REBUILDING ENERGY SYSTEM IN UKRAINE:

Addressing critical challenges
Implementing effective approach



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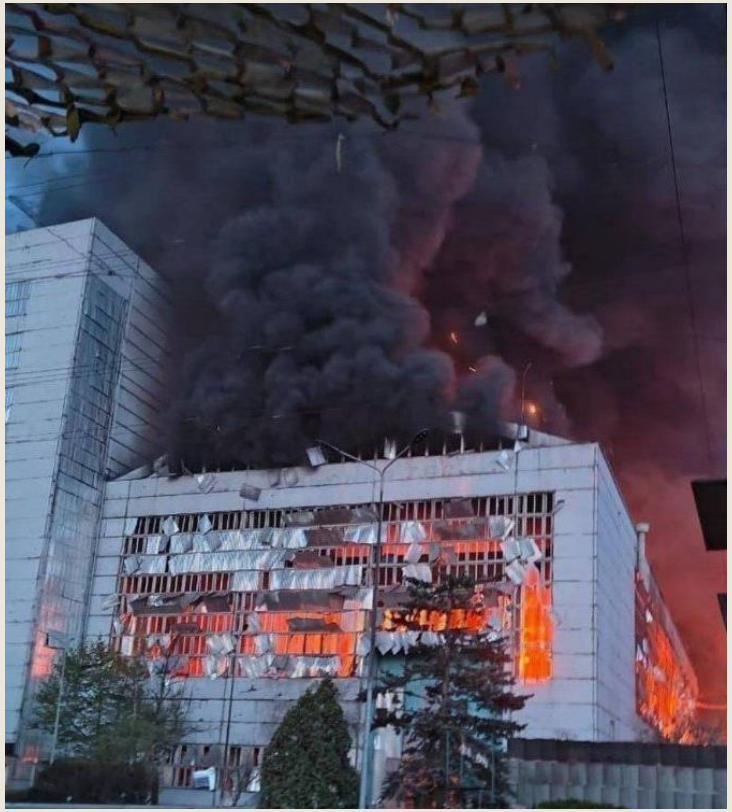
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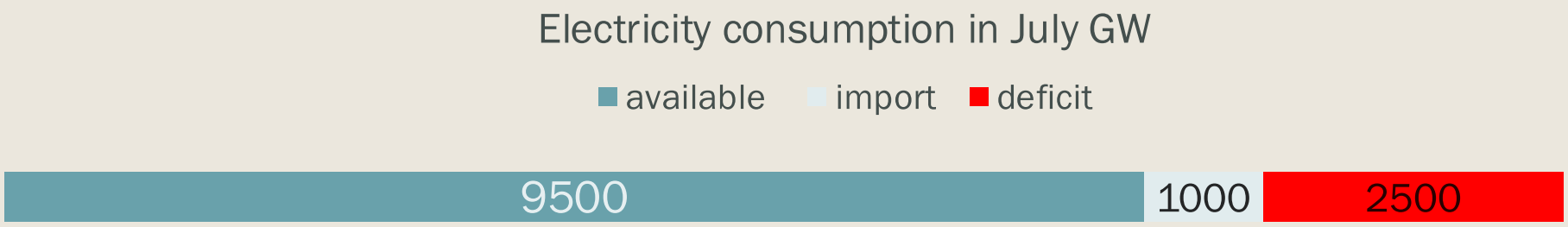
FACING THE CHALLENGE

50 % of the electricity generation destroyed or occupied

12 – 18 hours without electricity per day for businesses and households

25 % of the consumption is dedicated to critical infrastructure





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FACING THE CHALLENGE

Ukrainian critical infrastructure life support, is mostly outdated and consume high amount of energy along with ineffective system that generates debts (ineffective governance)



Situation aggravated by

- weather
- further attacks on generation and transmission
- maintenance process of HPP/TPP
- accessibility of gas production/supply/underground storages access

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FOCUS ON WINTER 24/25

Current efforts to tackle situation limited to

- Restoration of the old generation
- Relying on nuclear power
- Emergency delivery of energy equipment



The immediate challenge is to streamline available resources to address this winter challenges and **ensure sustainable and effective use of equipment in the long run**

FUTURE SYSTEM OVERVIEW

Ukraine declared the need to build **significant amount of the new generation,** with the focus on the variety of technologies, according to Ukrenergo, TSO.

