TAG Annual Report

Alistair Jones

11th Session of the Expert Group on Resource Management
22 - 25 September 2020

EGRM-11/2020/INF.6
- TAG and WGs Organisation and Scope
- TAG Discussions 2019-2020
- Overview of developments 2019-2020
- UNFC status
- Summary of UNFC 2019 update
- Considerations on UNFC substantive update
- Conclusions
Bureau Structure
September 2020

Bureau

- Technical Advisory Group
- SDGs Working Group
- Communications Working Group
- UNRMS Working Group
- Competent Persons TF
- ICE Task Force

UNECE Secretariat

Anthropogenic Working Group
- Groundwater Working Group
- Injection Working Group
- Minerals Working Group
- Nuclear Fuels Working Group
- Petroleum Working Group
- Renewables Working Group
- Women in Resource Mgt Working Group
- Commercial Working Group
- Social & Environmental Working Group
- Resource Specs Review TF

Bioenergy Sub Group
- Geothermal Sub Group
- Hydro-Marine Sub Group
- Solar Sub Group
- Wind Sub Group
TAG Membership
September 2020

- Mr Alistair Jones  
  Chair
- Mr Ulrich Kral  
  Anthropogenic Working Group
- Mr Sigurd Heiberg  
  Commercial Working Group
- Mr Kevin Parks  
  Groundwater Working Group (Mr Marco Petitta to 6/3/20)
- Ms Karin Ask  
  Injection Working Group
- Mr Johann Gotsis  
  Minerals Working Group (Mr Michael Neumann to 1/5/19)
- Mr Julian Hilton  
  SDG Working Group (reports directly to Bureau)
- Mr King Lee  
  Nuclear Fuel Working Group (Mr Julian Hilton 24/4/20)
- Mr Satinder Purewal  
  Petroleum Working Group
- Mr Jeremy Webb  
  Renewables Working Group (Mr Frank Denelle to 24/4/20)
- Mr David Elliott  
  Social & Environmental Working Group (to 23/9/20)
- Ms Maria Capello & Ms Cristina Robinson  
  Women in Resource Management (from 22/6/20)

Observers
- Mr David MacDonald (EGRM Chair), Ms Charlotte Griffiths (UNECE), Mr Hari Tulsidas (UNECE)

All (current and retired) are thanked for their dedicated leadership of Working Groups and for their wise and constructive guidance as members TAG
TAG Role

Terms of Reference developed and agreed by Bureau

- Review Working Group goals, objectives and plans
- Maintain awareness of Working Group progress, opportunities & issues. Keep Bureau informed
- Facilitate support across Working Groups
- Ensure appropriate and timely review of sectoral WG documents
- Manage requests for assistance or advice

Document Reviews
- Undertaken by appropriate experts drawn from the Working Groups and other experts, as required
Working Group Role

generic description – priorities will differ between Working Groups

- Develop and maintain sector/resource specifications, guidelines and best practice documents
- Provide advice on interpreting, applying and/or mapping to UNFC
- Assist in stakeholder engagement for the application of UNFC
- Assist stakeholders to develop and maintain bridging documents
- Work with stakeholders to develop case studies
- Assist with reviews of documents, and provide expert advice

Generic description – priorities will differ between Working Groups
Working Groups are volunteer so capacity is limited
TAG Discussions
May 2019-April 2020

- WG plans, progress updates, collaboration
- UNFC Update
- Adoption of UNFC
- WG documents and reviews
- UNRMS development
- AMREC-PARC
- Software Initiatives
- Priorities
- EGRM-11 planning
## Status of UNFC

