “green bonds” and similar
instruments
- UNRMS enabled global Competent
Person framework



Social & environmental considerations

To ensure that externalities are minimized



- EGRC has a Working Group to examine the social and environmental aspects of the classification. Guidance notes are available:

1. Accommodating environmental and social considerations in UNFC
2. Clarification of terminology and concepts related to UNFC
3. Principles of resource classification from a social and environmental perspective



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

Ninth session
Geneva, 24-27 April 2015
Item 8 of the provisional agenda
Guidelines for accommodating social and environmental considerations in the United Nations Framework Classification for Resources

Draft guidance for accommodating environmental and social considerations in the United Nations Framework Classification for Resources

Prepared by the Social and Environmental Committee of the Expert Group on Resource Classification

Summary

The Social and Environmental Considerations Task Force on Resource Classification is the successor to the Experts for social and environmental aspects of classification of the United Nations Framework Classification for Resources (UNFC). During the seventh and eighth sessions of the Expert Group (EG) (ECE/ENERGY/EG.3/2014 respectively), the main focus in the division of the E2 Category into E2.1 and E2.2 to social and environmental issues will be reviewed, and recommendations of this report only address the social as further thought will be needed with respect to economic and social and environmental issues of specific resource types. Accommodating Social and Environmental Considerations Terminology (ECE/ENERGY/EG.3/2014) recommends if Group considers the classification of some items is of necessary to the work of the Task Force, it also considers topics that arise during the course of work, for consideration of UNFC.

ECE/ENERGY/EG.3/2015



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

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Accommodating Social and Environmental Considerations in the United Nations Framework Classification for Resources: Concepts and Terminology

Prepared by the Social and Environmental Considerations Task Force of the Expert Group on Resource Classification

Summary

This report of the Social and Environmental Considerations Task Force is a supplement to the document "Draft Guidelines for accommodating environmental and social considerations in the United Nations Framework Classification for Resources (UNFC)" (ECE/ENERGY/EG.3/2014) that will be presented at the ninth session of the Expert Group on Resource Classification. It covers two main topics:

- Clarification of some terms relevant to social and environmental considerations.
- Discussion of topics that arise during, but outside, the immediate scope of the work of the Social and Environmental Considerations Task Force.

It is prepared for consideration by the Expert Group at its ninth session, and the review and update of UNFC that is planned to start in 2016. It is not intended to be comprehensive, and many of the issues it contains would benefit from further thought and discussion.

ECE/ENERGY/EG.3/2015



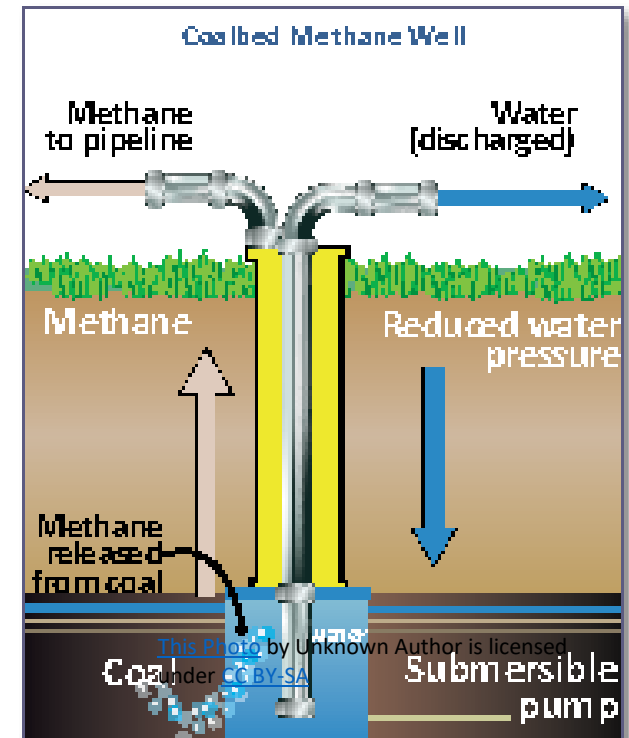
Challenges in CBM Project Development



Defining



- Policy hurdles
- Marginal economics
- Lack of alternative business models
- Technology and commercial scaling up issues
- Financing
- Social acceptance issues



CBM Assessment using UNFC

Best practices for CBM resource assessment and categorization of CBM reserve/resources that are commercially recoverable.

