

Guidance Note to support the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 Definition of a Project

Prepared by the Bureau of the Expert Group on Resource Classification

Summary

The work plan of the Expert Group on Resource Classification for 2016–2017 called for the Bureau of the Expert Group to review and prepare a guidance note on the definition of a project in relation to the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009). A draft of this document was submitted for discussion at the seventh session of the Expert Group and is intended to supplement the definition of a Project as documented in UNFC-2009 *incorporating Specifications for its Application*, ECE Energy Series No. 42, Part II, Annex I. Subject to the incorporation of minor amendments, the Expert Group recommended that the text was finalized and posted to the ECE website. This guidance note reproduces the UNFC-2009 definition of a Project, highlights the differences between this definition and the definition recently adopted in a European Union accounting directive, documents some of the underlying principles of project-based resource classification, and finally provides a set of guidelines that should enhance the consistency of application of UNFC-2009 by its users.

I. Introduction

1. This document provides a guidance note that was prepared for discussion by the Expert Group on Resource Classification at its seventh session. The intent of the guidance note is to supplement the definition of a project as documented in the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009) *incorporating* Specifications for its Application, ECE Energy Series No. 42, Part II, Annex I. The Expert Group recommended that, subject to incorporation of minor amendments, the guidance note should be posted to the ECE website.

II. Purpose of guidance note

2. The guidance note provides additional guidance on the application of the Project definition, as set out in UNFC-2009, in order to enhance the consistency of application of UNFC-2009 by its users. It is for guidance only and does not constitute a specification (rule). Further, it applies solely to the application of UNFC-2009 and has no bearing on other project-based systems, including those bridged to UNFC-2009, when such systems are being applied independently.

3. The guidance applies to all applications of UNFC-2009, including fossil energy, mineral reserves and resources, renewable energy and injection projects for geological storage. For simplicity, the terminology used herein is consistent with fossil energy and solid mineral Projects. However, the analogous terms for renewable energy or injection Projects, as set out in the relevant Specifications documents, shall be adopted where appropriate.

III. UNFC-2009 definition of a Project

4. A Project¹ is a defined development or mining operation which provides the basis for economic evaluation and decision-making. In the early stages of evaluation, including exploration, the Project might be defined only in conceptual terms, whereas more mature Projects will be defined in significant detail. Where no development or mining operation can currently be defined for all or part of a deposit, based on existing technology or technology currently under development, all quantities associated with that deposit (or part thereof) are classified in Category F4.

IV. Accounting definition

5. The concept of using projects as the primary basis for resource classification has been applied in the petroleum sector since the 1990s and many companies use it as an integral part of their capital value management system and decision-making processes. The accounting sector (initially within Europe, but the United States of America and Canada are considering adopting similar definitions) has recently chosen to adopt the term “project” for a different purpose (but one that will be applicable to extractive industries reporting). In the case of the European Union Accounting Directive 2013/34/EU², the definition is that the term “project” means the operational activities that are governed by a single contract, licence, lease, concession or similar legal agreements and form the basis for payment liabilities with a

¹ This definition is taken verbatim from UNFC-2009 *incorporating* Specifications for its Application, ECE Energy Series No. 42.

² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:182:0019:0076:EN:PDF>

government. In addition, multiple such agreements can be combined in to a single “project” if they are “substantially interconnected”. This definition would, in many cases, lack the granularity appropriate for resource classification (and decision-making) and therefore should not be confused in any way with the pre-existing definition of a Project as adopted as part of UNFC-2009 and discussed in further detail below.

6. It is further noted that the term “project” may be adopted in other regulatory situations, e.g. as the basis for determining royalty payments, as well as being used in conjunction with a range of modifying terms, such as exploration project, development project, extraction project, improved recovery project and pilot project. Care is therefore required to ensure that such terms, where defined by regulation, are applied correctly in the relevant context and not confused with the application of the UNFC-2009 definition, which is a fundamental part of the UNFC-2009 classification framework.

