



Waste to energy

How to make an impact in cities that welcome refugees?



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[UNECE](#)

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The compassionate city

AMMAN

Inhabited for over 9,000 years, Amman had 5,000 inhabitants in 1900. This rose to 2.5 million in 2010 and 4 million in 2017, mainly due to the influx of refugees.

Mounting municipal waste creates seemingly insurmountable health and safety challenges in Amman.



H.E. Akel Eid Biltaji

Former refugee and Mayor of Amman, 2013-2017



65.3

million forcibly displaced
people worldwide

21.3

million refugees worldwide

100%

refugees live in camps or
private dwellings near
urban settings

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

CITIES

Well-managed cities can be incubators for innovation and ingenuity and key drivers of sustainable development.



THE WASTE

Municipal solid waste (MSW) will rise from the current 1.3 billion tonnes per year to 2.2 billion tonnes per year by 2025. Today about \$400 billion/year is spent on waste management.



SOLUTION

Producing electricity is only one reason to burn MSW. Burning MSW reduces the volume of waste by about 90%.



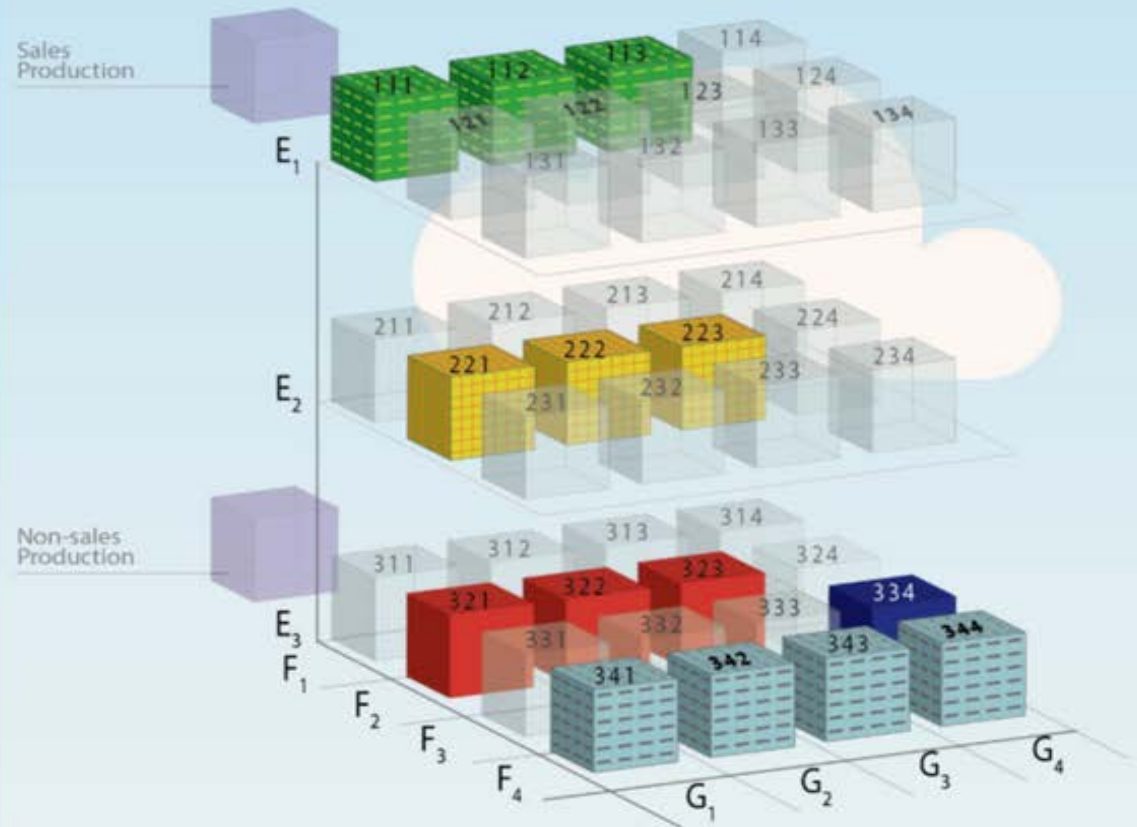
SOCIAL ACCEPTANCE









THE BIGGEST PROBLEM WITH
WASTE MANAGEMENT IS THE
WORD "WASTE".

UNFC

United Nations Framework Classification for Resources is a powerful tool to assess value in 'wastes' and turn them into 'resources'.

UNFC can differentiate projects based on the maturity of socioeconomics, technology and resource availability.



-  Commercial projects
-  Potentially commercial projects
-  Non-commercial projects
-  Exploration projects
-  Additional quantities in place
-  Other combinations
-  Extracted quantities
-  Codification (E₁;F₂;G₃)



A global standard

WTE People First PPP criteria can be easily incorporated into standards for WTE projects in UNFC documentation.

Ministerial Conference and 8-th International Forum



Government
of the Republic
of Kazakhstan



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MEETING THE CHALLENGE OF SUSTAINABLE ENERGY

11-14 June 2017, Astana, Kazakhstan



ENERGY MINISTERIAL CONFERENCE AND EIGHTH INTERNATIONAL FORUM ON ENERGY FOR SUSTAINABLE DEVELOPMENT

11 - 14 June 2017, Astana, Kazakhstan

Kickstarting Future Energy EXPO 2017

Track on "Modernizing energy industry" and session on "Energy and materials from wastes"



Thank you!

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