Principles

Rules

Guidelines

Definitions

Total products

Known sources

- Viable projects
- Potentially-viable projects
- Non-viable products
- Remaining products not developed

Potential sources

- Prospective projects¹⁴



CBM Assessment using UNFC



Socio-environmental-economic

Viability Considerations

Cash-Flow Evaluation

Economic Criteria

Future Net Revenue

Economic Limit

Resources Entitlement and Recognition

Royalty

Production-Sharing Contract

Social Criteria

Environmental Criteria

Technical viability

Consideration of Risk

Viability Assessment

Technology Feasibility

Development Plan Status

Project maturity subcategories

Prospective Projects



CBM Assessment using UNFC



Confidence in estimates

General overview & principles

Estimation Procedures

Analytical procedures

Volumetric analysis

Analogues

Performance-based Estimates

Resources Assessment Methods

Deterministic method

Probabilistic method:

Aggregation



Petroleum Specifications and Guidelines (PSRG)



Table of Contents

1. Introduction.....	4
1.1. Petroleum Products	5
1.2. Petroleum Project	6
1.3. Effective Date	6
2. Competent Person.....	6
2.1. General overview & principles.....	6
2.2. Qualifications	6
2.3. Ethical standards.....	7
2.3.1. Independence.....	7
2.3.2. Objectivity.....	7
2.3.3. Confidentiality	7
2.3.4. Additional guidelines.....	7
3. Classification.....	8
3.1. Viable Projects (F1, F1, G1, 2, 3)	8
3.2. Potentially Viable Projects (F2, F3, G1, 2, 3)	8
3.3. Non Viable Projects (F3, F3, G1, 2, 3)	8
3.4. Prospective Projects (E3, F3, G4)	9
3.5. Remaining products not developed from identified projects (F3, F4, G1, 2, 3, 4).....	9
4. Socio-Environmental-Economic Viability (F-Acc).....	9
4.1. Viability Considerations.....	10
4.2. Cash-Flow Evaluation	10
4.3. Economic Criteria	11
4.3.1. Future Net Revenue.....	11
4.4. Economic Limit.....	11
4.5. Resources Commitment and Restoration	12
4.6. Royalty	12
4.7. Production-sharing Contract Reserves	12
4.8. Social Criteria	12
4.9. Environmental Criteria	13
4.10. Additional guidelines.....	13

5. Technical Feasibility (I-risks)	14
5.1. General overview & principles	14
5.2. Consideration of Risk.....	14
5.3. Viability	15
5.4. Technology Feasibility.....	15
5.5. Development	16
5.6. Project maturity subcategories.....	16
5.7. Prospective Projects.....	17
5.8. Additional guidelines.....	17
6. Confidence in Estimates (G Acc).....	18
6.1. General overview & principles.....	18
6.2. Estimation Procedures	19
6.3. Analytical procedures.....	20
6.3.1. Volumetric analysis.....	20
6.3.2. Analogues	20
6.3.3. Performance	21
6.4. Resources Assessment Methods.....	21
6.4.1. Deterministic method.....	22
6.4.2. Probabilistic method.....	22
6.5. Aggregation.....	22
7. Prospective Projects.....	22
7.1. General overview & principles.....	22
7.2. Resource Assessment.....	23
7.3. Categories	23
8. Unconventional Resources.....	23
9. Abandonment, Decommissioning and Restoration (ADR)	24
10. Annex 1: Definitions and Associated Terms	26

Integrated development of Coal, CBM and Natural Gas fields



- Principles-based
- Milestone-based
- Social, environmental opportunities
- Technological readiness levels
- Innovative business models and overarching strategies
- Driving smart/green investments
- Stakeholder communications

Rapid creation of new UNFC/UNRMS style

- Field Development Plan (FDP)
- Project Feasibility Report (PFR)
- Investment Proposal

UNFC and UNRMS implementation



Developing best practice guidelines for each region



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- **UNFC Europe – European Commission**-led initiative to harmonize raw material resource management, including establishment of centres of excellence.
- **Russian Federation and CIS region** - Eurasian Centre for Sustainable Resource Management
- **UNFC Africa - African Union** has adopted UNFC as the sustainable management, the African Mineral and Energy Resource Classification and management System (AMREC)
- **India, China, Colombia, Mexico, Ukraine**
- Coordinating Committee for Geoscience Programmes in **East and South-east Asia** (CCOP) is planning International Centre of Excellence for the region



