PANORAMA UKRAINE

RESILIENT ENERGY PRODUCTION

19–22 NOV 2024
MICROLAB, ROTTERDAM

WORKSHOP
GLOBAL BRIEF

PANORAMA UKRAINE: REBUILDING ENERGY RESILIENCE IN TIMES OF WAR

The ongoing war in Ukraine has fundamentally transformed the country's energy landscape. From being an energy-proficient nation that exported power as a significant contributor to its GDP, Ukraine now faces unprecedented challenges in maintaining its energy security. However, these challenges have also catalyzed a remarkable transformation toward a more resilient and decentralized energy system.

THE ENERGY CRISIS

In November 2022, Russian attacks on key energy infrastructure caused Ukraine's first nationwide blackout, requiring a complex resynchronization of the entire grid. By 2024, further attacks destroyed major thermal power stations, eliminating over 9 gigawatts of generation capacity, including critical peaker plants essential for grid stabilization. This systematic targeting of energy infrastructure has forced Ukraine to rapidly transition from energy abundance to managing persistent deficits.

CURRENT SITUATION

Pre-invasion, Ukraine's national grid boasted approximately 52 gigawatts of total capacity, with the following characteristics:

- Nuclear power dominated the mix (55-60%)
- Thermal power plants were the second-largest source
- Hydroelectric and renewables played smaller roles
- Much of the infrastructure dated to the Soviet era (1950s-60s), resulting in inefficiencies

Today, the country grapples with:

- Regular scheduled and emergency power outages (brownouts)
- Widespread impacts on essential services and daily life
- Growing inequality in energy access
- Environmental challenges from emergency solutions

EMERGENCE OF DISTRIBUTED ENERGY

The crisis has sparked a significant shift toward decentralized energy solutions:

- 2022-2023: Over 1.5 gigawatts of decentralized energy capacity imported
- 2024 (projected): Expected to exceed 2 gigawatts
- Government support through VAT exemptions on energy equipment imports
- Removal of licensing fees for grid-connected generation

CHALLENGES AND OPPORTUNITIES

Social Equity

- High costs of resilience solutions (€3,000+ for backup systems, €7,000+ for solar+storage)
- Disproportionate impact on lower-income households
- Critical infrastructure dependencies (heating systems, water supply, high-rise buildings)

Business Adaptation

- Widespread adoption of diesel/petrol generators
- Environmental concerns (air and noise pollution)
- Emerging trends toward battery storage and solar solutions
- New market entrants from diverse sectors (retail, IT, gambling)

Community Solutions

Several promising models have emerged:

- Condominium Khudozhnyk (Kyiv): Implemented microgrid with solar+battery+generator
- Solartown Energy Cooperative (Slavutych): Community-based energy resilience
- Limited scope due to housing sector structure (management companies vs. condominiums)

POLICY AND GOVERNANCE

Current developments include:

- New legislation on smart grids
- Government focus on long-term nuclear power solutions (5-10 year timeline)
- Municipality-led initiatives showing promise
- Need for increased public awareness and education

WORKSHOP FOCUS

The Panorama Ukraine: Sustainable Energy Production workshop will address these challenges through:

1. Immediate Crisis Response
2. Emergency power solutions
3. Critical infrastructure protection
4. Social equity considerations
5. Mid-term Adaptation
6. Distributed energy integration
7. Grid modernization
8. Business model innovation
9. Long-term Transformation
10. Sustainable energy transition
11. Grid resilience
12. Climate adaptation

WHY THIS COLLABORATION?

The Netherlands, particularly Rotterdam, has extensive experience in post-crisis reconstruction and infrastructure modernization. This workshop will leverage Dutch expertise in:

- Smart grid development
- Renewable energy integration
- Community energy solutions
- Sustainable urban planning

The collaboration aims to develop practical, scalable solutions that can help Ukraine build back better, creating a more resilient and sustainable energy system while addressing immediate needs.

