### To: Members of the Bureau of the UNECE Expert Group on Resource Classification

From: David MacDonald and Charlotte Griffiths

Conference Calls of the Bureau of the Expert Group on Resource Classification (EGRC) 3 March 2016

**MINUTES** 

#### Present on 9am GMT 3 March Call:

- 1. David MacDonald (Chair)
- 2. Gioia Falcone (geothermal sector and academia)
- 3. Michael Lynch-Bell (Chair ex-officio)
- 4. Jim Ross (petroleum sector)
- 5. Slavko Solar (European Commission)
- 6. Hari Tulsidas (IAEA)
- 7. Charlotte Griffiths (UNECE)

#### Present on 3pm GMT 3 March Call:

- 1. David MacDonald (Chair)
- 2. Tunde Arisekola (NGSA)
- 3. Karin Ask (petroleum sector)
- 4. Paul Bankes representing Roger Dixon (CRIRSCO)
- 5. Sim Caluyong representing Adichat Surinkum (CCOP)
- 6. Dan Diluzio representing Bernard Seiller (SPE)
- 7. David Elliott (financial reporting sector)
- 8. Gioia Falcone (geothermal sector and academia)
- 9. Kjell Reidar Knudsen (Norwegian Petroleum Directorate)
- 10. John Ritter (SPEE)
- 11. Jim Ross (petroleum sector)
- 12. Brad Van Gosen (USGS)
- 13. Charlotte Griffiths (UNECE)

#### Apologies:

- 1. Fatih Birol (IEA)
- 2. Roger Dixon (CRIRSCO)
- 3. Mucella Ersoy (Turkish Coal Enterprises)
- 4. John Etherington (TAG Chair, *observer*)
- 5. Bernard Seiller (SPE)
- 6. Igor Shpurov (First Vice Chair, GKZ Russian Federation)
- 7. Adichat Surinkum (CCOP)
- 8. Danny Trotman (financial reporting)
- 9. Narendra Verma (petroleum sector)

### **Draft Agenda**

- 1. Approval of draft agenda
- 2. Draft minutes of Bureau calls of 14 January 2016
- 3. Bureau
- 4. Preparations for EGRC Seventh Session
- 5. Guidance note on competent person
- 6. Guidance note on definition of a project in relation to UNFC-2009
- 7. Technical Advisory Group update

- 8. Update on application of UNFC to nuclear fuel resources
- 9. Update on application of UNFC to injection projects
- 10. Update on application of UNFC to renewable energy resources
- 11. Update on E-axis Sub-group
- 12. Update on G-axis Review Working Group
- 13. Status of CRIRSCO Template update
- 14. UNFC resourcing strategy
- 15. Mining the European Anthroposphere (MINEA) Project
- 16. Updated International Recommendations for Energy Statistics (IRES)
- 17. Date of next Bureau call
- 18. Any other business

## **Documentation:**

- 1. Draft agenda for Bureau Calls on 3 March 2016
- 2. Draft Minutes of 14 January 2016 Bureau Calls
- 3. Bureau nominations
- 4. EGRC Bureau Members Contact List
- 5. EGRC 7th Session Draft Conclusions and Recommendations
- 6. Overview of Resource Classification Week 2016
- 7. Revised UNFC Resourcing Strategy
- 8. IRES 2016 White Paper

## Item 1. Approval of Draft Agenda

- 1. The agenda was adopted without amendment.
- 2. The Chair noted that due to the large number of agenda items, the usual item on education and outreach was not included. The Communications Sub-Committee is meeting on 3 March and an update will be provided on the next call.

Ask for approval of the draft agenda as circulated on 26 February

### Item 2. Draft minutes of Bureau calls of 14 January 2016

Documentation: Draft minutes of Bureau calls of 14 January 2016

3. The draft minutes were adopted without amendment.

#### Item 3. Bureau

- (a) <u>Current membership</u>
- 4. The list of current Bureau members including contact details as circulated to the Bureau prior to the call was noted.
- 5. Following discussion, it was agreed that for selected organizations, notably CCOP, CRIRSCO, European Commission, IEA and SPE, the nominated Bureau member can identify an alternate to represent him on Bureau calls however both the Bureau member and the alternate could not attend the same Bureau call. The nominated alternate can also be copied on Bureau correspondence.

6. It was requested that when feedback is required from Bureau members this should be clearly provided by the elected Bureau member.

