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Development, maintenance and implementation of the United Nations Framework Classification for Resources:
Social and environmental considerations

Guidance for Social and Environmental Considerations for the United Nations Framework Classification for Resources

Prepared by the Social and Environmental Considerations Working Group of the Expert Group on Resource Management

Summary

This report contains guidance on the environmental and social considerations of classification for the Environmental-Socio-Economic viability E axis of the United Nations Framework Classification for Resources (UNFC) relevant to the UNFC Update 2019.

Users should note that:

- It applies only to environmental and social considerations and does not address economic or other issues
- It is a supplement to the United Nations Framework Classification for Resources (Update 2019) United Nations Economic Commission for Europe (ECE) Energy Series 61 (ECE/ENERGY/125). Application of it must be in accord with the requirements of this Update 2019
- It applies to the UNFC Update 2019 and may not apply to subsequent updates. Users should confirm the relevance of this guidance to the version of UNFC that is current at the time of use
- It should be used with reference to the report Principles of Resource Classification (ECE/ENERGY/GE.3/2020/3). This contains guidance that is generally applicable to UNFC and should be referred to for those issues it contains that are relevant to environmental and social issues, such as the concept of Realm of Discourse (ROD) and on the quantification of qualitative probability estimates.

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I. Introduction

1. The United Nations Framework Classification for Resources (UNFC) specifies criteria for resource classification based on three major components: Environmental-Socio-Economic Viability, Technical Feasibility and Degree of Confidence (labelled in a three-dimensional picture as the E, F and G axes respectively).

2. The importance of social and environmental factors in the classification of resources has grown considerably in the last few years. Many projects have been delayed or cancelled because they failed to meet social or environmental expectations, even though they met all other conditions that would otherwise result in them being classified as viable projects.

3. The United Nations Economic Commission for Europe (ECE) Expert Group on Resource Management E-axis Subgroup was established in 2015 (subsequently the Social and Environmental Considerations Working Group (SECWG)) to prepare guidance on the social and environmental aspects of classification using UNFC.[1] Reports were presented at the 2016 and 2017 annual meetings of the Expert Group (ECE/ENERGY/GE.3/2016/8 and ECE/ENERGY/GE.3/2017/6 respectively).

4. Two reports were presented at the eleventh session of the Expert Group in 2020:

(a) Guidance for Social and Environmental Considerations for the United Nations Framework Classification for Resources (EGRM-11/2020/INF.4);

(b) Principles of Resource Classification (ECE/ENERGY/GE.3/2020/5).

5. These reports were approved at the eleventh session of the Expert Group in 2020.

6. The United Nations Framework Classification for Resources (Update 2019), ECE Energy Series 61 (ECE/ENERGY/125), was published in January 2020 as an update of the United Nations Framework Classification for Resources 2009 for Fossil Energy and Mineral Reserves and Resources incorporating Specifications for its Application, ECE Energy Series 42 (UNFC 2009).

7. This current report provides guidance on classifying projects on the Environmental-Socio-Economic Viability E axis with respect to the UNFC Update 2019 but does not address additional recommendations in the 2018 Social and Environmental Considerations Working Group reports, which await a more fundamental review of UNFC.

8. Many of the classification concepts for social and environmental contingencies that were identified in the Social and Environmental Considerations Working Group 2018 reports have broader application to other contingencies and although they may be described briefly here, the report Principles of Resource Classification (ECE/ENERGY/GE.3/2020/3) should be referred to for more complete guidance.

9. This report also addresses, to a limited extent, other issues not previously identified, that could be considered to belong on the E axis, such as legal, ownership, and political considerations. It does not address:

- The economic component of the E axis except where clarification was considered necessary
- The process of resolving social and environmental issues that are encountered during the development of a project
- How social and environmental issues should be reported in a resource report
- The social or environmental merits, or otherwise, of resource development

[1] The United Nations Framework Classification for Resources (UNFC) changed its name and scope of activities in April 2017. Prior to this, UNFC was known as the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009). It was updated in December 2019 as the United Nations Framework Classification for Resources (Update 2019) UNECE Energy Series 61.

