

Energy and climate conference 22.11.2018, Oslo

# Towards Net Zero Energy Public Resilient Communities

*International Energy Agency – Energy in Buildings and Communities Programme, Annex 73*

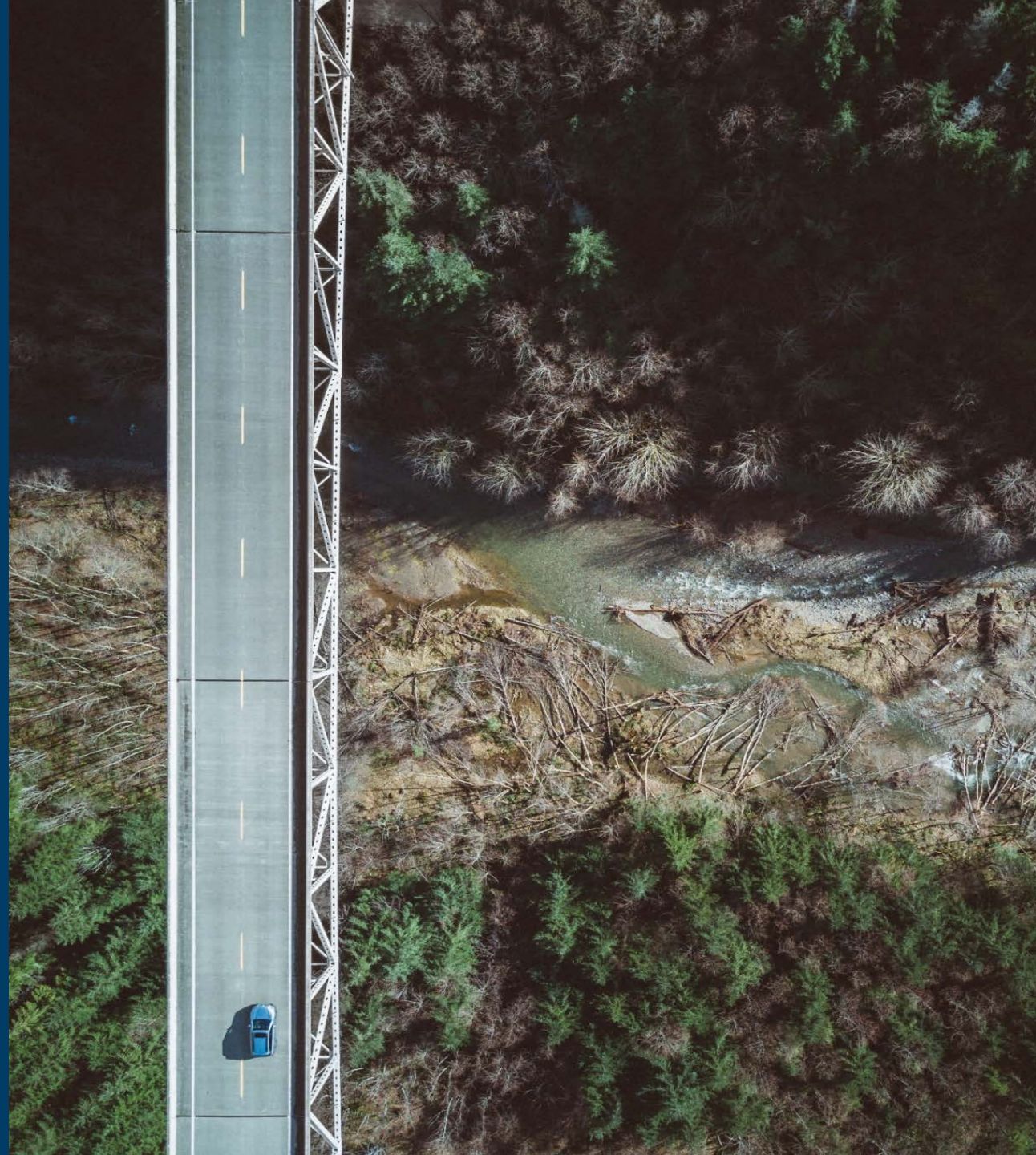
Matthias Haase

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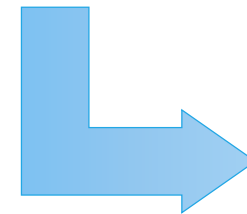
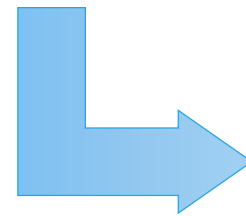
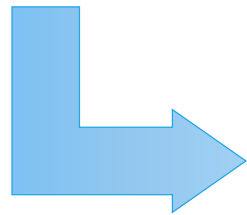
# Agenda