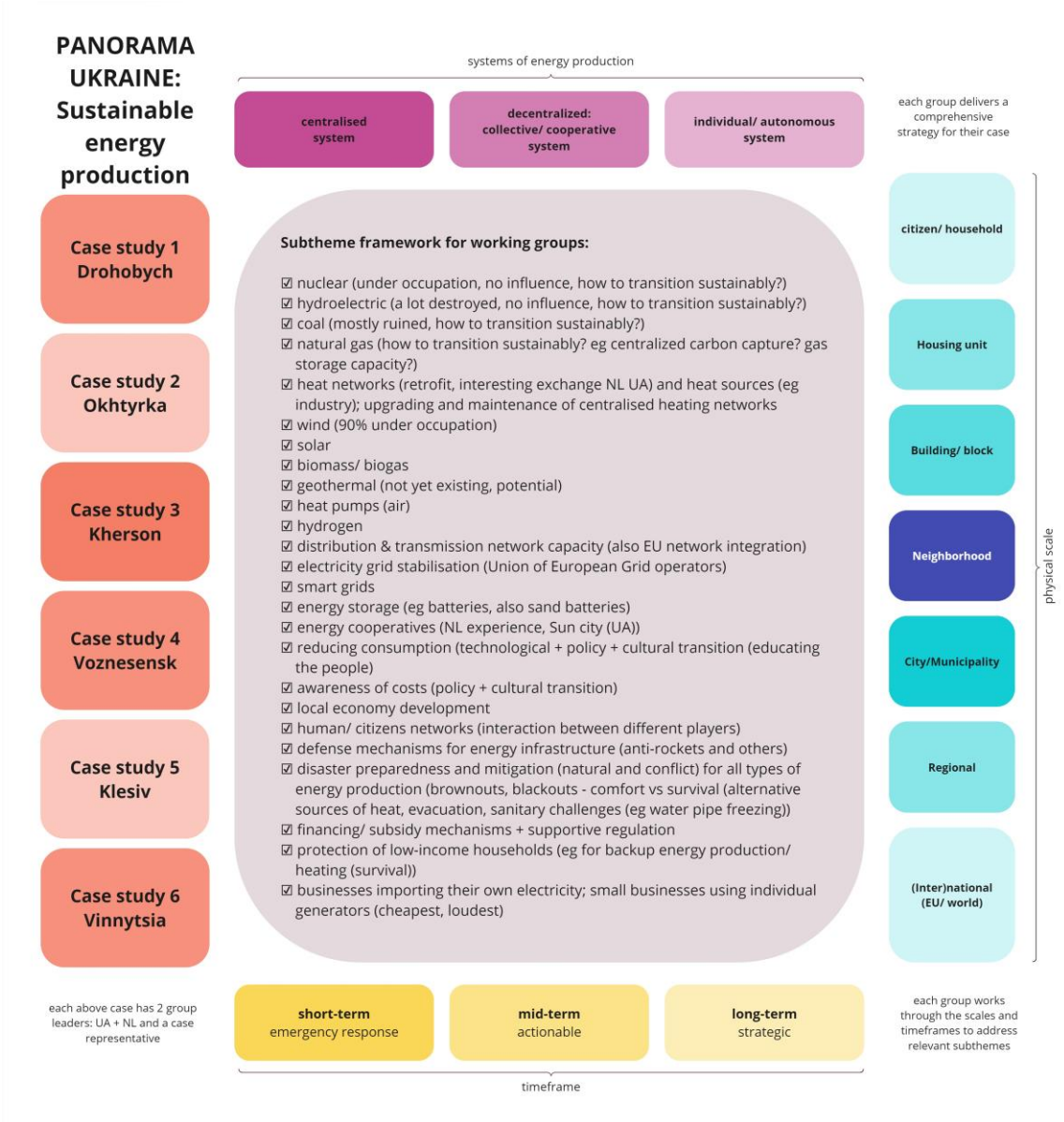
EXPECTED OUTCOMES

The workshop will produce:

- Concrete strategies for energy system resilience
- Models for distributed energy implementation
- Policy recommendations for enabling energy transition
- Framework for social equity in energy access
- Best practices for community energy solutions

These outcomes will contribute to Ukraine's broader reconstruction efforts while providing valuable insights for global energy resilience challenges.

WORKSHOP FRAMEWORK



Panorama Ukraine: Resilient Energy Production		
Workshop - November 19-22, 2024		
TUESDAY 19 NOV - DAY 1		
What	**When**	**Where**
walk-in	15:30-16:00	Keilezaal (Keilestraat 7-9, Rotterdam)
Introduction Panorama Ukraine	16:00-16:10	
Workshop introduction	16:10-16:45	
Ice breaker / interactive session	16:45-17:30	
Meet & Greet during drinks	17:30-18:30	
WEDNESDAY 20 NOV - DAY 2		
What	**When**	**Where**
walk-in	09:00-09:30	Microlab (Aert van Nesstraat 45, Rotterdam)
Opening	09:30-10:00	
Lecture 1	10:00-10:30	
Working Session	10:30-12:30	
Lunch	12:30-13:00	
Working Session	13:00-17:30	
THURSDAY 21 NOV - DAY 3		
What	**When**	**Where**
Working Session	09:00-11:30	Microlab (Aert van Nesstraat 45, Rotterdam)
Lecture 2	11:30-12:00	
Lunch	12:30-13:00	
Working Session	13:00-17:30	
FRIDAY 22 NOV - DAY 4		
What	**When**	**Where**
Working Session	09:00-12:30	Microlab (Aert van Nesstraat 45, Rotterdam)
Lunch	12:30-13:00	
Last preparations	13:00-15:30	
Presentation results	15:30-17:30	
Closing reflection	17:30-18:00	
Drinks	18:00-19:00	