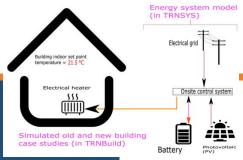
# IEA EBC - Annex 93

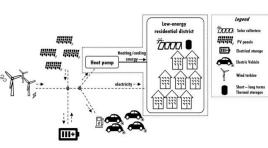
# Energy Resilience of the Buildings in Remote Cold Regions

## The key objectives of this project are to:

- Identify major threats specific to cold regions; develop definitions for energy resilience in cold regions;
- Document and assess existing practices through case studies across cold regions with different local conditions.
- Develop guidelines for energy resilient and efficient buildings and energy systems for different cold regions.
  The guidelines will address technical, social and economic aspects.
- Disseminate best practices for planning and construction of energy-resilient buildings and communities in cold regions through technical papers, conference presentations, and training.







### Challenge,

- Climate change, heat and cold waves etc.
- Other disruptions: Energy crises, energy storage, grid breakdown, political crises
- Cold region issues: Very low temperatures, wind, snow, permafrost, low humidity
- •Access issues: Remote, seasonal or no access for long period
- •Building & infrastructure resilience is critical: Must remain habitable during crises

#### To address the challenge,

- ·Local renewables preferred:
  - Energy sources: Biomass, geothermal, hydro, wind, heat pumps, solar, boiler
- ·Energy storage:
  - o Battery storage: For electricity backup
  - Thermal storage (TMES): Stores heat for space/water heating
- •Benefits:
  - o Ensures system resilience
  - Reduces peak loads & operating costs
  - o Supports **energy autonomy** in remote areas
  - o Reduce costs and shave peak demand