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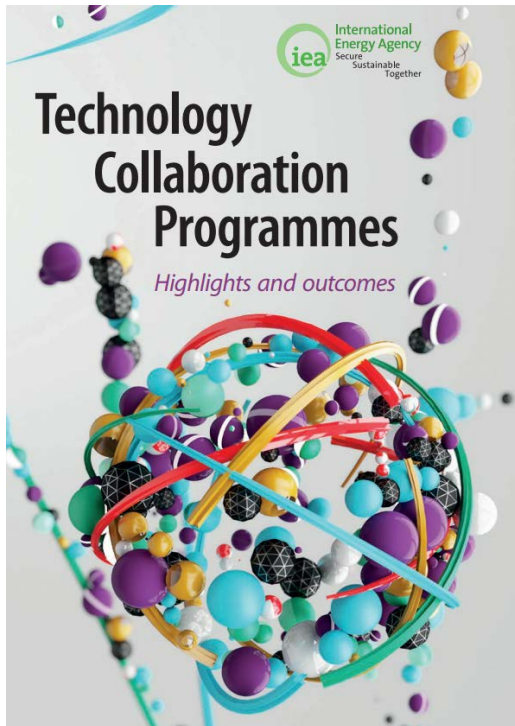
- *Background*
  - *IEA EBC Annex*
  - *Annex 63*
- *Annex 73*
- *Annex 75*