### Sep 2020

<table>
<thead>
<tr>
<th>UNFC 2019 Generic Specifications</th>
<th>Specifications</th>
<th>Bridging</th>
<th>Cases Studies/ Pilots</th>
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<tbody>
<tr>
<td>Anthropogenic</td>
<td>✓</td>
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<tr>
<td>Groundwater</td>
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<tr>
<td>Injection</td>
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<td>in progress</td>
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<td>Minerals</td>
<td>via CRIRSCO</td>
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<td>UNFC in progress</td>
<td>CCMR-1999</td>
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<td>Nuclear Fuels</td>
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<td>NEA/IAEA Red Book</td>
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<tr>
<td>Petroleum</td>
<td>via PRMS</td>
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<td>RF2013, CCPR-2004</td>
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<td><strong>Renewables</strong></td>
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<td>Bioenergy</td>
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<tr>
<td>Geothermal</td>
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<td>Hydro-Marine</td>
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<td>in progress</td>
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<td>Solar</td>
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</tr>
<tr>
<td>Wind</td>
<td>✓</td>
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<td>✓</td>
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</tbody>
</table>
Progress on UNFC and UNRMS
May 2019-Sep 2020

**Published Specifications**
- UNFC 2019 update
- Solar
- Wind

**Draft Specifications**
- Minerals
- Petroleum

**Initiating Specifications**
- Groundwater
- Hydro-Marine

**UNRMS**
- Concept Note
- Comprehensive Report

**AMREC - progressing**

**Initiating ICEs**

**Exploring software implementation**

**Webinars**
- Petroleum
- Minerals & Anthropogenic Resources
- Renewables EGRM/GERE Joint Session
- Resource Management

**New EGRM Groups**
- Hydro-Marine
- Women in Resource Management

**Published Case Studies & Bridging Documents**
- China Petroleum Bridging to UNFC
- China Minerals Bridging to UNFC
- Nordic Minerals Case Studies
- Mexico Petroleum Pilot Study

**Reports underpinning application**
- Application of UNFC to Commercial Assessments
- Integrated Lifecycle Management of Nuclear Fuel
- Role of Nuclear in Sustainable Development
- UNFC and UNRMS for Sustainable Development
- Principles of resource classification
- Guidance on Social & Environmental Aspects
# Documents and Reviews

**May 2019-Sep 2020**

<table>
<thead>
<tr>
<th>Across resources</th>
<th>UNFC 2019 update</th>
<th>Published</th>
<th>TAG input</th>
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<tbody>
<tr>
<td>AMREC</td>
<td>External document</td>
<td>TAG comment</td>
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<tr>
<td>UNRMS concept note</td>
<td>Parliamentary Document</td>
<td>TAG input</td>
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<td>Development of specifications, guidelines &amp; best practices on UNFC and UNRMS for sustainable development</td>
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<td>The UNFC applied to commercial assessments – update</td>
<td>Parliamentary Document</td>
<td>TAG review</td>
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<td>Guidance for social and environmental considerations for UNFC</td>
<td>Room Document</td>
<td>TAG review</td>
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<td>Principles of resource classification</td>
<td>Parliamentary Document</td>
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<td>Application of UNFC to groundwater: issues &amp; challenges</td>
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<td>TAG review</td>
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<td>In Progress</td>
<td>TAG review</td>
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<td>Case study: China minerals bridging document to UNFC</td>
<td>Parliamentary Document</td>
<td>TAG review</td>
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<td>Case study: minerals case studies from the Nordic region</td>
<td>Parliamentary Document</td>
<td>MWG review</td>
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<td>Nuclear Fuels</td>
<td>The role of nuclear energy in sustainable development: entry pathways</td>
<td>Room Document</td>
<td>NWG review</td>
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<tr>
<td>Integrated lifecycle management of nuclear fuel resources for sustainable energy</td>
<td>Parliamentary Document</td>
<td>NWG review</td>
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<td>Journal paper &amp; 2 conference papers on Mexico pilot study</td>
<td>External documents</td>
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<tr>
<td>Conference paper on Kuwait case study</td>
<td>External document</td>
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<tr>
<td>Renewables</td>
<td>Specifications for application of UNFC to solar energy</td>
<td>Approved and published</td>
<td>TAG review</td>
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<tr>
<td>Specifications for application of UNFC to wind energy</td>
<td>Approved and published</td>
<td>TAG review</td>
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<tr>
<td>Hydro case studies</td>
<td>In Progress</td>
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</tbody>
</table>

