
ENERGY

**31st Session of the Committee on Sustainable Energy**

# Energy Security, Resilience and Net Zero

## Tangible Actions to Deliver a Sustainable Energy Future

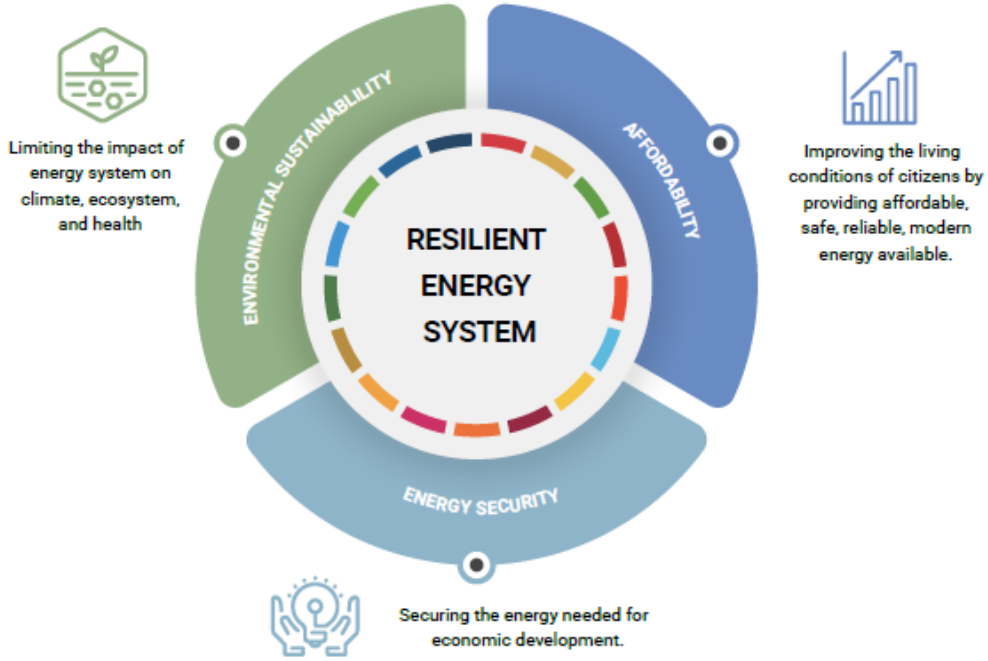
21 September 2022, Geneva

# Building Resilient Energy Systems

## Technical Considerations and Actions for Achieving Energy Security, Affordability, and Sustainability Net-Zero for Europe, North American and Central Asia

### What is a resilient energy system?

- A **resilient energy system** ensures that energy makes an optimal contribution to a country's **social, economic, and environmental** development.
- **Energy security** strengthens energy independence through interconnectivity and trade.
- **Affordability** reduces costs of electricity, heating, cooling, and transport.
- **Environmental sustainability** lowers the carbon footprint and enhances efficiency across the energy supply chain.



# What are the vulnerabilities of the existing energy system?

## CHALLENGES

### COVID-19
Economic recovery at the expanse of energy transition is a concering risk

### GEOPOLITICAL INSTABILITY
- Disruption of supply
- Impeding energy flows
- Threatening economic growth
- Energy prices increase short and medium-term

### SUPPLY CHAIN DISRUPTION FACTORS
- Exponential increase in demand for critical raw materials
- Higher cost for shipping and logistics
- Limited technology standardisation
- Trade restrictions

### CLIMATE CHANGE CRISIS
A threat multiplier to all of the above increase in intensity of extreme events will post a threat to international peace and security

## IMPACTS

### DISRUPTED ENERGY AVAILABLITY
Limited access to resources and disruptions in demand create uncertainities for long term energy investments and security

### INADEQUATE ENERGY ACCESSIBILITY
Region-wide energy price increase inhibit economic growth and exacerabate energy proverty across the region

### QUESTIONABLE ENERGY SUSTAINABILITY
Maintaining national energy security may resort to the use of power generation by traditional unabated coal-fired plants, incerasing $CO_2$ emitions and delaying net-zero target

# 10 recommendations from the UNECE Expert Community to design and implement resilient energy systems

1. Implement energy efficiency solutions immediately
2. Digitalize the energy systems
3. Decarbonize energy system and accelerate fuel switching
4. Diversify the energy supply
5. Build a workforce to deliver on just energy transition
6. Implement a resource management framework
7. Integrate circular carbon economy concept into decision-making
8. Recognize that there is not a one-size-fits-all approach
9. Acknowledge that all low- and zero-carbon technologies play a role
10. Address behavioral barriers

## What are the immediate actions for policymakers?

### RAISE AWARENESS

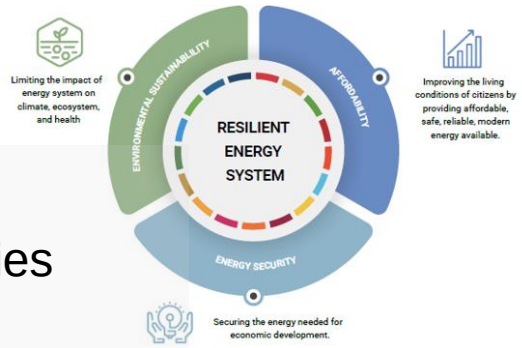
- Establish common language
- Familiarise with all benefits and risks
- Create environment that boost confidence
- Boost stakeholders' competence

### DEVELOP REGULATOY FRAMEWORK

- Use a nexus approach to managing the natural resource base
- Design and implement consistent policies and market frameworks
- Review interconnection infrastructure across regions
- Separate interconnection to isolate system disturbances
- Integrate energy system to promote efficiencies and enhance resource diversity
- Incorporate practical ways to ensure affordability

### SECURE FINANCING

- Cooperate with global finanical community
- Support development projects with risk-sharing structure
- Establish science-based climate and sustainable finance classification
- Provide financing to all other low-carbon technologies
- Evaluate carbon pricing and energy subsidies
- Encourage decision-makers and end-users to make investment decisons




## UNECE Platform on Resilient Energy Systems

- **Who**: UNECE Committee on Sustainable Energy & 6 subsidiary bodies (GEEE, GERE, EGCES, CMM, GEG, EGRM)

- **What:** multistakeholder policy dialogue and cooperation to ensure resiliency of energy systems and access to affordable, reliable, sustainable and modern energy for all

- **How:**
  - Facilitate series of multistakeholder dialogues
  - Increase awareness on resiliency-related analyses
  - Support an expanded Pathways to Sustainable Energy initiative
  - Expand efforts to reduce methane emissions, including of the Global Methane Pledge
  - Explore and increase understanding on energy-related climate financing
  - Support a dialogue to substantially increase the uptake of renewable energy
  - Increase efforts to deploy cross-sectoral action on energy efficiency
  - Increase cross-agency engagement on similar or complementary objectives.