



Ukraine
Facility
Platform

Oleksandr Vizir

SMALL DISTRIBUTED GENERATION: HANDS-ON OPPORTUNITIES FOR TYKHOHIRSK CITY

OPPORTUNITIES FOR PRIVATE INVESTMENT IN ENERGY AND DEFENCE:

where Ukraine's Recovery meets Europe's strategic autonomy

10 July 2025, Rome

TYKHOHIRSK TERRITORIAL COMMUNITY: **OVERVIEW**



- **Population:** up to 60 000 **Community budget in 2024:** up to UAH ~ 700 million, of which **34%** is personal income taxes
- **Centralized heat consumption / electricity consumption**
- Electricity consumption (municipal sector + water utility + heat supplier): ~**8 GWh per Year**
- **Territory of priority development** with a special regime for investment activities
- **Industrial Park**

WHAT IS THE CITY'S CURRENT ENERGY CHANGE?

Town reinvents itself, including through **energy projects**. It does not dwell on the past, but rather, **it understands and utilizes modern trends**.



What has been done already:

- Energy efficiency measures
- SPP (in particular, rooftop PV)
- SPP (PV for water utility)
- Solid fuel boilers (processed wood chips)



Instruments used to implement energy projects:

- The city mainly finances energy projects
- The ESCO mechanism and grant funds are used
- There is insufficient cooperation with businesses, no private investments are engaged

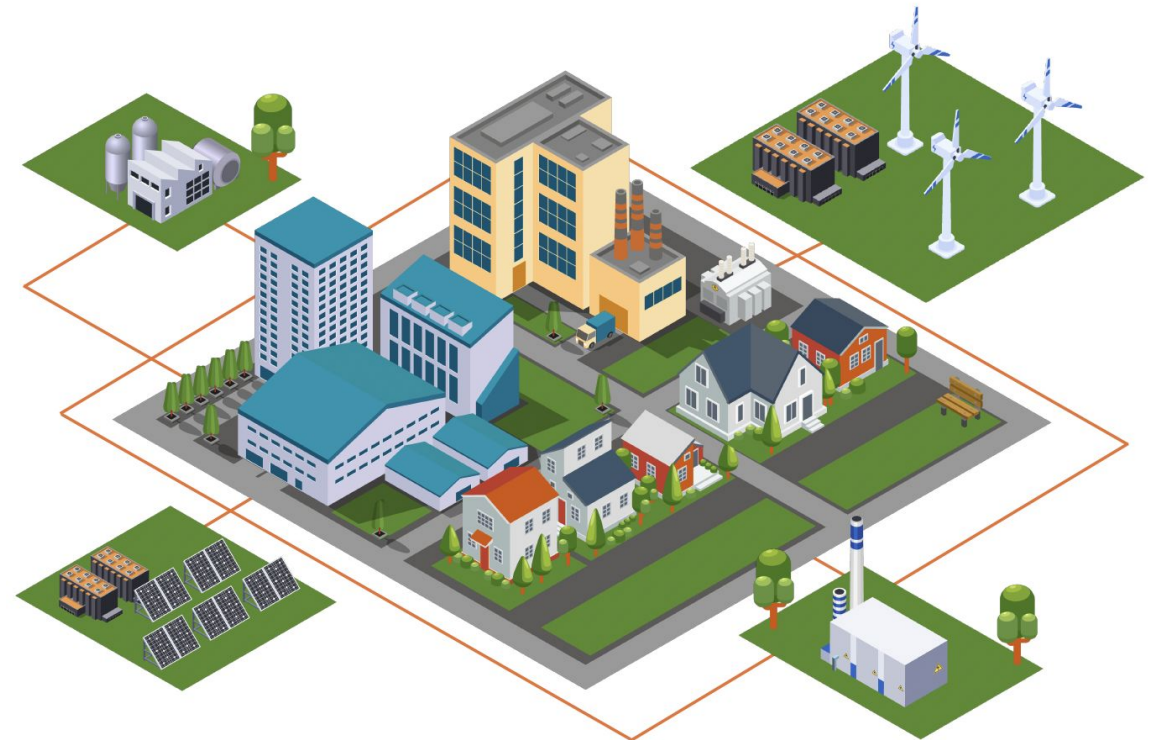
UNTAPPED POTENTIAL: PRIVATE INVESTMENT IN DISTRIBUTED GENERATION



The goal is to ensure that a **tailor-made composition of technologies** and digital solutions will create **lucrative opportunities for investors and communities.**

The formula for successful investments in decentralized generation:

- **Where:** understanding location specifics and consumption schedules
- **What:** a complementary mix of technologies
- **How:** cooperation between energy generation and consumers (details)



CASE STUDY: ENERGY REVITALIZATION OF BOILER ROOMS OF A LOCAL UTILITY PROVIDER

Location 1



Gas piston engine

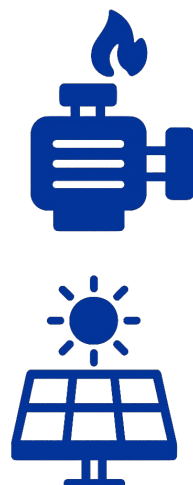
- electrical output 635 kW
- heat output 739 kW

Costs:

CAPEX: 0.45-0.53 mln EUR
OPEX(fuel): 0.37 mln EUR

Payback: up to 5 years

Location 2



Gas piston engine + PV

- electrical output 635 kW
- heat output 739 kW
- PV 50/65 kW

Costs:

CAPEX: 0.56 mln EUR
OPEX (fuel): 0.37 mln EUR

Payback: up to 3 years

Location 3



Gas piston engine + PV + BESS

- electrical output 1905 kW
- heat output 2217 kW
- SPP 100/130 kW
- storage 2 MWh

Costs:

CAPEX: 1.95 mln EUR
OPEX:(fuel): 1.2 mln EUR

Payback: up to 3 years

Gas piston engines, in combination with solar PV and BESS, are the **most optimal first step** in the current conditions, requiring the least investment.