V. Principles

7. UNFC-2009 was designed as a Project-based system for the evaluation and classification of fossil energy and mineral reserves and resources located on or below the Earth’s surface. Further development has demonstrated that the system can also be applied to renewable energy sources as well as for injection Projects for the purpose of geological storage³.

8. A Project comprises a defined activity, or set of activities⁴, which provides the basis for estimating both costs and potential revenues associated with its implementation. The cost and revenue estimates can then be used for an economic analysis on which the decision whether or not to proceed with the Project can be based, together with other relevant commercial considerations, such as legal, environmental and social issues, all of which could impact the viability of the defined Project. Since future potential revenues will be based on estimated future product(s) quantities that can be extracted and sold, and the efficiency of the extraction process will depend on the design of the Project itself (extraction methodology, infrastructure, processing requirements, etc.) these three issues – costs, recoverable product quantities and revenues – are inextricably linked by the nature of the defined Project.

9. As noted above, the level of detail with which a Project is defined will be dependent on the maturity of the Project. For example, at the exploration stage the expected extraction methodology may be defined in broad conceptual terms only, whereas a development commitment will generally require very detailed documentation⁵ of the extraction methodology, processing requirements (where required), export route(s), capital and operating costs, environmental protection procedures, social licence considerations, etc.

³ The guidance presented herein is focussed on extraction Projects rather than injection Projects, but many of the principles are applicable to both types.

⁴ Typical activities can include: e.g. remote sensing surveys, exploration drilling, core analyses, flow testing, geological, pre-feasibility and feasibility studies, installation of facilities for extraction (mining/production) including drilling production and injection wells, processing (where required) and export, plus all activities required for good environmental management. For renewable energy Projects, such activities may also include metrological studies, crop yield modelling and surveys, crop field trials, land origination activities, pilot/demonstration plant trials, and full scale production/operations.

⁵ Specific requirements may be defined by regulation. Generic guidance on Pre-Feasibility Studies and Feasibility Studies are provided in the CRIRSCO Template, and Development Plan is defined in PRMS.

VI. Guidelines

10. The activity or set of activities which constitute the defined Project will *always* include some consideration of the mining operation or development scheme that could or will be implemented, or has been implemented, without which no estimate of potentially recoverable quantities can be made.

11. At an early stage of Project evaluation, the level of detail in such a consideration may be limited to making a preliminary judgement as to the extent of mineralisation in a deposit that may be assumed to be economically extractable and/or by assuming an appropriate range of potential recovery factors, which may be based on analogues for the type of deposit and likely extraction/development strategy.

12. As a Project matures in its scope and definition as it approaches an investment decision, it will often change in character as it becomes better defined⁶ and there may be several stages of data acquisition and/or studies prior to reaching a “final investment decision”, at which point there would be a firm commitment to proceed with installation of the necessary facilities to extract and sell product(s). In many companies, these stages are separated by formal “decision gates” which are aligned with Project Maturity Sub-classes⁷.

13. These decision gates typically require one or more of the following, where a failure to obtain any one of these approvals could stop the Project (as currently defined and proposed) from proceeding to the next stage (which would then be reflected in a move to a different Project Maturity Sub-class):

(a) Approval by one or more governmental entities to proceed with the next phase of the Project⁸;

(b) Approval by the operating company (and its partners) for the expenditure of significant costs⁹; and,

(c) Confirmation, to the extent possible, that local environmental and social concerns beyond regulatory requirements have been appropriately addressed¹⁰.

14. Once a Project has received all the necessary approvals for extraction/production to commence, decisions for routine operational activities that do not require any of the above approvals would generally not constitute a discrete Project.

15. A single Project can reflect the development of part, or all, of a deposit or the development of multiple adjacent deposits (if they are all subject to the same investment decision and approvals based on a single integrated development plan, pre-feasibility or feasibility study). Where an investment decision is made with respect to part of a deposit, then the infrastructure, costs and estimated recoverable quantities associated with that

⁶ The initial, conceptual, Project may become more explicitly defined, or it may subdivide into two or more smaller Projects, or it may combine with other Projects to form a single, larger, Project.