# Background



*Annex*



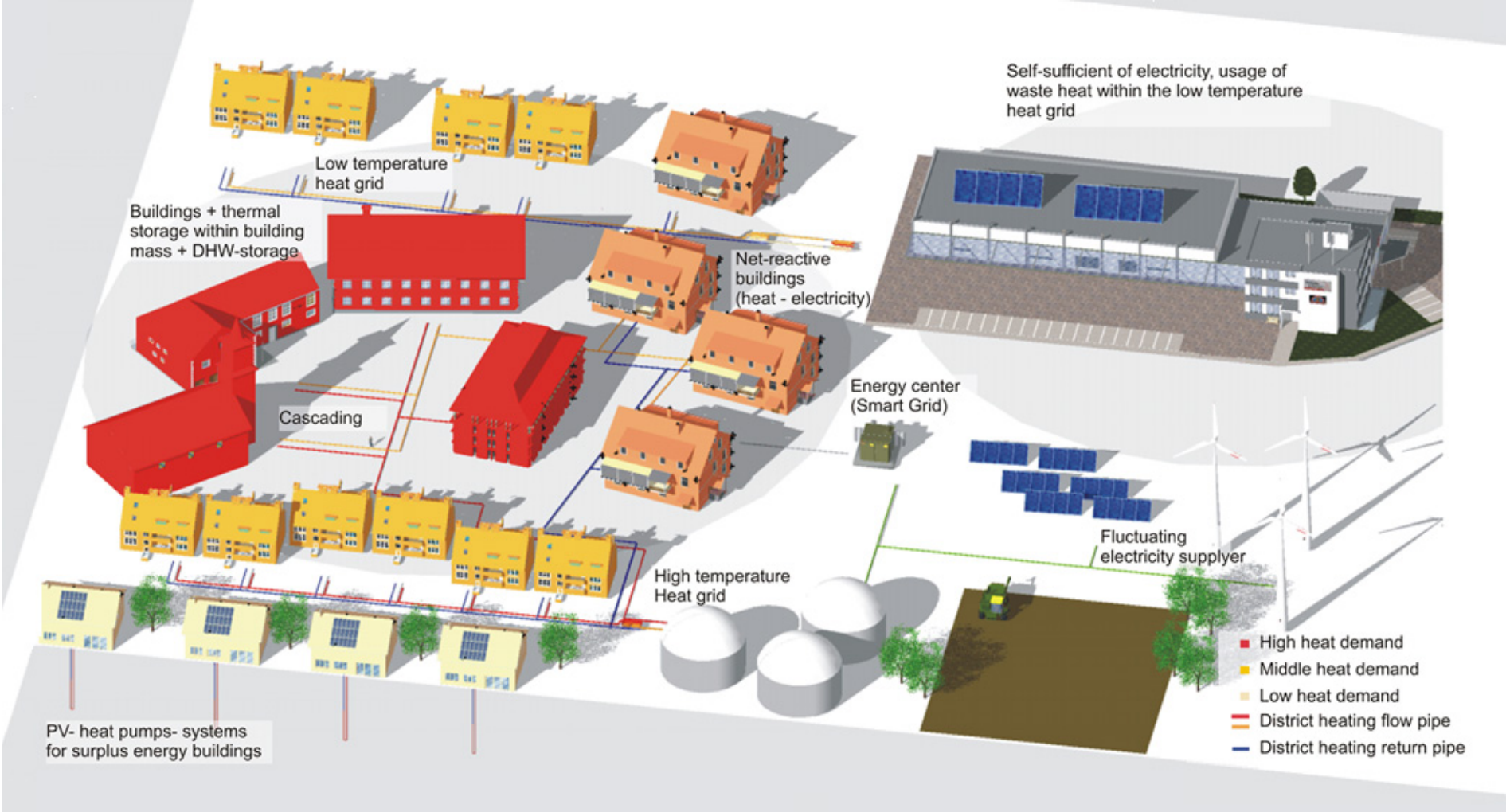
# IEA EBC Annex

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- **N°75** [Cost-effective Building Renovation at District Level Combining Energy Efficiency & Renewables](#)
- **N°73** [Towards Net Zero Energy Public Resilient Communities](#)
- **N°72** [Assessing Life Cycle Related Environmental Impacts Caused by Buildings](#)
- **N°71** [Building Energy Performance Assessment Based on In-situ Measurements](#)
- **N°70** [Building Energy Epidemiology: Analysis of Real Building Energy Use at Scale](#)
- **N°67** [Energy Flexible Buildings](#)
- **N°64** [LowEx Communities - Optimised Performance of Energy Supply Systems with Exergy Principles](#)
- **N°63** [Implementation of Energy Strategies in Communities](#)



# Community/district level



# Annex 63

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- The outcomes from previously completed projects on energy optimization at a community scale showed that the transformation of approaches suitable for buildings to communities needs more than simply an up-scaling of individual building solutions.
- focus on development of standards for implementation of optimized energy strategies at the scale of communities.

International Energy Agency

## Implementation of Energy Strategies in Communities (Annex 63) Volume 5: Recommendations

Energy in Buildings and Communities Programme  
October 2018



# Recommendations from Annex 63

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- 1) Capacity building
- 2) Effective organizational structures in municipalities
- 3) Intergovernmental coordination & local to national linkage
- 4) Fully understand & utilize legal frameworks
- 5) Pilot projects – experimentation to advance innovation
- 6) Link community (social) goals to business case / private interests
- 7) Future research – including but not limited to IEA

# Annex 73 and Annex 75

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- To establish energy targets and a database of energy utilization indices
  - To develop an overview of building models
  - Collect and analyze best practice of comprehensive planning
  - Collect information on the design of advanced central energy systems
  - Dissemination and training
  - Guidelines for and improvements to modeling tools
- To provide an overview of possible technologies
  - Develop a method in assessing impact, cost-effectiveness
  - Document the preparation of such strategies in selected case studies and success stories.
  - Recommend authorities and energy companies



# What have Annex 73 and Annex 75 in common?

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- Focus on energy consumption in group of buildings
- Energy efficiency measures that balance measures on the building body and measures on the energy system.
- Focus on overall upgrading of areas with buildings, including the benefits and challenges it brings.
- The participation in IEA Annex 73 and 75 will contribute to the rapid development and introduction of technologies and energy solutions in the Norwegian market.
- Target groups for project results include decision makers, planners, building owners, architects, engineers and energy managers of publicly owned and operated areas.
- The projects are supported by Enova SF.