## (b) Nominations for Bureau elections at EGRC Seventh Session

- 7. Following the discussion on the 14 January Bureau calls, clarity has been sought on the nominations procedure within the UNECE secretariat. For expert groups such as the EGRC, there is more flexibility than previously advised on the nominations procedure in order to facilitate the specific requirements that these bodies may have, as long as transparency, accountability and consistency of the respective arrangements can be ensured. The following basic parameters, however need to be met:
- (a) Existing bureaus should oversee the nomination process for the next bureau according to their established practice. This may include nomination of candidates other than government representatives and nominators other than Member States.
- (b) To ensure transparency, the bureau should keep the membership of the entity informed of the process and the approach.
- (c) According to the respective practices in the entity, diversity criteria related to the composition of the bureau should be observed.
- 8. It was noted that an email was circulated to the EGRC on 25 February 2015 that sought to ensure the above parameters were met.
- 9. The current list of Bureau nominees dated 1 March and included as an Annex to these minutes was reviewed. The nominees highlighted in yellow were agreed upon to be put forward for election together with the Government nominated experts. It was noted that a nomination from the Russian Federation was anticipated. The Bureau confirmed that the current list of nominees as detailed in the Annex is representative of the EGRC/UNFC stakeholders including by commodity group and geography.

## **Item 4.** Preparations for EGRC Seventh Session

- (a) Provisional agenda and other documents
- 10. The agenda and the following documents were submitted for translation on time:
- Draft report on guidance on accommodating environmental and social considerations in UNFC-2009
- Revised draft specifications for the application of UNFC-2009 to renewable energy resources
- Case studies
  - (i) Application of UNFC-2009 to phosphate rock uranium resources: A case study of the El-Sebaeya Projects, Nile Valley, Egypt
  - (ii) Considerations related to the application of UNFC-2009 to uranium projects and associated resources in Paraguay
  - (iii) Application of UNFC-2009 to the Uranium Resources of the Gurvanbulag Uranium Deposit, Mongolia.
- 11. The Bureau thanked the authors and the TAG for their efforts in preparing and reviewing the documents, noting that this is an impressive set of documents reflecting a very significant amount of work and expertise on UNFC.

- 12. The following three documents will be issued in English:
- UNFC-2009 and Russian Federation petroleum classification of 2013 Bridging Document hoping for this to also be in Russian.
- Draft generic specifications for the application of UNFC-2009 to geothermal resources.
- Draft specifications for the application of UNFC-2009 to injection projects.

### (b) Draft conclusions and recommendations

13. The draft conclusions and recommendations were circulated on 2 March. The Bureau was requested to provide comments by cob 22 March. It was noted the public comment period for the geothermal specifications should be added.

### (c) Resource Classification Week 2016 overview

14. The overview of the week was reviewed.

#### (d) Sponsorship

15. DeGolyer and MacNaughton Canada has kindly offered sponsorship for the reception on 27 April. ONGC has also kindly indicated it will offer sponsorship.

## (e) Keynotes

16. Dr. Scott Tinker has confirmed his participation and will be accompanied by his colleague Svetlana Ikonnikova (an energy economist at the Bureau of Economic Geology). Dr. Tinker's keynote on the SWITCH project is planned for the morning of 27 April. The film will be screened that. Scott and Svetlana will deliver the Joint UNECE and SPE Swiss Section Lecture on 28 April on the results of the study they have undertaken on shale oil and gas reserve and production forecasts on a number of key basins in the US.

#### (f) UNFC Workshop

17. Very limited funds have been secured to support the travel of experts from Central Asia in line with UNECE's work to build technical capacity in the region. The workshop on 26 April will nominally have a focus on Central Asia.

### (g) UNFC Train the Trainers Workshop

18. The Train the Trainers workshop will be organized before the start of the EGRC meeting on Thursday 28 April.

# (h) Bureau meetings at EGRC Seventh Session

- 19. The Bureau will meet for dinner at 7pm on Tuesday 26 April at the Point du Jour restaurant.
- 20. A Bureau meeting will be held at 6pm after the close of the meeting on 28 April.

### (ix) EGRC 7th Session detailed timeline

21. A detailed timeline will be prepared as per normal practice.

## Item 5. Guidance note on competent person

22. Following discussion, it was agreed that Hari Tulsidas, together with Jim Ross and Michael Lynch-Bell, would prepare a first draft.