**Resources:**

- **MINERALS**
- **NUCLEAR FUELS**
- **RENEWABLES**
- **PETROLEUM**
- **GROUNDWATER**
Thank you to all reviewers - several contributed to multiple reviews

- Hussein Allaboun
- Karin Ask
- Andrew Barrett
- Jan Bygdevoll
- Frank Denelle
- Roger Dixon
- Brad van Gosen
- Sigurd Heiberg
- Yang Hua
- Markus Klingbeil
- Kevin Parks
- Barbara Pribyl
- Satinder Purewal
- Hari Tulsidas
- Claudio Virues
- Alistair Jones
Mainly an update of terminology to be widely applicable

- Terms “Source” and “Product” defined and used consistently
  - Sources e.g. solar, wind, geothermal, hydro-marine, bioenergy, injection for storage, hydrocarbons, minerals, nuclear fuels and water, are the feedstock to resource projects from which products can be developed
  - Products may be bought, sold or used including electricity, heat, hydrocarbons, hydrogen, minerals, and water
  - “Resource” only used generically - means different things to different groups
  - “Deposit”, “In Place”, “Extraction”… not used as not universally applicable

- Classes and Category axes renamed:
  - Viable, Potentially Viable.. rather than Commercial and Potentially Commercial..
  - Prospective Project rather than Potential Project
  - E axis renamed as Socio-Environmental-Economic Viability
  - F axis renamed as Technical Feasibility
  - G axis renamed as Degree of Confidence
Mainly an update of terminology to be widely applicable

- Terminology updated in supporting explanations to be applicable to all resources
  - Supporting explanation for F1 modified too clarify that it includes consideration of commitment. This is a clarification, not a change of F axis meaning from UNFC 2009
  - One extension was made (to assist projects such as direct use of electricity produced by solar projects) to include quantities used but not sold. Other suggestions for simplifications or additions not included in this “light touch” update.

- Categorization and Classification is the same in UNFC 2019 and UNFC 2009
  - Requirements for Categories and Classes are unchanged, except for extension to quantities used but not sold
  - Current resource-specific specifications and bridging document still apply, but terminology updates required for consistency with UNFC 2019 language
  - A TAG Task Force is reviewing Resource Specifications to provide recommendations on consistency and to consider a common glossary, prior to Working Groups updating the individual Resource Specifications

- Consultations and iteration to agree changes between Task Force, Bureau, Working Groups, TAG
Do we initiate substantive UNFC Update?

**Reasons for**
- Make clearer and more useful
- Provide a more suitable framework for UNRMS

**Reasons against**
- Stability – don’t change yet again!
- Good enough – not perfect but it works

**Needed?**

**When?**

**Now**
- Get to a stable and more usable tool as soon as possible
- Avoid divergence of UNRMS and UNFC

**Wait**
- First understand if/what changes are needed for categorization or UNRMS
- Accept divergence of UNRMS framework may happen – can align in future if desirable
Substantive UNFC Update
suggested next steps

- Questionnaire to EGRM on UNFC and UNRMS, discussions with stakeholders and Working Groups
- Task Forces to clarify
  - UNRMS framework as soon as practical
  - Potential UNFC changes required to support UNRMS
- Bureau discussion
Progress
- UNFC generic specifications updated
- Resource-specific specifications and guidelines developed
- Case studies and Pilot projects completed
- Reports supporting application
- AMREC progressing
- Exploring software implementation
- Initiating ICEs
- UNRMS concept outlined

Many work fronts to progress
- TAG WG current focus is on development and application of UNFC
- TAG strongly endorses UNRMS for Sustainable Development as the goal
  - will support the Task Force and expect to focus more on UNRMS over time.
Thank you

Alistair Jones
TAG Chair
Imperial College, UK

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