The FAO-UNEP SDG Fund Renewable Energy Ukraine Project
+A Vision for a Renewable Energy Future in the Agri-Food Sector of Ukraine
WHAT?
The global energy crisis exacerbated by the war in Ukraine demands decisive action; Ukraine’s untapped potential could resolve many energy issues without affecting food production.

WHO?
FAO, UNEP, UNECE conducted a comprehensive analysis addressing a request from the Ministry of Agrarian Policy and Food (MAPF) in 2022 to investigate the bioenergy potential of Ukraine.

HOW?
Assessment of biofuel potential w/o compromising food or environment
Development of scenarios
Recommendations for Ministries/stakeholders
Components Assessed:

End Goals Assessed For:

- Eliminate imported fuels and gas
- Food continuity
- Biogas for export
Methodology and Results

- **Assessment of the untapped potential of biomass and agricultural waste**
- **Final report** on websites of FAO, UNEP, UNECE and UABIO
- **Study of production potential and feedstock for biomethane, biodiesel and bioethanol**
- **Cases reports as business models** that include CAPEX, OPEX, payback
- **Multi-stakeholder dialogue** with market participants
- **Draft laws for bioenergy sector and investment roadmap** for investors

31.03.2023
Biomethane: export potential up to 4000 new plants

Ag/Energy crop biomass: 88,300 kt

Natural Gas: Energy efficient industry and buildings

Others (hydrogen, heat pumps, SWH, etc.): ~20 billion m³/y

Ukraine Gas: ~30% in 2021

Imported ~30%

~30 billion m³/y in 2021

Proposed Scenario for Natural Gas Replacement by 2050*

Natural Gas: ~20 B m³/y

Biomethane: domestic use: 50% renewable up to 8 B m³/y

Biomethane: export

All Ukrainian gas!: ~70%
Ukraine’s HUGE Potential for Energy from Agri-food Waste

- 9500 plants = 5000 MW
- 51 plants = 100 MW+

Up to 8 billion m³ for export per year

Up to 1500-2000 MW for domestic use

Biogas plants are capable of producing a strategically important resource – «green» biomethane and electricity, especially maneuverable or peak.
FAO Ukraine: Ongoing and Hopeful Renewable Energy Work
Bioenergy Can Potentially Remediate Contaminated Lands

The use of biomass to remediate contaminated lands is an alternative sustainable and renewable source of energy and is among the FAO priorities to support agriculture and forestry in the country.
Energy For Food (E4F): New Joint Project (hoped!)

Four Components:
- Policy
- Research
- Investments & Communication
- Procurement & Training

Place-scale biogas, solar and wind plants for the agriculture sector
Energy For Food: New Joint Project (hoped!)

Small/medium biomass waste digesters for agri-food industries

Bioenergy on land not suitable for food crops

Energy efficient grain dryers and solid biomass heat generators (including energy crops)
Thank You from Ukraine