### Item 6: Guidance note on definition of a project in relation to UNFC-2009

- 23. The draft noted prepared by Jim Ross generated a significant amount of feedback, which resulted in a more expanded text. It was understood that there might still be some remaining concerns, including over the circulation of the text. It was noted that the document that has been submitted to the EGRC is a draft so the conversation is not closed.
- 24. Based on the feedback received the TAG recommendation was approved.
- 25. Jim Ross was thanked for his efforts in drafting the note.

### **Item 7.** Technical Advisory Group Update

- 26. The Technical Advisory Group (TAG) held its last teleconference on 11 February and the next session is scheduled for 10 March. Ongoing projects include:
- (i) <u>RF2013 Bridging Document:</u> The GKZ submitted a second draft mapping of RF-2013 to UNFC-2009 on 1 February and the TAG provided their comments on 15 February. The TAG will schedule a conference call the week of 7 March to discuss the key issues. The TAG continues to support the GKZ towards finalizing a bridging document by early April.
- (ii) <u>Chinese Petroleum Bridging Document:</u> On 2 February, Dominique Salacz met in Beijing with the Research Institute for Petroleum Exploration and Development (RIPED). This organization has been designated by the Chinese Ministry of Land and Resources to work with the TAG in developing a petroleum bridging document. The meeting built on the process developed in the October GKZ and TAG work session and made significant progress. A second work session with RIPED is scheduled for Geneva on 25-26 April.
- (iii) Renewables Projects: The primary focus is on delivering a finalized draft Geothermal Specification document to the Bureau in early March. The TAG has been copied on the current version and is monitoring internal feedback from the Geothermal Working Group. The TAG provided its comments on the updates to the generic Renewables Specifications document (including updates to the G-axis). On 4 February, the TAG received a copy of the white paper on Access and Entitlement for Bioenergy for review and comments. A work session is scheduled in Geneva prior to the EGRC meeting.
- (iv) <u>E-axis and Project Definition Studies</u>: The TAG participated in a joint Bureau/TAG review of the updated E-axis study report and the working group report on project definition (F-axis).
- (v) <u>Uranium/Thorium Guidelines and Case Studies</u>: The TAG completed its review of three case studies with the assistance of two external experts (Mr. Jean-René Blaise (for Mongolia and Egypt) and Ms. Adrienne Hanly of IAEA (for Paraguay).
- (vi) <u>TAG Process Improvements</u>: The TAG is looking at methods to improve the process of reviewing the large volumes of emails and attachments and aggregating input from geographically dispersed teams. The TAG will investigate future use of web-based "wikitype tools".
- (v) <u>TAG Membership</u>: There is a two-year term limit on membership and nominations for the Chair and a number of TAG members will be submitted to the Bureau for the period 2017–19.

27. The Bureau noted with appreciation that the TAG has been extremely busy and highly productive and effective. The Chair underlined that the recent outputs demonstrated the need for the TAG.

## Item 8. Update on application of UNFC to nuclear fuel resources

- 28. Work is progressing for the IAEA to publish the Uranium Guidelines as a joint IAEA and UNECE official publication. A number of internal administrative issues still need to be overcome.
- 29. Three uranium case studies have been submitted for the EGRC seventh session.
- 30. An IAEA UNFC consultancy meeting to discuss development of the Handbook will be held in Geneva, 25–26 April 2016.
- 31. The Bureau thanked Hari Tulsidas and the other Task Force members for their hard work.

## Item 9. Update on application of UNFC-2009 to injection projects

- 32. The revised draft specifications for injection projects and the summary report from the public hearing have been submitted to the TAG for review. The discussion on the term that describes what is actually being classified for Injection Projects (where Storage Potential was used in the Draft for public comment) is still unresolved. The documents recommended by the TAG will come to the Bureau for review over the coming weeks and the Bureau approved documents will then be submitted to the 7th session of the EGRC.
- 33. Shell will present its CCS resource classification framework to the EGRC seventh session. Shell has undertaken work internally to see if it can use PRMS and has carried out a preliminary mapping.
- 34. The Chair and the other Task Force members were thanked for their continued efforts.

## Item 10. Update on application of UNFC-2009 to renewable energy resources

- 35. The Geothermal Working Group is continuing its hard work to finalize the draft Geothermal Specifications. The draft text will be submitted to the Bureau and the TAG on or around 7 March.
- 36. The Bioenergy Working Group has prepared a white paper on Access and Entitlement for Bioenergy for review and comments by the TAG. A work session is scheduled for April prior to the EGRC meeting.
- 37. The Renewables Task Force continue to oversee the work. The Task Force submitted the revised draft generic specifications to the EGRC seventh session. A number of comments provided by the TAG were not accepted in the draft that was submitted to the EGRC so there will need to be a discussion at the meeting on those unresolved issues.