Generation technology	High-Maneuvering gas-powered stations	Biomass-powered cogeneration	Battery storages	Wind stations	PV stations
Current installed capacity	0,0	0,3	0,0	0,5	6,2
The need to build	+1,4	+1,1	+0,8	+4,5	+3,8
Expected total	1,4	1,4	0,8	5,0	10,0
12,8 Investment needed (€ bln)	1,5	3,9	0,7	4,0	2,7
Expected not-discounted investment return	4	3-4	3	3	4

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RESILIENT APPROACH

Decentralized generation building approach, centered **around the community needs benefits**

- Increasing resilience to the Russian Federation rocket attacks
- Providing ground for the technology transfer from G7 countries
- Providing possibility for competitive market creation

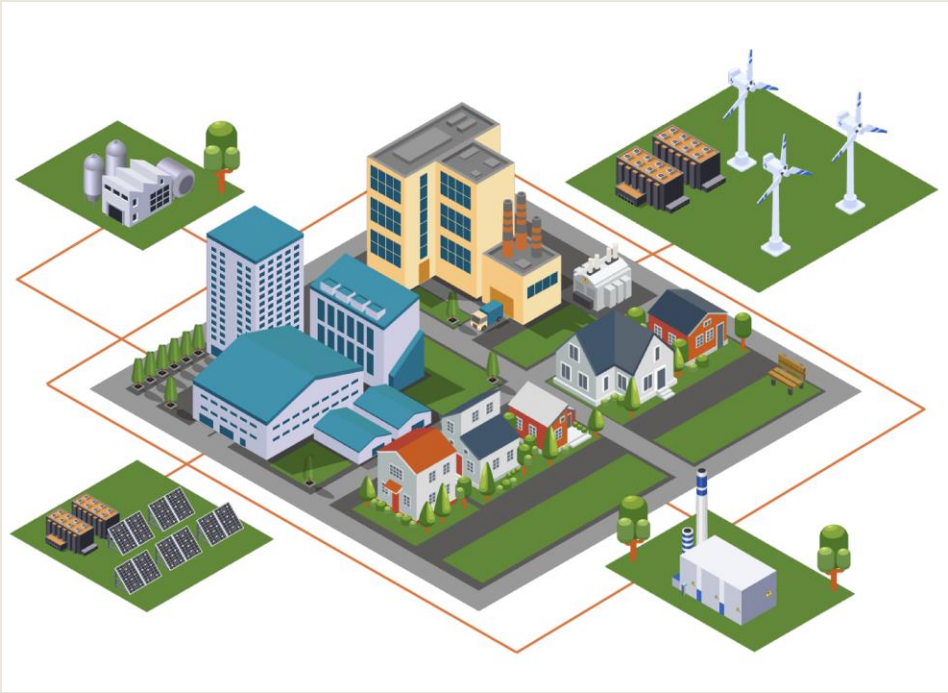


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COMMUNITY CENTERED APPROACH

Decentralized generation approach, centered around the community needs benefits

- Ensuring large share of the renewables in the energy mix
- Providing greater stability of the electricity supply and local jobs creation
- Unlocking investment flow by creating partnerships for the bankable projects