- Other E axis contingencies except aspects of economic, fiscal, legal (legislative, regulatory, disputes), project approval, and contractual issues that could affect the social and environmental contingencies. Section IV.C Related Contingencies, of this report, is limited in scope and does not present a full picture.

10. There is considerable literature on social and environmental matters, mainly on how to address them when developing a project, but none contains significant guidance on classification. This is unlike the UNFC F and G axes, which are covered in considerable detail in resource-specific guidance and associated publications. The World Bank and the International Finance Corporation (IFC)[2] rate projects to assess their risk and uncertainty before making loans. Although these publications do not classify projects in the same way as UNFC, they provide a useful view on social and environmental classification. The System of Environmental-Economic Accounting (SEEA)[3] is managed by the Statistics Division of the United Nations Department of Economic and Social Affairs and refers to UNFC as the standard for energy classification. Although SEEA refers to environmental and social factors, it provides no significant guidance on classification.

11. The social and environment issues related to a project needed to obtain stakeholder approval and broader acceptance for a project to proceed are typically described as a requirement for "social license" or "social license to operate" (SLO).

12. These terms are colloquially useful, but are not recommended for classification because SLO:

- Is rarely a single issue but is a collection of separate contingencies
- There may not be agreement on what the issues are that constitute an SLO for a project
- They are likely to be different for every project.

13. The relevant individual contingencies that constitute the social license for, and are specific to, a project should be used.

14. There is a degree of commonality in the social and environmental aspects of different types of resources, and the guidance provided here is intended to be relevant for all resources to which UNFC applies. However, there will also be issues that are specific to a resource or jurisdiction, in which case, reference should be made to the relevant resource specific, jurisdictional, or other, guidance.

II. UNFC E Axis

15. The current UNFC E-axis Categories and Sub-categories can be found in the United Nations Framework Classification for Resources (Update 2019), UNECE Energy Series 61 and ECE/ENERGY/125, Annex I, page 6, and Annex II page 8, respectively. Projects may also be sub-classified based on the level of maturity in Table 3 on page 5, UNFC Classes and Sub-classes defined by Sub-Categories, and Annex III, Guidelines on the use of Project Maturity to Sub-Classify Projects Using UNFC.

16. Annex I includes a copy of the current E-axis Environmental-Socio-Economic Viability Categories and Sub-categories of UNFC from the UNFC Update 2019:

- Definition of Categories and Supporting Explanations; and

[2] For IFC Performance Standards see http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/Performance-Standards. Of significance are IFC Performance Standards on Environmental and Social Sustainability Effective January 1, 2012 https://www.ifc.org/wps/wcm/connect/c8f524004a73daeca09afdf998895a12/IFC_Performance_Standards.pdf?MOD=AJPERES http://www.ifc.org/wps/wcm/connect/296ae980488551f5aa0cfa6a6515bb18/ESIA.pdf?MOD=AJPERES

[3] https://unstats.un.org/unsd/envaccounting/seea.asp

- Definition of Sub-categories.

17. These have been provided for the convenience of the users of these guidelines who should confirm that there have been no subsequent changes.

III. Steps in Categorization

18. The steps in the environmental and social categorization process include:

(a) Identifying the relevant environmental and social contingencies;

(b) Estimating the probability (quantitative or qualitative) that environmental and social issues will be resolved and maintained over the forecast life cycle of the project;

(c) Consideration of the level of activity needed and the status of efforts to resolve environmental and social issues at the time of an evaluation.

19. The following points should be noted:

(a) The assessment of environmental and social factors for resource categorisation has not been a common resource evaluation practice. Evaluators should ensure that they apply an appropriate level of expertise for an evaluation, which may require consulting with those who have such expertise;

(b) Evaluation and classification can only be based on the information that is available at the Effective Date of the evaluation. Subsequent changes may require a re-evaluation and reclassification;

(c) Evidence for the assessment and categorization of environmental and social contingencies should be fully documented and provide an audit trail;

(d) An estimate of probability should be at a level needed to classify to a UNFC Sub-category (e.g., the Category may be the same whether the probability is 60 per cent or 70 percent). It does not necessarily require formal calculation or great precision.