- 38. The Chair of the Task Force is looking to meet with IRENA, IEA, REN21 and the German Energy Agency to seek their engagement in the work on application of UNFC to wind and solar. The Global Solar Council has also been contacted.
- 39. The Task Force last met on 27 January 2016.
- 40. The Chair and the other Task Force members were thanked for their continued efforts.

## Item 11. Update on E-axis Sub-Group

- 41. The Report of the E axis Sub-group on the development of draft guidance on accommodating environmental and social considerations in UNFC-2009" was submitted as an official document for the EGRC seventh session. The recommendations in the report fall into three main areas:
- (a) Clarification and revisions of terms related to the UNFC-2009 E axis. The E axis combines economic and socio-environmental factors and the report proposes a revision of terminology to distinguish between them. It also addresses the concept of a contingency (which is not, however, confined to the E axis but also relevant to the F axis) and also notes that the E, F and G axes factors are not completely independent.
- (b) High-level guidance on accommodating social and environmental considerations in UNFC-2009. This includes a proposed split of the E2 Sub-category into E2.1 and E2.2, as evidenced by the level of effort, the historical record in the area of operation, and the probability of obtaining a Social Licence to Operate (SLO). These are proposed for further review, with an objective of presenting recommendations for approval to the Expert Group in 2017. Implementation of such changes would likely await a general update of UNFC-2009 at a later date.
- (c) The development of detailed guidelines. As noted, there are no detailed guidelines on classification for socio-environmental issues in UNFC-2009 or the resource-specific guidelines. Since many of these are common to all resource types, it is recommended that guidance on them should be prepared under the aegis of the Expert Group. Guidelines on issues that are specific to a particular resource would be the responsibility of the authors of the relevant resource specific guidelines.
- 42. The Sub-group Chair noted that the references could not be included as part of the document submitted due to word length limitations.
- 43. The Chair and the other Sub-group members were thanked for their continued efforts.

## Item 12. Update on G-axis Review Working Group

- 44. Having provided substantive input to the revised generic renewables specifications, the focus of the Working Group is on preparing a presentation for the EGRC seventh session. Consideration of a possible name change for the G axis is ongoing, but a low priority.
- 45. The Chair and the other Working Group members were thanked for their continued efforts.

### Item 13. Status of CRIRSCO Template update

46. The notes of the meeting of the CRIRSCO Template Sub-committee held in Brasilia, 28–29 November 2015, as provided by the CRIRSCO representative on 29 February were shared with the Bureau:

### • CRIRSCO Template Update

The following key topics were recommended for consideration;

• Environmental & Social, including Mine Closure

Template to have a separate section addressing and leading the codes on the key issues for the sector.

#### • Exploration Targets

Proposed that it should be in its own section separate from and before Exploration Results. Cautionary language needed to make it clear that Exploration Targets are outside Figure 1 and may not even lead to Resources.

### • Table 2

New table on operating costs (OPEX) and capital costs (CAPEX) introduced in SME 2014 and improved in SAMREC 2015. Table 2 will be guidance.

#### • UNFC

Inclusion of an Appendix will make it clear how CRIRSCO and UNFC relate and spell out that the CRIRSCO Template is essential to the effective use of UNFC for public reporting (like India).

#### • Independence/Impartiality

To avoid a Competent Person having an appearance of a conflict of interest it is important that we should distinguish 'independence' from 'impartiality'.

### Mineral Waste

Identified as a gap in 2014, and drafts made available for consideration.

• Industrial and Construction Materials

New section drafted by PERC and provided to Working Group for consideration.

### Materiality

Rename to 'Aggregation'. Also relevant to commodities other than industrial/construction. Guidance drafted and submitted to Working Group for consideration.

- 47. The Sub-committee will continue with the update throughout the year. The update is a two-year project which has been going for 18 months. It is not anticipated that an agreed revised text will be ready in time for the CRIRSCO annual meeting later in 2016.
- 48. An update will be provided to the EGRC seventh session.

### **Item 14.** Resourcing Strategy

- 49. The revised resourcing strategy was circulated as part of the documentation for the call.
- 50. It was noted that the budget figure needed to be updated throughout the document. SPE advised it would provide comments.
- 51. The text will be submitted to the UNECE Executive Secretary who has committed to present it to potential donors.

