



EIGHTH INTERNATIONAL FORUM ON
ENERGY FOR SUSTAINABLE DEVELOPMENT

MODERNIZING THE ENERGY INDUSTRY

Track III

12-14 June 2017

Programme



Government of the Republic
of Kazakhstan



UNITED NATIONS

ECA
ECLAC
ESCAP
ESCWA
UNECE



**Energy and Materials from Wastes:
Application of the United Nations Framework Classification (UNFC) for
Sustainable Management of Anthropogenic Resources**

09:00-10:30 and 11:00-12:30 hrs, 14 June 2017

Workshop





Track III
MODERNIZING THE ENERGY INDUSTRY

**Energy and Materials from Wastes:
Application of the United Nations Framework Classification (UNFC) for
Sustainable Management of Anthropogenic Resources**

waste matters

THE CHALLENGE

9.7 BILLION

GLOBAL POPULATION BY 2050
70% WILL BE LIVING IN CITIES

1 million new inhabitants will be added to cities every week

Will require 3 planets like earth to satisfy resources required for current life styles



Situation is dire!





5,000 km

MSW

1.2 billion tonnes/yr

2.2 billion tonnes/yr 2025

USD 400 billion/yr

50%



WTE

90% vol



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



12.5
By 2030,
substantially reduce
waste generation
through prevention,
reduction, recycling
and reuse

UNECE PPP guidelines on WTE under development

Working group established in May

Chaired by

Mr. CHEN Xiaoping

CEO, Everbright International

Waste management hierarchy ...

Most favoured option

Reduce lowering the amount of waste produced

Reuse using materials repeatedly

Recycle using materials to make new products

Recovery recovering energy from waste

Landfill safe disposal of waste to landfill

Least favoured option





Energy and Materials from Wastes: Application of the United Nations Framework Classification (UNFC) for Sustainable Management of Anthropogenic Resources

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❖ **Welcome Remarks**

Mr. David MacDonald, Chair, UNECE Expert Group on Resource Classification
Ms. Charlotte Griffiths, UNECE

❖ **Workshop Objectives and Overview of UNFC as a Sustainable Management Tool for all Resources**

Mr. David MacDonald, BP and Chair, UNECE Expert Group on Resource Classification

❖ **The Role of Waste to Energy and Resources in a Circular Economy Society**

Prof. A. C. (Thanos) Bourtsalas, Earth Engineering Center, Columbia University

❖ **Integrated Waste Water Treatment to Bio Energy and Organic Fertilizer Production**

Mr. Alan Lau, Anglo Euro Developers (S) Ltd

❖ **Uranium and Other Valuable Material Recovery from Polymetallic Ores and Wastes**

Mr. Martin Fairclough, IAEA

❖ **Waste to Energy and Social Acceptance**

Mr. SHAO Zheru, Everbright Environmental Protection Technology and Equipment (Changzhou) Ltd

❖ **Possibilities of using waste water as an energy source**

Ms. Vera Mustafina, Association "Kazwaste" and Mr. Toktar Eskendirov, Association "Kazwaste"

❖ **Managing Efficient Recovery of Materials and Energy from Wastes: UNFC Specifications and Guidelines**

Mr. Hari Tulsidas, UNECE



**Energy and Materials from Wastes:
Application of the United Nations Framework Classification (UNFC) for
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09:10-09:30 hrs, 14 June 2017

Workshop

❖ **Workshop Objectives and Overview of UNFC as a
Sustainable Management Tool for all Resources**

Mr. David MacDonald,
BP and Chair, UNECE Expert Group on Resource Classification



**Energy and Materials from Wastes:
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09:30-09:50 hrs, 14 June 2017

Workshop

❖ **The Role of Waste to Energy and Resources in a Circular Economy Society**

Prof. A. C. (Thanos) Bourtsalas, Earth Engineering Center, Columbia University



**Energy and Materials from Wastes:
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11:00-11:20 hrs, 14 June 2017

Workshop

❖ **Integrated Waste Water Treatment to Bio Energy and
Organic Fertilizer Production**

Mr. Alan Lau, Anglo Euro Developers (S) Ltd



Energy and Materials from Wastes: Application of the United Nations Framework Classification (UNFC) for Sustainable Management of Anthropogenic Resources