20. The assessment of the probability related to most environmental and social contingencies is likely to be based on the personal or subjective belief that an event will occur. There are several approaches to making such subjective probability estimates, from simple “guesses” to sophisticated Delphi exercises that combine the beliefs of a group of experts. The method used to estimate a probability should be documented. This will be particularly important when the information is to be used for investment decisions or raising funds for a project.

IV. Contingencies

A. Introduction

21. A Contingency is a specific criterion or condition that must be satisfied before a project can proceed. A contingency is unique to one of the E, F, or G Categories.

22. Although contingencies may differ between projects, many would include environmental and social issues. There will usually be multiple contingencies and the overall project classification should be that of the lowest ranking one.

23. Further information and guidance on contingencies may be found in the report “Principles of Resource Classification”.

B. E-axis Environmental, Social and Economic Categories and Sub-Categories

24. The E-axis Categories and Sub-categories as defined in the UNFC Update 2019 are related directly to the level of confidence that the relevant contingencies can be resolved.

25. E1 and its Sub-categories are those projects for which "Development and operation are confirmed to be environmentally-socially-economically viable". To be recategorized from E2 to E1, the contingencies are:

- Those that have been resolved and present no barrier to recategorization, i.e., they are no longer contingencies
- Those that have not been resolved but for which there are "reasonable expectations that all necessary conditions will be met within a reasonable timeframe". The term "confirmed" in the definition of E1 implies that there should be little doubt (e.g., > 90% probability) that this condition will be met. It should be supported by relevant, auditable documentation or equivalent evidence, including regulatory and other approvals that a project is expected to satisfy all environmental or social conditions. This may be the case, for instance, in a mature area for which there are relevant supporting historic precedents
- Those that have not been resolved and do not fall within the "reasonable expectations that all necessary conditions will be met within a reasonable timeframe" would preclude recategorization.

26. E2: Development and operation are expected to become environmentally-socially-economically viable in the foreseeable future. This implies that development is more than likely than not (i.e., > 50% probability) to become environmentally and socially viable.

27. E3: Any project that does not meet the requirements for E2 or E1 will be categorized as E3. Quantities that are forecasted to be unused or consumed in operations for projects are categorised as E3.1.

28. The probability that environmental and social issues will be resolved and maintained over the forecast life cycle of a project depends on the specifics of the project and the legal, regulatory, and social context in which it is to be carried out. When there is a history of similar project developments, they may be used to assist in classification.

29. Consideration of the level of activity needed, and the status of efforts to resolve environmental and social issues at the time of an evaluation and classification will depend on the project and the level of engagement with the relevant parties to address the issues:

- Active engagement with stakeholders does not necessarily mean that it will lead to successful resolution of the contingencies. Similarly, a lack of engagement does not necessarily mean that a project will be unable to proceed. When no or only routine activity is required, environmental and social issues may not be a contingency. In other cases, a high level of effort and active engagement with stakeholders may be required over an extended period
- Evidence of active engagement with stakeholders towards the resolution of environmental and social contingencies must be based on substantial documentation and would not be satisfied by an unsubstantiated claim or a token effort. The nature of this will depend on the project and on the environmental and social issues that are involved. It could include, for example, documented proof that an Environmental and Social Impact Assessment (ESIA) was being carried out or has been submitted for approval, that there are constructive discussions with interested parties, the establishment of training and other social programmes, etc.
- Lack of active engagement with stakeholders in the resolution of environmental and social contingencies. The consequences of a lack of engagement will depend on the situation. In an established area with a history of resource development, project approval may be a matter of routine and require little or no effort. In other cases, it will result in a project not receiving approval and it being put on hold or abandoned.

C. Related contingencies

30. Other E-axis factors may be affected by environmental and social issues. The effect of these on classification is likely to vary between different operators with a different Realm

of Discourse (ROD), which describes the conditions, the context, and the reason for evaluating and classifying a resource:

(a) Ownership and regulatory approval may not be contingencies for the owners of the resources such as governments but will be significant for others;

(b) For most resources, an operator is not the owner of a resource, but is granted contractual rights by the owner (usually national or provincial states), to explore for, produce, and sell, a product;

(c) The decision to commit to executing a project usually lies with an operator, not with a government and may result in different classifications for the same project. This is recognized in UNFC-2009 Part II Section IV National Resource Reporting, although that focuses mainly on aggregation.