⁷ See UNFC-2009 *incorporating* Specifications for its Application, ECE Energy Series No. 42, Part II, Annex V.

⁸ If some aspects/phases of a proposed project are approved, but others are not, this would indicate that there are at least two distinct Projects subject to separate E/F classification, each with its own estimates for the relevant G axis categories.

⁹ Practice will vary between companies regarding thresholds for approval levels: the key point is whether or not the progression to the next level of Project Maturity Sub-class requires a level of approval for the defined Project that it does not yet have. See also footnote 7.

¹⁰ If some aspects/phases of the Project are less likely than others to satisfy local environmental and social concerns, this would indicate that there are at least two distinct Projects subject to separate E/F classification, each with its own estimates for the relevant G axis categories.

investment decision will constitute a single Project. Any potential for additional recovery from that deposit would be subject to one or more subsequent and discrete Projects, to the extent that each one required a separate decision and/or approval process. In such a case, incremental recovery associated with each subsequent defined Project is classified separately from the initial Project in accordance with the appropriate category (or sub-category) on the E, F and G axes for that specific incremental Project as at the Effective Date.

16. Sales quantities associated with an individual Project will *always* be classified under a single category (or sub-category) on the E axis and a single category (or sub-category) on the F axis. However, quantities associated with that Project could be, and in most cases will be, classified in more than one G axis category¹¹. The relationship between the Project and classification on the G axis depends on the nature of the extraction process, as noted in the Supporting Explanation for the definitions of the G1, G2 and G3 categories¹².

17. When dealing with the mining of solid minerals, each part of a known deposit can be considered on a discrete basis and reported as G1, G2 and/or G3, as appropriate. This is also the case for fluid deposits where faults, reservoir discontinuities or fluid mobility (for example) permit the accumulation to be treated in discrete parts (the “incremental” method).

18. However, when fluids will be produced from a known deposit that is in good lateral pressure communication, their mobile nature generally precludes assigning recoverable quantities to discrete parts of that deposit. In such cases, it is appropriate for them to be estimated on a holistic basis, i.e. recoverable quantities are evaluated on the basis of the impact of the extraction Project on the deposit as a whole. The estimates for recoverable quantities are then usually based on either (i) three specific deterministic scenarios (low, best and high cases) or (ii) on a probabilistic analysis from which three outcomes (typically P₉₀, P₅₀ and P₁₀)¹³ are selected. In both of these methodologies (the “scenario” and “probabilistic” approaches), the quantities are then classified on the G axis as G1, G1+G2 and G1+G2+G3 respectively.

19. Where an evaluation has been undertaken on the basis of either the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) Template or on the Petroleum Resources Management System (PRMS), it should be noted that if some quantities are classified as reserves and some as resources for the same deposit, these two sets of estimates will *always* constitute separate (at least two) Projects¹⁴. Similarly, if the planned activities can be separated into different Project Maturity Sub-classes with discrete decision and/or approval processes, then each of these will constitute a separate Project with a separate estimate of potentially recoverable quantities.

¹¹ For Projects associated with a Known Deposit, the estimated quantities may be reported discretely as G1, G2 and/or G3 (see paragraph 17) or, where appropriate, in combination: i.e. G1, G1+G2 and G1+G2+G3 (see paragraph 18). This is exactly the same as having, for example, Proved, Probable and Possible Reserves (in PRMS), or Measured, Indicated and Inferred Mineral Resources (in the CRIRSCO Template), for an individual development/extraction Project. For Projects associated with a Potential Deposit, quantities are classified as G4 and may optionally be reported as G4.1, G4.2 and G4.3 (discretely or in combination).

¹² UNFC-2009 *incorporating* Specifications for its Application, ECE Energy Series No. 42, Part I, Annex I.

¹³ Where P₉₀ means that there is a 90 per cent probability that the actual recoverable quantity will exceed this estimate.

¹⁴ UNFC-2009 *incorporating* Specifications for its Application, ECE Energy Series No. 42, Part II, Annex III and IV.