10:10-10:30 hrs, 14 June 2017

Workshop

❖ Open Discussion

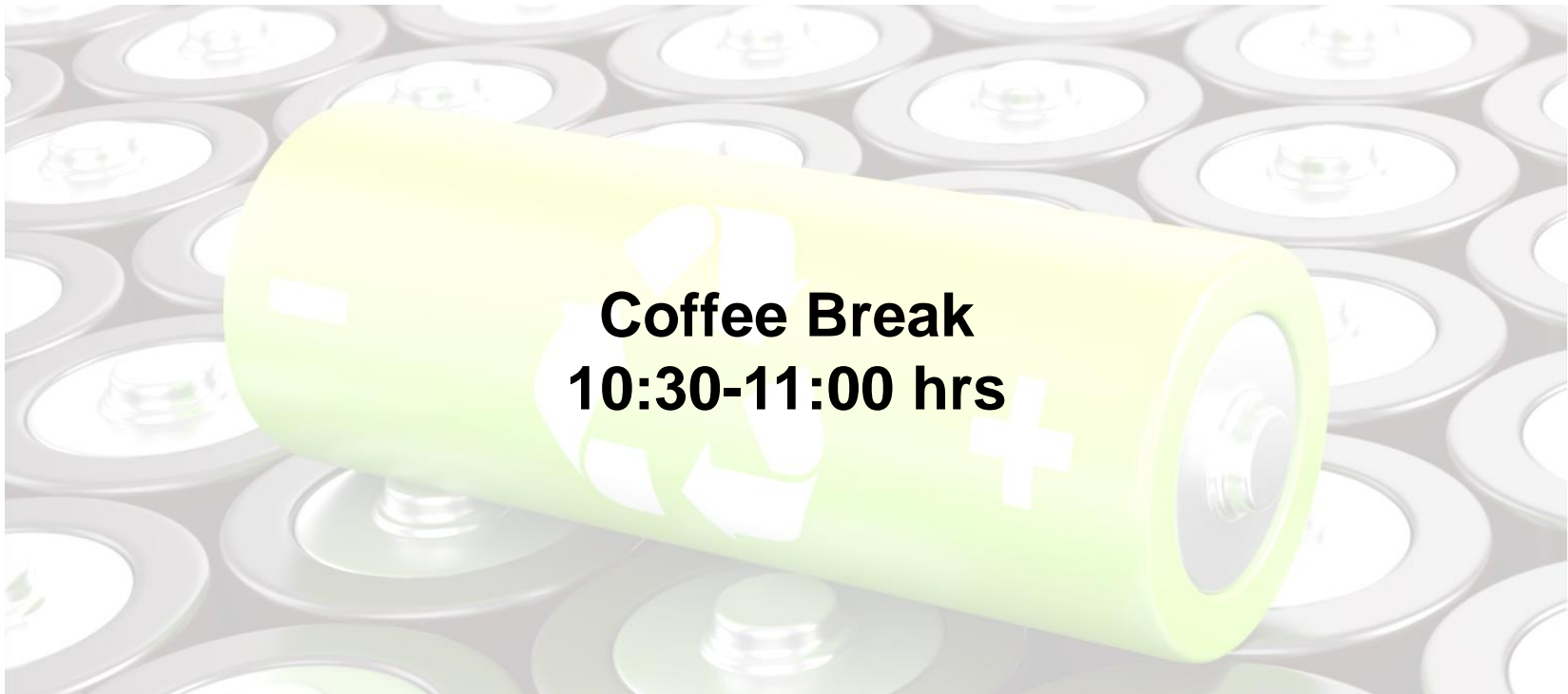
- How are the waste hierarchy principles and SDG #12 relevant to the objective of waste generation?
- How can materials and energy that could be economically recovered from wastes be important for the sustainability of the planet?
- Are Waste to Energy (WTE) technologies and experiences important to meet the SDG #12 targets?
- What are the social acceptance and communications challenges in projects that recover energy and materials from wastes?
- How important are UNFC and its specifications for anthropogenic resources in meeting the challenges in achieving sustainable development?



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09:00-10:30 and 11:00-12:30 hrs, 14 June 2017

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**Coffee Break
10:30-11:00 hrs**



**Energy and Materials from Wastes:
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09:50-10:10 hrs, 14 June 2017

Workshop

❖ **Uranium and Other Valuable Material Recovery from
Polymetallic Ores and Wastes**

Mr. Martin Fairclough, IAEA



**Energy and Materials from Wastes:
Application of the United Nations Framework Classification (UNFC) for
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11:20-11:40 hrs, 14 June 2017

Workshop

❖ **Waste to Energy and Social Acceptance**

Mr. SHAO Zheru,
Everbright Environmental Protection Technology and Equipment (Changzhou) Ltd



**Energy and Materials from Wastes:
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11:40-11:50 hrs, 14 June 2017

Workshop

❖ **Possibilities for using waste water as an energy source**

Ms. Vera Mustafina, Association "Kazwaste"

Mr. Toktar Eskendirov, Association "Kazwaste"



**Energy and Materials from Wastes:
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11:50-12:10 hrs, 14 June 2017

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❖ **Managing Efficient Recovery of Materials and Energy from
Wastes: UNFC Specifications and Guidelines**

Mr. Hari Tulsidas, UNECE



Energy and Materials from Wastes: Application of the United Nations Framework Classification (UNFC) for Sustainable Management of Anthropogenic Resources

12:10-12:30 hrs, 14 June 2017

Workshop

❖ Open Discussion and Closing Remarks

- How are the waste hierarchy principles and SDG #12 relevant to the objective of waste generation?
- How can materials and energy that could be economically recovered from wastes be important for the sustainability of the planet?
- Are Waste to Energy (WTE) technologies and experiences important to meet the SDG #12 targets?
- What are the social acceptance and communications challenges in projects that recover energy and materials from wastes?
- How important are UNFC and its specifications for anthropogenic resources in meeting the challenges in achieving sustainable development?