31. Related contingencies must meet the relevant categorization requirements for E-axis categorization described above (refer to Annex I). They may include the following:

(a) Legal framework. The right to produce and sell (or benefit) from a resource.

- E1 if the legal right to produce and sell is established and not in dispute
- E2 if the legal right to produce and sell is being negotiated but not finalized or is in dispute
- E3 if there is no legal right to produce and sell, as is the case for many exploration activities, and no negotiation or application in process.

(b) Regulatory approval. This is required for many aspects of extraction operations, ranging from major environmental approval to routine minor issues such as individual well abandonment approvals:

- E1 if approved or, located in areas and jurisdictions where there is an established history of approval indicates that approval can be expected with the appropriate level of assurance
- E2 if applied and awaiting approval
- E3 if required but not applied for or applied for and not approved.

32. Classification may be relatively straightforward for formal legal and regulatory processes since they have either:

(a) Been approved;

(b) Been initiated and approval has not been granted;

(c) Been initiated but the process is not completed;

(d) Not been initiated (i.e., not been applied for).

33. Other E-axis non-economic factors mentioned in UNFC, for which classification may be less clear, include:

(a) Fiscal framework. The terms regarding taxes, royalties, production sharing, or other fiscal provisions under which extraction operations are carried out may be influenced by social and environmental considerations:

- E1 if established, not in dispute or uncertain, and allows a decision to implement a project to be made
- E2 if it is being negotiated but not finalized, is in dispute, or there is uncertainty due to the possibility of a change that could affect the commercial viability of a project
- E3 if not determined.

(b) Contractual conditions. These are specific to an asset or project but may contain terms beyond those of the legal or fiscal framework (e.g., a requirement to use local labour, private sector contracts, lease expiry after a specific time, abandonment, and reclamation obligations, etc.). A contract may not always be required, but if it is:

- E1 if established, not in dispute or uncertain in any manner, and is expected to be concluded with a high degree of certainty
- E2 if they are being negotiated but not finalized, are in dispute, or there is uncertainty due to the possibility of a change that could affect the commercial viability of a project
- E3 if it does yet not exist.

34. The contingencies relevant for a specific project will vary, and there may be others that are not noted here. An environmental or social contingency that results in the delay of a project can have a major impact on the economic viability that may warrant a reclassification.

35. Users of UNFC may elect to use attributes to distinguish between projects where the contingencies are within their control and where they are not. This may be done, for instance, to improve information to government or others of what the effects of changes in the conditions they control may be.

V. Project Maturity Sub-Classes

36. The relation between the Project Maturity Sub-Classes of On Hold and Development Pending is not straightforward. Project Maturity describes the current status of a project but provides no indication of the probability that the relevant contingencies will be resolved.

37. UNFC-2019 Section IV refers to Sub-Classes that are illustrated in Figure 3, Classes and Sub-Classes defined by Sub-Category. These are described in detail in the Guidelines on the Use of Project Maturity to Sub-classify Projects using UNFC as contained in UNFC-2019, Annex III, ECE Energy Series No. 61 and ECE/ENERGY/125 which states that the Categories and Sub-Categories of UNFC reflect the probability of a project attaining commerciality. “The Project Maturity Sub-Classes are based on the associated actions (business decisions) required to move a project towards commercial production/extraction”.

VI. Sustainable Development Goals

38. The Sustainable Development Goals (SDGs) are a national legal/fiscal framework about factors such as climate change or social issues that promote, hinder, or prevent, the development of a resource. The SDGs[4] and the Paris Agreement on climate action are a Realm of Discourse (ROD)[5] that can be accommodated by UNFC.

39. Some of the SDGs imply or suggest a set of policies or practices that could affect the environmental, social, and economic implications of resource projects that would define a ROD for an evaluation; different resource classifications may result in SDGs-driven ROD.

40. UNFC could be used in studies carried out to assess and provide information on specific SDGs that have a direct implication for resource development, such as SDG 7 Affordable and clean energy, SDG 9 Industry, Innovation and Infrastructure, SDG 12 Responsible Consumption and Production, and SDG 13 Climate Action.