MAKE TYKHOHIRSK GREAT AGAIN

Best **use of existing infrastructure** to meet the city's needs and capabilities to **enable lucrative private investment** opportunities



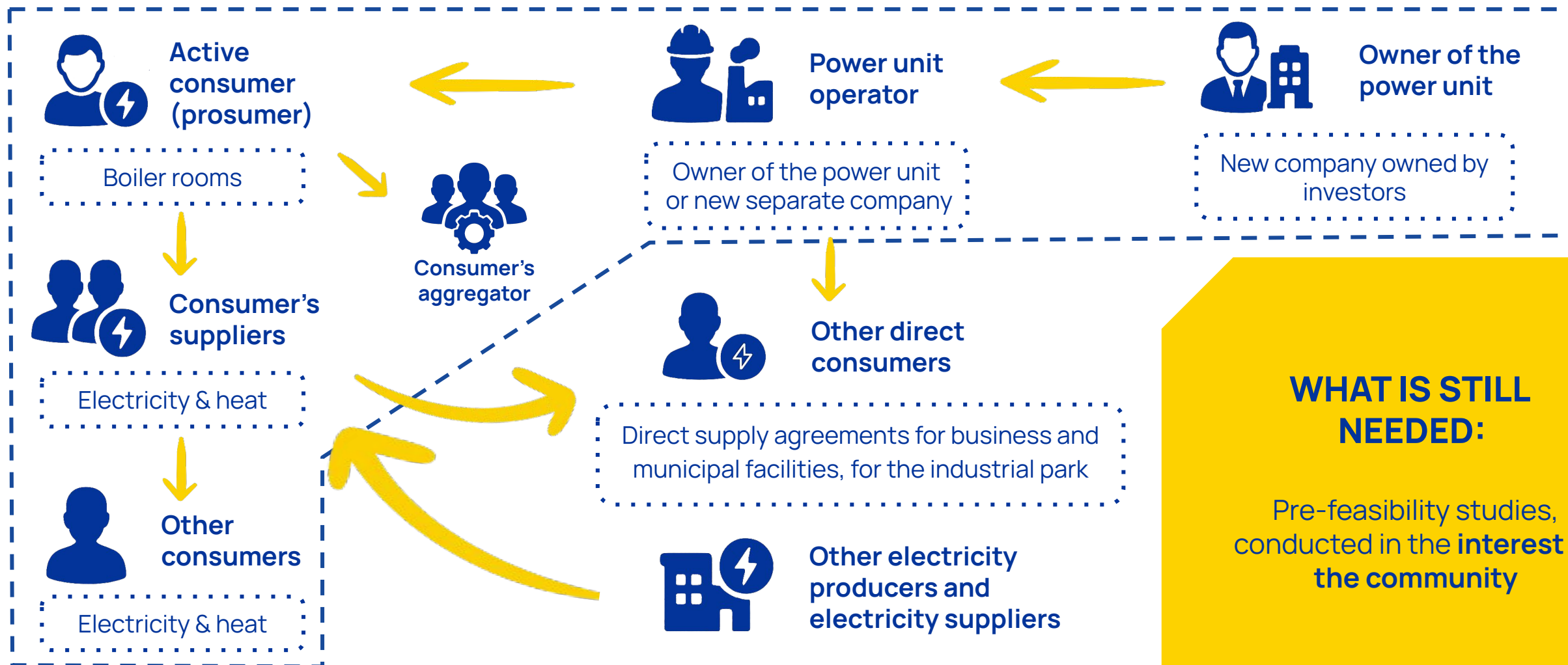
Next step:

Bio-CHP (on wood processing waste)

- **Electrical output:** 5 MW
- **Heat output:** 24 MW
- **Payback period:** up to 5-6 years
- Reduced OPEX by utilizing local resources
- **CAPEX** according to Catalog of Critical Technologies **25 mln EUR**
- **Real CAPEX** - will be reduced due to localization and use of local resources
- The city has offered **proposals for land plots**
- There is a possibility to **replace expensive gas**
- Additional **connections and opportunities** within the community are being created

Detailed parameters of the bio-CHP, as well as other potential energy facilities, in particular new SPP, WPP and BESS, will be developed after a more focused study of the data provided by the city.

VISUAL REPRESENTATION OF THE COMMUNITY-LEVEL ENERGY SYSTEM INTERACTIONS (FIRST STAGE)





Oleksandr Vizir

Lead of the Energy & Climate sector

o.vizir@uafp.eu

**Appreciate
your attention**