Embrace integrated resource management



- **Improve financial resilience through business process innovation**
- **Derive good social, environmental and economic outcomes**
- **Obtain social license to operate**
- **Integrated resource management approach**

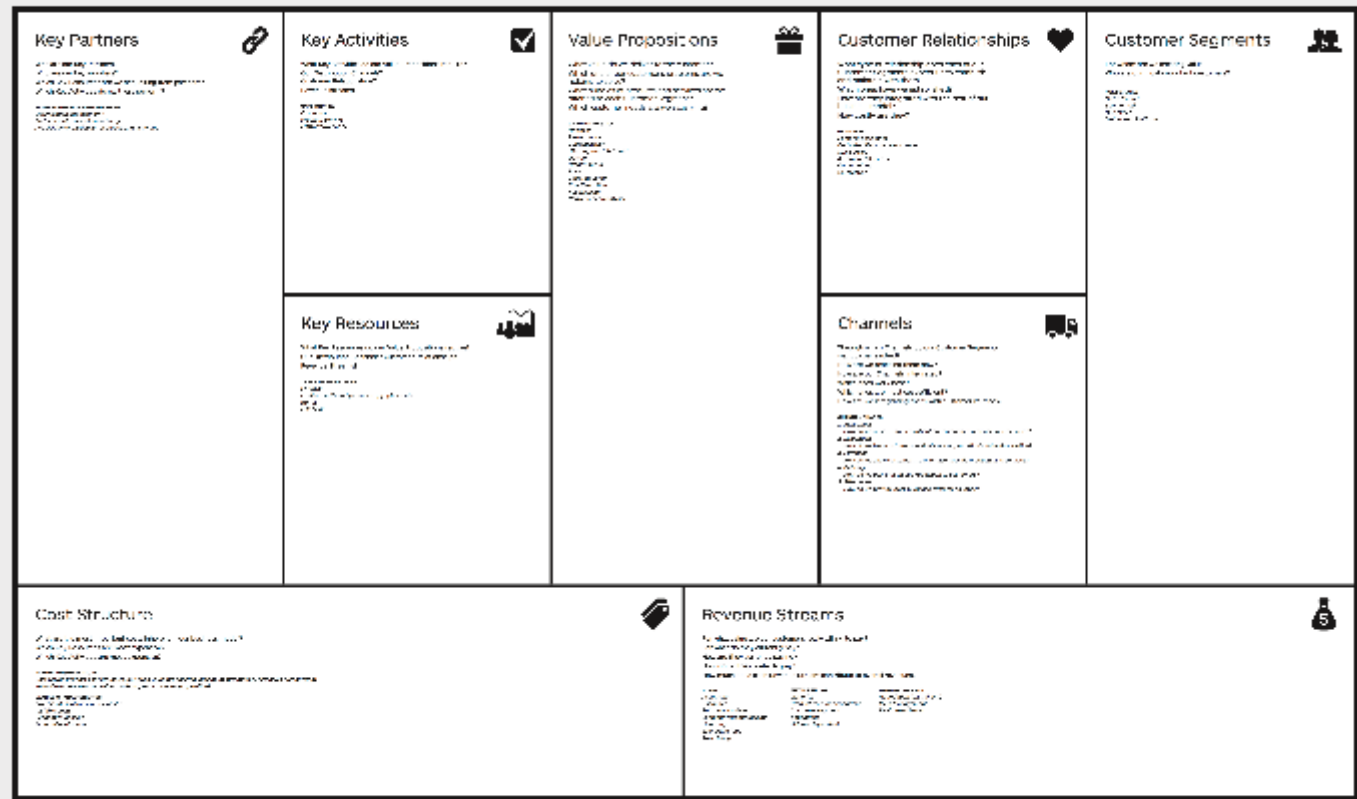


CBM – The climate warrior

Business Model Canvas – a low hanging fruit

The Business Model Canvas

Designed for: _____ Designed by: _____ Date: _____ Version: _____



Thank you!

For more information on UNFC and UNRMS

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