41. Implementation of the Paris Agreement on climate action will be carried out by participating countries through nation specific Intended Nationally Determined Contributions (INDCs). As these INDCs are developed, they will become part of the basic context of ROD for resources evaluation and classification in each country, or could be used as the basis of a common ROD for evaluation of resources across multiple countries or regions.

42. Development of the use of UNFC for the SDGs and the Paris Agreement would benefit from further discussion but is beyond the scope of this exercise.

[4] See https://www.un.org/sustainabledevelopment/sustainable-development-goals/ for details.
[5] Refer to the Principles report for a description and discussion of Realm of Discourse.

Annex I

E-Axis Categories and Sub-Categories - Definitions and Supporting Explanations

E Axis – Environmental-Socio-Economic Viability

Category	*Definition*	*Supporting Explanation*
E1	Development and operation are confirmed to be environmentally-socially-economically viable.	Development and operation are environmentally-socially-economically viable on the basis of current conditions and realistic assumptions of future conditions. All necessary conditions have been met (including relevant permitting and contracts) or there are reasonable expectations that all necessary conditions will be met within a reasonable timeframe and there are no impediments to the delivery of the product to the user or market. Environmental-socio-economic viability is not affected by short-term adverse conditions provided that longer-term forecasts remain positive.
E2	Development and operation are expected to become environmentally-socially-economically viable in the foreseeable future.	Development and operation are not yet confirmed to be environmentally-socially-economically viable but, on the basis of realistic assumptions of future conditions, there are reasonable prospects for environmental-socio-economic viability in the foreseeable future.
E3	Development and operation are not expected to become environmentally-socially-economically viable in the foreseeable future or evaluation is at too early a stage to determine environmental-socio-economic viability.	On the basis of realistic assumptions of future conditions, it is currently considered that there are not reasonable prospects for environmental-socio-economic viability in the foreseeable future; or, environmental-socio-economic viability cannot yet be determined due to insufficient information. Also included are estimates associated with projects that are forecast to be developed, but which will be unused or consumed in operations.

Definition of Sub-Categories

Category	*Sub-Category*	*Sub-Category Definition*
E1	E1.1	Development is environmentally-socially-economically viable on the basis of current conditions and realistic assumptions of future conditions.
	E1.2	Development is not environmentally-socially-economically viable on the basis of current conditions and realistic assumptions of future conditions, but is made viable through government subsidies and/or other considerations.
E2	No Sub-categories defined	
E3	E3.1	Estimate of product that is forecast to be developed, but which will be unused or consumed in operations.
	E3.2	Environmental-socio-economic viability cannot yet be determined due to insufficient information.
	E3.3	On the basis of realistic assumptions of future conditions, it is currently considered that there are not reasonable prospects for environmental-socio-economic viability in the foreseeable future.

Annex II

Examples of E-axis resource specific classification

1. The following three case studies are provided for guidance. Updates of this final guidance will contain application of new case studies.

A. Assigning project classification when there are multiple issues on the E axis

2. If you have multiple issues to deal with on the E axis, the overall ranking is that of the lowest Potential E Category which should be assigned to the ultimate project classification as in the example in Table 1.

Table 1
Assigning project classification in the case of multiple issues on the E axis

Issue / potential contingency	*Level of engagement*	*Probability of approval*	*Potential E Category*
Legal	Relevant licenses	Done	E1
Regulatory	Relevant permissions	Granted	E1
Market access	Local use	99%	E1
Land access	Local use	99%	E1
Social	No objections expected	90%	E1
Economic	Project screened economic	95%	E1
Political	No worries expected	99%	E1
External approvals / commitments	Commitments made	100%	E1
Environmental	License approval in process. Issue with the black rimmed beetle frog habitat	50%	E2
Timing (<5 years or >5 years)	<5 years	Uncertain (see environmental)	E2
Total = lowest ranking issue			**E2**

Author: Harmen Mijnlieff, TNO, the Netherlands

Source: Draft guidance on accommodating environmental and social considerations in the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (ECE/ENERGY/GE.3/2016/8)