### Item 15. Mining the European Anthroposphere (MINEA) Project

- 52. The Chair provided an overview of the project proposal "Mining the European Anthroposhere", which has been approved by the COST Committee of Senior Officials. The four-year project starting in May 2016 will create a network of experts to put in place a standardized classification and reporting for secondary resources.
- The background to the project was outlined: "Traditional mining continuously shifts raw materials from the geosphere to the anthroposphere. These materials accumulate in anthropogenic deposits (e.g. cars, buildings) and pose a resource potential that includes the secondary materials of tomorrow. To provide information on the future availability of primary materials, inventories of geogenic deposits (resources) and the economically extractable shares (reserves) have been developed. In contrast, information on the availability of secondary materials is lacking. Even though the amount of materials in the anthroposphere has risen dramatically in the last few decades, the resource potential in anthropogenic deposits has not been explored in an adequate way. This prevents, firstly, a comparison of resources/reserves between primary and secondary materials and, secondly, integrated information on the availability of materials from reaching future commodity markets. To overcome this gap, this COST Action aims to actuate the reporting of material resources/reserves in the anthroposphere. The focus is on (1) construction and demolition waste, (2) waste regained from landfills and (3) solid residues from waste incineration. Today, there are large differences concerning the recovery of secondary materials from these three types of waste across Europe due to isolated national research, waste management technologies and policy strategies. A pan-European approach is needed to establish a common knowledge base for the assessment of resource potentials on various spatial levels. By means of coordinating national research activities in European countries, this COST Action is striving for a breakthrough in the integrated assessment of primary and secondary resource potential, which is a prerequisite for effective resource management."
- 54. The project managers have approached the EGRC to establish a linkage between UNFC activities and the project based on mutual benefit. EGRC experts have been invited to join the project.
- 55. The project has four working groups. Working Group 4 focuses on the classification and reporting of anthropogenic resources. EGRC has been asked to be the Working Group Leader or Vice-Leader. A name needed to put forward at the first meeting in Brussels on 4 March. Sigurd Heiberg has temporarily agreed to be WG4 leader until the issue can be discussed in the Bureau and at the EGRC meeting. The Vice Leader will be Mark Simoni from the Norwegian Geological Survey who is now familiar with UNFC and will attend the EGRC seventh session.
- 56. In view of the above a new paragraph was added to the provisional agenda for the seventh session under Item 15: Other potential applications of UNFC-2009:

New paragraph 29. "The Expert Group will be briefed on the Mining the European Anthroposphere (MINEA) project, as well as work to classify anthropogenic resources. The Expert Group will review the information provided and recommend or otherwise any future work in this area. The Expert Group will review and discuss any other applications proposed for consideration."

- 57. As a result of feedback provided mining wastes will now be included in the project under Working Group 2.
- 58. The MINEA project leader Dr. Ulrich Kral will attend the EGRC meeting and deliver a presentation.
- 59. Slavko Solar advised that he will attend the kick-off meeting in Brussels on 4 March.

### **Item 16.** Updated International Recommendations for Energy Statistics (IRES)

- 60. The updated IRES was circulated as part of the documentation for the call.
- 61. It was noted that UNFC is referenced as follows:

"The United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources (UNFC 2009) provides a scheme for classifying and evaluating these resources according to three dimensions, namely their economic and social viability, the field project status and feasibility, and the geological knowledge about these resources. The System of Environmental-Economic Accounting for Energy (SEEA-Energy) groups the detailed categories of the UNFC into three aggregated classes characterizing the commercial recoverability of the resources as follows

Table 6.2: Categorization of mineral and energy resources relevant for energy

Class A: Commercially recoverable resources

Class B: Potentially commercially recoverable resources

Class C: Non-commercial and other known deposits"

- 62. Following a detailed discussion it was agreed that contact should be made with the United Nations Statistical Division in New Year to encourage direct use of UNFC as opposed to calling the aggregation of UNFC classes a different system. It should also be highlighted that the three SEEA-2012 classes are not an exclusive way of "grouping" UNFC E-F-G category combinations. Additionally, for the system to be useable both ways (i.e. from UNFC-2009 to SEEA-2012 and back), the aggregation procedure must be disclosed. It was also noted that IRES offers a platform to convert all energy resources to joules and that efforts should be made to have UNFC recognized as the framework for providing input.
- 63. Ralf Becker from UN Statistics Division has been invited to provide an update on the SEEA and IRES at the EGRC seventh session.