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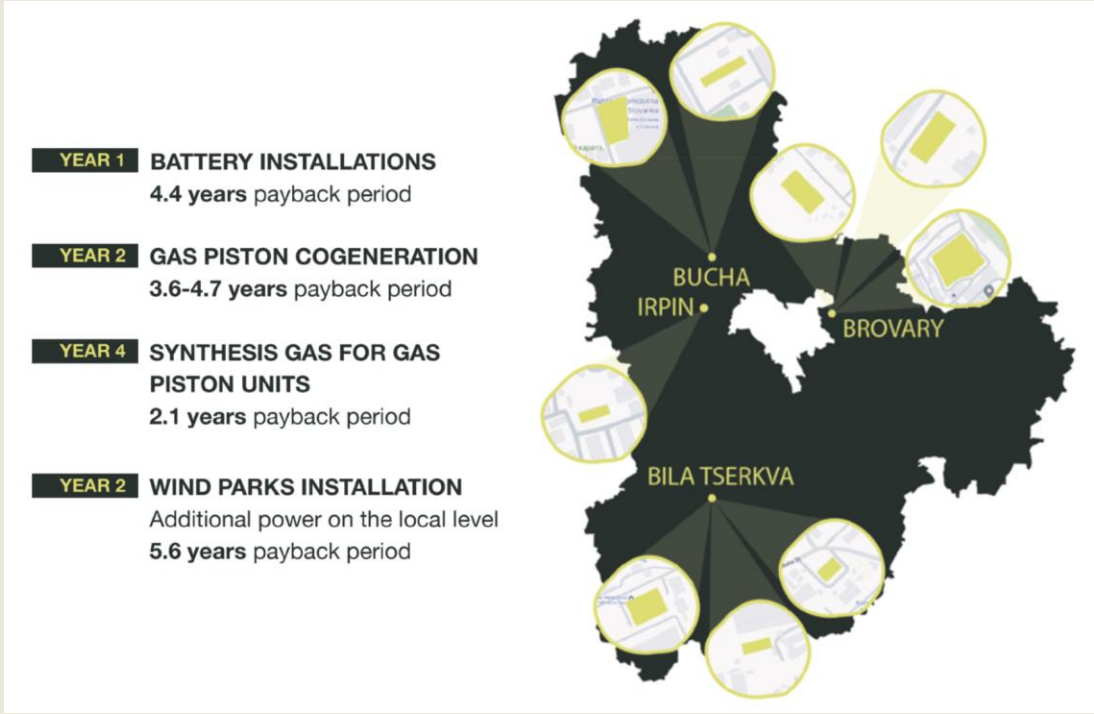
WIN-WIN SOLUTIONS ARE POSSIBLE

Result of the pilot study, conducted by CHC demonstrates that

- This approach is feasible
- First benefits are possible already this winter
- Sustainable growth is achievable

Following factors are essential to create feasible energy design

- Data availability
- Project team competence
- Stakeholder partnership
- Legal framework



Developed projects should cover not only critical infrastructure needs, but also ensure attractiveness and profitability for investors, local businesses and population

KEY TO SUCCESS: PARTNERSHIPS

There is no adequate centralized data or assessments on what is best to build and where

The only feasible response to the challenge appears to be the bottom-up approach based on stakeholders collaboration



KEY TO SUCCESS: TEAMS

Communities

- Research on the local needs, infrastructure and capacity
- Tailoring technology to the local situation

Businesses

- Investing resources and expertise
- Project development
- Equipment installation and maintenance

Public-Private Partnerships

- Collaboration models to support and scale up feasible projects

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RESILIENCE BREAKTHROUGH

The approach creates an evolving environment fueling further development:

- CO2 emissions reduction and green transition
- Competitive market without monopolies
- Private sector involvement and scalable model approach to PPP
- Local recovery and economic boost
- Reforming Soviet-style local communal service systems
- Corporate governance system on the local level
- Enhancement of the adjacent systems (sewage, waste management, etc.)

CHALLENGE ACCEPTED



CHALLENGE

To streamline available resources to address this winter challenges and ensure sustainable and effective use of equipment in the long run



SOLUTION

The only viable now bottom-up approach based on understanding communities, tailoring the technology mix to their specifics, engaging the private sector, and facilitating PPPs



BONUS

Private business engagement in fostering sustainable solutions and creating the environment for further growth and resilience building

Creating transparent competitive market, resilient to the monopoly capture

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