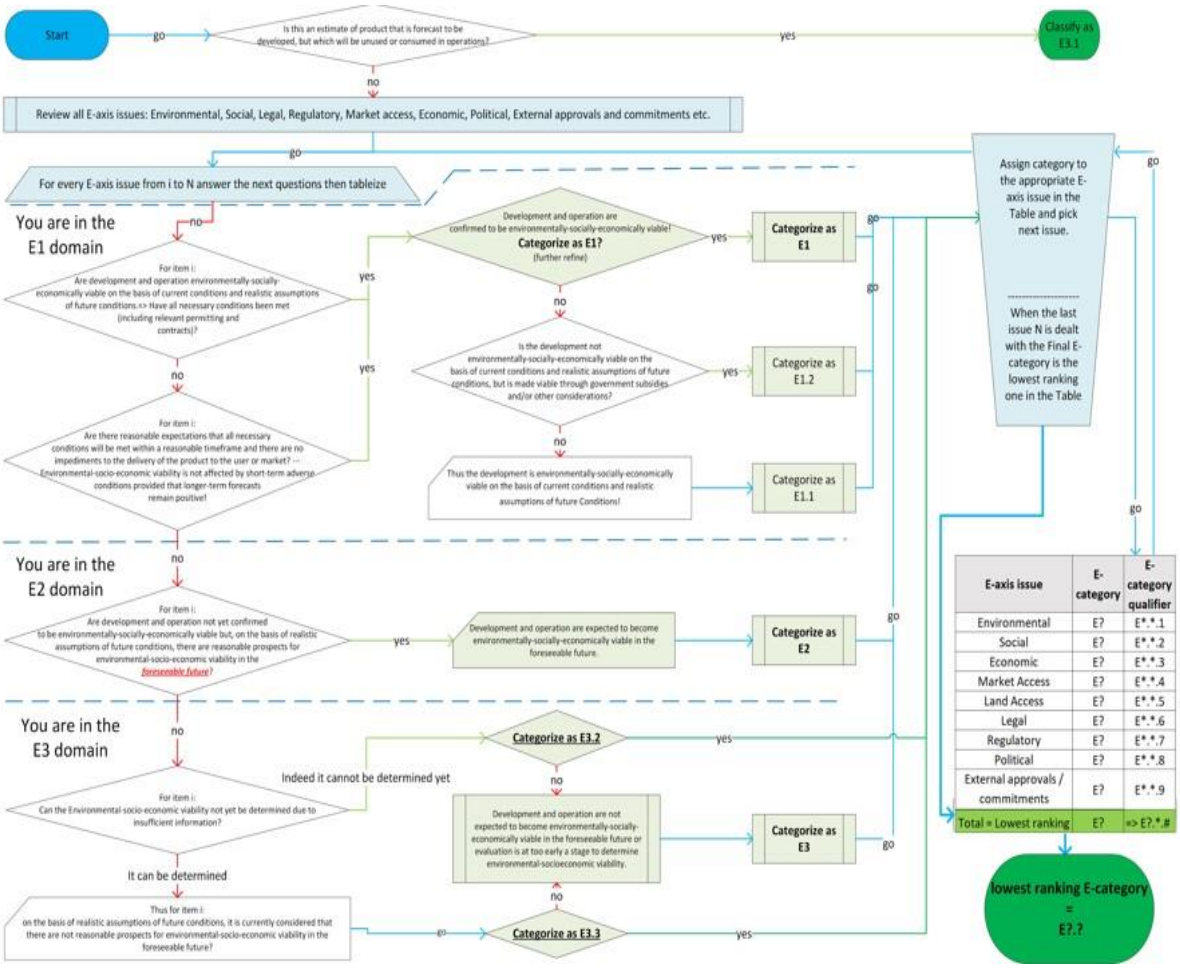
B. Specifications for the application of UNFC (UNFC Update 2019): Decision tree (E axis) to aid the classification of geothermal projects according to UNFC

3. The following flowchart was developed for the E axis. By following the arrows from decision box to decision box, the user will end up in a box giving the most suitable classification at the highest hierarchical level for the given axis.