#### Item 17. Date of next Bureau call

64. The next Bureau calls are planned to be held during the first half of April. The usual availability notice will be circulated.

### Item 18. Any other business

- (i) OPEC
- 65. The UNECE Executive Secretary received a positive response from H.E. Ali bin Ibrahim Al-Naimi, Minister for Petroleum and Mineral Resources of the Kingdom of Saudi Arabia to his letter that had included a reference to UNFC and proposed making contact with the Secretary General of OPEC.

- 66. The Executive Secretary subsequently sent a letter to the OPEC Secretary General on 18 February to "explore his possible interest in working with the UNECE on the topic of resource classification." He encouraged OPEC re-engagement, extended an invite to the EGRC seventh session meeting and also offered to meet with him in Vienna or Geneva.
- 67. The Chair drew attention to a recent CERA presentation by Minister Al-Naimi on the importance of an appropriate mix of energy resources and of understanding the benefits and potential of each energy resource, including the environmental and social impacts.

## (ii) EGRC eighth session

68. The UNECE Commission Session has now been scheduled to take place the same week as the EGRC 8<sup>th</sup> session in 2017. This timing offers an opportunity to hold a briefing session for the layperson on UNFC.

### (iii) Gioa Falcone and Clausthal TU

69. Gioa Falcone noted that she will be leaving her role with Clausthal Technical University in the near future.

### (iv) IGA best practices for geothermal resources

70. Gioia Falcone advised that the International Geothermal Association is planning to issue best practices for geothermal resources and asked if EGRC should be involved. It was agreed that the EGRC would need to see what was being planned prior to make a decision.

### (v) PRMS update and EGRC involvement

71. A Bureau member raised a concern over the level of EGRC involvement in the current PRMS update and asked if it would be possible to see "real time" updates in the same way that EGRC shares material. The SPE representative confirmed that the PRMS update would be shared with the EGRC prior to the public comment period.

ANNEX

Nominations for EGRC Bureau elections at EGRC Seventh Session: as at 1 March 2016

	Nominee	Representing	Nominated by
1	Chairman:	Petroleum sector, industry	Verbal confirmation from US Permanent Mission in
	David MACDONALD, BP		Geneva – awaiting written confirmation
2	First Vice Chairman:		
3	CRIRSCO: Roger DIXON	CRIRSCO	CRIRSCO
4	SPE: Bernard Seiller	SPE SPE	SPE
<mark>5</mark>	Tunde ARISEKOLA, NGSA	Nigeria, solid minerals, uranium	
6	Karin ASK, Statoil	Norway, petroleum sector, industry	Ministry of Petroleum and Energy of Norway
<mark>7</mark>	Fatih BIROL, IEA	International energy studies	IEA
8	David ELLIOTT, Geosgil	Private sector, financial reporting	
9	Mucella ERSOY, Turkish Coal Enterprises	Turkey, solid minerals	Awaiting written confirmation from Turkish
			Permanent Mission
<mark>10</mark>	Gioia FALCONE, Clausthal University of Technology	Academia, geothermal, renewables	
	and International Geothermal Association		
11	Kjell Reidar KNUDSEN	Norway, petroleum sector	Ministry of Petroleum and Energy of Norway
<mark>12</mark>	Michael LYNCH-BELL, KAZ Minerals	Solid minerals, financial reporting	
<mark>13</mark>	John RITTER, SPEE	SPEE SPEE	SPEE
<mark>14</mark>	Jim ROSS	Petroleum Petrol	
15	Adichat SURINKUM, CCOP	South-east Asia, petroleum and solid minerals	Ministry of Petroleum and Energy of Norway
<mark>16</mark>	Daniel TROTMAN, EY	Financial reporting	
<mark>17</mark>	Hari TULSIDAS, IAEA	IAEA, uranium, solid minerals	IAEA
18	Brad VAN GOSEN, USGS	USA	Verbal confirmation from US Permanent Mission in
			Geneva – awaiting written confirmation
19	Narendra VERMA, ONGC tbc	India, petroleum	
20	Radoslav VUKAS	Serbia	Ministry of Mining and Energy of Serbia
<mark>21</mark>	European Commission tbc	European Commission	
22	Observer: Chair, Technical Advisory Group		

NB: those highlighted in yellow need to be reviewed and approved by the Bureau before being put forward to the EGRC

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