Pilot Project for the Classification of Mexico’s Petroleum Resources and Reserves based on the United Nations Framework Classification for Resources (UNFC)

Alma América Porres Luna
Commissioner, CNH.
Development

Execution

Mapping tools

Results

Conclusions
Development of the Pilot Project

**Planning**
- March – May
  - Justification Approvals

**Phase 1**
- June
  - Forum Workshop

**Phase 2**
- July - October
  - Blocks selection
  - Tools generation
  - Projects classification

**Phase 3**
- November – December
  - Final Report
  - UN Paper
  - ECE/ENERGY/GE.3/2019/5 (English, Russian, French, Spanish)

**Partners**
- CNH (Comisión Nacional de Hidrocarburos)
- SENER (SECRETARÍA DE ENERGÍA)
- ASEA (AGENCIA DE SEGURIDAD, ENERGÍA Y AMBIENTE)
- United Nations Development Programme - Mexico
- Petroleum Working Group of the EGRM
Table of Contents

- Development
  - Execution
    - Mapping tools
  - Results
  - Conclusions
Execution (Considerations)

**Legal Title to execute O&G activities**
- Contracts
- Entitlements (NOC)

**Location**
- Onshore
- Offshore (shallow and deepwater)

**Resources**
- Conventional
- Unconventional

**Others**
- Entire geological column
- Different social and environmental aspects
- Regulatory framework and lessons learned
Execution

19 blocks
Table of Contents

- Development
- Execution
  - Mapping tools
- Results
- Conclusions
UNFC Implementation

Tool created based on Mexico specific variables

Tool created based on Mexican Regulatory framework

Quantities taken from oil operators estimates, according to Mexican reserves regulation based on PRMS

UNFC Implementation
E Axis Evaluation

Socio-organizational Variables
- Indigenous population
- Marginalization index
- Agrarian cores
- Economic activities
- Land ownership
- Water usage

Environmental Variables
- Natural Protected Areas
- Ramsar Sites
- Safeguard zones
- Species at risk
- Critical land use

Legal Variables
- Entitlements
- Permits and approvals
- EBL (Environmental Base Line)
- EIA (Environmental Impact Assessment)
- Safety and Environmental Management System
- Insurance policies
- SIA (Social Impact Assessment)

Economic Variables
- NPV (Net Present Value)
- IRR (Internal Rate of Return)

... among others
## E Axis Evaluation Matrix

### Socio-organizational variables

<table>
<thead>
<tr>
<th>Presence of indigenous communities? (Communities &gt; 50 people)</th>
<th>High (Most likely)</th>
<th>Best (Likely)</th>
<th>Low (Unlikely)</th>
<th>Spatial support</th>
<th>Legend</th>
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<tr>
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**UNECE**

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**E Axis Evaluation Matrix**

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- **Spatial support:** Blank
F Axis Evaluation

UNFC 2009
F axis Categories definitions

"Direct Link"

Petroleum Projects
Regulatory Framework (Approvals)
Table of Contents

- Development
- Execution
- Mapping tools
- Results
- Conclusions
Results (level of maturity)

E vs F subclasses correspondence

Maturity levels correspondence

On production: 20
Approved for development: 1
Justified for development: 0
Development pending: 5
Development on hold: 2
Development unclarified: 7
Development not viable: 1
Discovered unrecoverable: 0
Prospect: 9
Lead: 22
Play: 6
Undiscovered unrecoverable: 0
Defined but not classified in PRMS: 0
Less common mappings: 2

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<th>E1.1</th>
<th>F1.1</th>
<th>F1.2</th>
<th>F1.3</th>
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<th>F2.2</th>
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### Results (Volume - MMBOE)

**Distribution along the G-axis**

<table>
<thead>
<tr>
<th>Project Combination</th>
<th>G1</th>
<th>G1+G2</th>
<th>G1+G2+G3</th>
<th># of projects</th>
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<tbody>
<tr>
<td>E1.1, F1.1</td>
<td>986.4</td>
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</table>

| Project Combination | G4.1  | G4.1+G4.2 | G4.1+G4.2+G4.3 |
|----------------------|-----------------|-----------------|
| E3.2, F3.1           | 708.0           | 2,193.2         | 4,518.4         |
| E3.2, F3.2           | 1,010.8         | 4,715.0         | 10,606.2        |
| E3.2, F3.3           | 814.9           | 2,852.1         | 6,519.1         |
| E3.3, F3.3           | 56.6            | 201.4           | 456.0           |

Total: 75
Table of Contents

- Development
- Execution
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Conclusions

- Application of UNFC to understand and visualize in different dimensions and perspectives, important to identify barriers or obstacles.

- The tools created and used for the evaluation of the E and F axes consider the main socio-organizational, legal, environmental and economic local variables, as well as the approval processes, respectively.

- The main social aspects identified that could represent a barrier to the execution of oil and gas projects in Mexico are the presence of indigenous localities, high rates of marginalization, availability and restriction of water use.

- Social Impact Assessments and Environmental approvals are critical.
Conclusions

- UNFC is an **effective platform to make decisions on energy policy and regulatory actions.**

- **UNFC facilitates the interaction between government institutions and other stakeholders.**

  - Identification of the social, environmental and legal factors, and their interaction, is valuable to identify the impacts and relationships with the SDGs.

  - Sustainable resource management, based on UNFC and UNRMS, can effectively support the achievement of the SDGs in Mexico - *Mapping the oil and gas industry to the Sustainable Development Goals (UNDP, IFC, IPIECA, 2017).*

  - Leadership, holistic approach, and teamwork were essential key factors in achieving success in the implementation of the Pilot Project.
Thank you

Alma América Porres Luna
Commissioner

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www.gob.mx/cnh