4. The arrows connecting the boxes are coloured: red represents the direction for decision NO; green represents the direction for decision YES; with a blue arrow, no decision has to be made (passing information only).

5. A loop is introduced, because there is potentially a suite of issues pertaining to the "license to operate" in the economic, legal, social, etc. domains, which need to be resolved. The lowest ranking E-axis classification is the one which is to be used for the final classification.

6. An option for an additional category to report the maturation hurdle in the classification has been added.


Start
go
Is this an estimate of product that is forecast to be developed, but which will be unused or consumed in operations?
yes
Classify as E3.1
no
Review all E-axis issues: Environmental, Social, Legal, Regulatory, Market access, Economic, Political, External approvals and commitments etc.
go
For every E-axis issue from i to N answer the next questions then tableize
You are in the E1 domain
no
For item i: Are development and operation environmentally-socially-economically viable on the basis of current conditions and realistic assumptions of future conditions.=> Have all necessary conditions been met (including relevant permitting and contracts)?
yes
no
For item i: Are there reasonable expectations that all necessary conditions will be met within a reasonable timeframe and there are no impediments to the delivery of the product to the user or market? -- Environmental-socio-economic viability is not affected by short-term adverse conditions provided that longer-term forecasts remain positive!
yes
Development and operation are confirmed to be environmentally-socially-economically viable! Categorize as E1? (further refine)
yes
Categorize as E1
no
Is the development not environmentally-socially-economically viable on the basis of current conditions and realistic assumptions of future conditions, but is made viable through government subsidies and/or other considerations?
yes
Categorize as E1.2
no
Thus the development is environmentally-socially-economically viable on the basis of current conditions and realistic assumptions of future Conditions!
Categorize as E1.1
You are in the E2 domain
no
For item i: Are development and operation not yet confirmed to be environmentally-socially-economically viable but, on the basis of realistic assumptions of future conditions, there are reasonable prospects for environmental-socio-economic viability in the foreseeable future?
yes
Development and operation are expected to become environmentally-socially-economically viable in the foreseeable future.
Categorize as E2
You are in the E3 domain
no
For item i: Can the Environmental-socio-economic viability not yet be determined due to insufficient information?
Indeed it cannot be determined yet
Categorize as E3.2
yes
no
Development and operation are not expected to become environmentally-socially-economically viable in the foreseeable future or evaluation is at too early a stage to determine environmental-socioeconomic viability.
Categorize as E3
It can be determined
Thus for item i: on the basis of realistic assumptions of future conditions, it is currently considered that there are not reasonable prospects for environmental-socio-economic viability in the foreseeable future?
go
Categorize as E3.3
yes
Assign category to the appropriate E-axis issue in the Table and pick next issue.
When the last issue N is dealt with the Final E-category is the lowest ranking one in the Table
E-axis issue | E-category | E-category qualifier
Environmental | E? | E*.*.1
Social | E? | E*.*.2
Economic | E? | E*.*.3
Market Access | E? | E*.*.4
Land Access | E? | E*.*.5
Legal | E? | E*.*.6
Regulatory | E? | E*.*.7
Political | E? | E*.*.8
External approvals / commitments | E? | E*.*.9
Total = Lowest ranking | E? | => E?.*.#
lowest ranking E-category = E?.?

C. Pilot project for the classification of Mexico's petroleum resources and reserves based on UNFC

7. In evaluating the social and environmental viability of the E axis, a matrix could be created to describe project risks. The matrix (for E axis evaluation) could consider the country legislation regarding social and environmental factors, required by the government. Thus, the matrix would contain the relevant information required by the country's legislation.

8. The social factors might include the presence of communities with indigenous people, urban and rural land use, the values of the marginalization index, the index of human development, the local economic activity and water use, among other variables.

9. Table 1 presents a template of a matrix which uses levels of viability for the development of the projects, considering social variables used to classify the projects on the E axis: (i) high or most likely (ii) best or likely, and (iii) low or unlikely. This matrix can be used by experts, with extensive knowledge of the project area, as a qualitative tool and judgement should be used to identify key social risks in order to assess the likelihood of project execution.

