



# TAG Annual Report

Alistair Jones



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





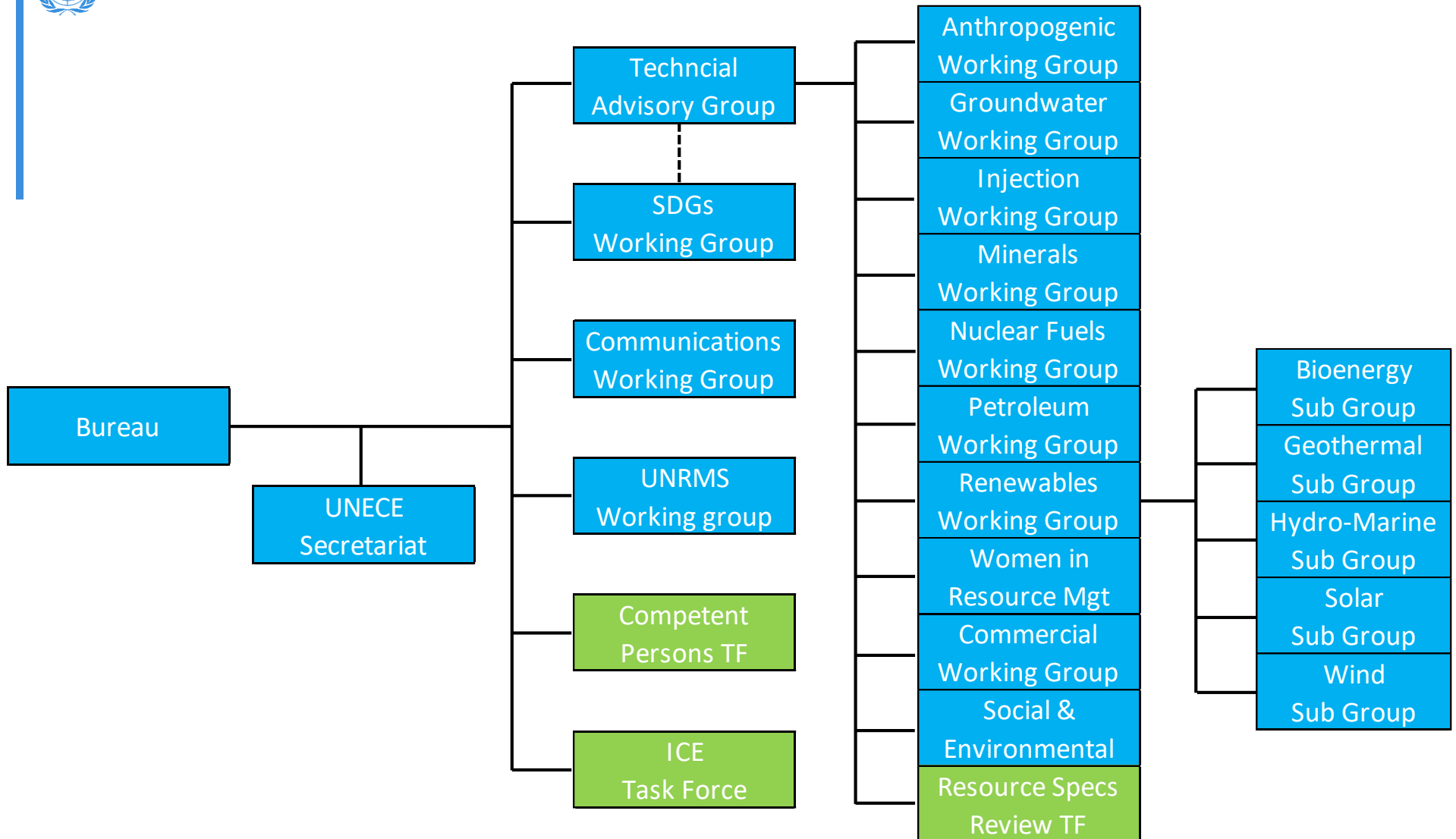
- TAG and WGs Organisation and Scope
- TAG Discussions 2019-2020
- Overview of developments 2019-2020
- UNFC status
- Summary of UNFC 2019 update
- Considerations on UNFC substantive update
- Conclusions

# Bureau Structure

September 2020



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# TAG Membership

September 2020



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- 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



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- 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



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- 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



UNEP

- 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



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## UNFC 2019 Generic Specifications

		Specifications	Bridging	Cases Studies/ Pilots
Anthropogenic		✓		✓
Groundwater		in progress		
Injection		✓		in progress
Minerals		via CRIRSCO UNFC in progress	CRIRSCO CCMR-1999	✓
Nuclear Fuels			NEA/IAEA Red Book	✓
Petroleum		via PRMS UNFC in progress	PRMS RF2013, CCPR-2004	✓
Renewables	Bioenergy	✓		✓
	Geothermal	✓		✓
	Hydro-Marine	in progress		in progress
	Solar	✓		in progress
	Wind	✓		✓



# Progress on UNFC and UNRMS

May 2019-Sep 2020



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## 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



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

# TAG Reviewers

May 2019-Aug 2020



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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?

considerations



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## 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?

Substantive update

When?

## Now

- Get to a stable and more useable 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



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- 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

# Conclusions

## progress & direction



UNEP

- 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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