Table 2
Matrix for E-axis evaluation – social variables

Social variables	*High (Most likely)*	*Best (Likely)*	*Low (Unlikely)*	*Spatial Support*	*Legend*
Presence of indigenous communities?(Communities>50 people)	No/Partially/Yes	No/Partially/ Yes	No/Partially/Yes		
Communities with less than 40%?					
Communities with more than 40%?					
Communities of interest?					
Is there an indigenous region?	No/Partially/Yes	No/Partially/ Yes	No/Partially/Yes		
Is there a social land ownership?					
Communal Land?					
Is there marginalization? As measured by the marginalization index	No/Partially/Yes	No/Partially/ Yes	No/Partially/Yes		
Very High?					
High?					
Medium?					
Low?					
Very Low?					
Is the project interfering with an economic activity?	No/Partially/Yes	No/Partially/ Yes	No/Partially/Yes		
Agriculture					
Fishing?					
Livestock?					
Tourism?					

Social variables	*High (Most likely)*	*Best (Likely)*	*Low (Unlikely)*	*Spatial Support*	*Legend*
Other?					
Is there a concern with water?	No/Partially/Yes	No/Partially/ Yes	No/Partially/Yes		
Hydrologic Basins?					
Aquifers?					
Water wells?					
Other?					

Source: Pilot project for the classification of Mexico's petroleum resources and reserves based on UNFC (ECE/ENERGY/GE.3/2019/5)

10. The environmental factors might include the existence of safeguard zones, protected natural areas, wetlands of international importance, species of flora and fauna protected by legislation and the zoning of critical land use in the area.

11. Table 2 presents a template of a matrix which uses levels of viability for the development of the projects, considering environmental variables used to classify the projects on the E axis: (i) high or most likely, (ii) best or likely, and (iii) low or unlikely. This matrix can be used by experts, with extensive knowledge of the project area, as a qualitative tool and judgement should be used to identify key environmental risks in order to assess the likelihood of project execution.

Table 3
Matrix for E-axis evaluation – environmental variables

Environmental variables	*High (Most likely)*	*Best (Likely)*	*Low (Unlikely)*	*Spatial Support*	*Legend*
Is the project located in a restricted area?	No/Partially/Yes	No/Partially/ Yes	No/Partially/ Yes		
Natural protected area?					
Safeguard zone?					
Communities of interest?					
Is there an indigenous region?	No/Partially/Yes	No/Partially/ Yes	No/Partially/ Yes		
Is there a social land ownership?					
Communal Land?					
Is there flora and fauna listed?	No/Partially/Yes	No/Partially/ Yes	No/Partially/ Yes		
Species at risk?					
Amphibians?					
Birds?					
Fungus?					
Invertebrate?					

Environmental variables	*High (Most likely)*	*Best (Likely)*	*Low (Unlikely)*	*Spatial Support*	*Legend*
Mammals?					
Reptiles?					
Fish?					
Are there any critical territorial ordering?	No/Partially/Yes	No/Partially/ Yes	No/Partially/ Yes		
General					
Regional?					
Specific?					
Local?					
Is there critical land use?	No/Partially/Yes	No/Partially/ Yes	No/Partially/ Yes		
High jungle?					
Wetland?					
Forest?					
Other?					

Source: Pilot project for the classification of Mexico's petroleum resources and reserves based on UNFC (ECE/ENERGY/GE.3/2019/5)

Appendix

Members of the Social and Environmental Considerations Working Group

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Glossary of Terms

NOTE: UNFC Update 2019 contains a glossary, but not the following terms.

Contingency: A specific criterion or condition that must be satisfied before a project can proceed. A contingency is unique to one of the E, F or G Categories.

Environmental: the physical, chemical, and biological impact on, or changes to, the surrounding pre-existing environment, due to a project (e.g. heavy metal contamination in soils or water, disruption of wildlife habits and migration characters, etc.).

Social: The impact on humans and society, of environmental changes, such as:

- Effects stemming from environmental changes (e.g. health issues due to heavy metal contamination); and
- Changes in social systems and structures (e.g. ownership claims, traditional land usage, land and other value changes, changes in local population community structures, the creation of jobs and economic activity, etc.).