# What have Annex 73 and Annex 75 in common?

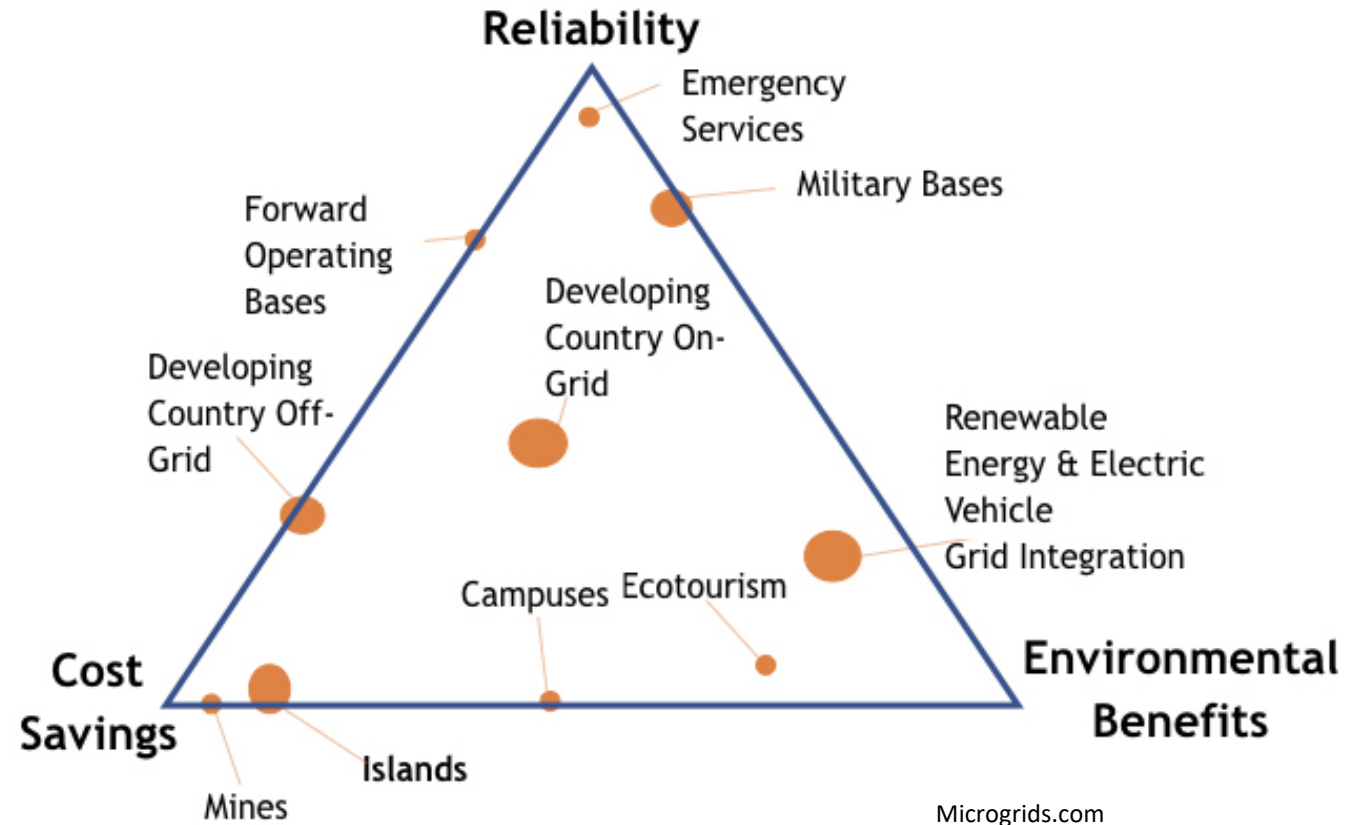
## Cont.

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- The projects are refining methods for urban planning and energy planning, which is also an important theme for ENOVA.
- The project results can help to develop the most sustainable energy plans for the future.
- Energy planning of building stock is a very important topic, and essential for energy policy, requirements and development and adaptation of relevant standards.
- The results of the projects will show long-term consequences, also for users and companies that do not have enough interest in contributing funding. Current construction practices may have 50 to 100 years of impact on national energy consumption and community development.

# Motivation for Annex 73

## Microgrid Value Proposition



# Planned results of Annex 73

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**A “Guide for NZE planning in public and military building communities”**

**Enhanced Net Zero Planner Tool (NZE Tool)**

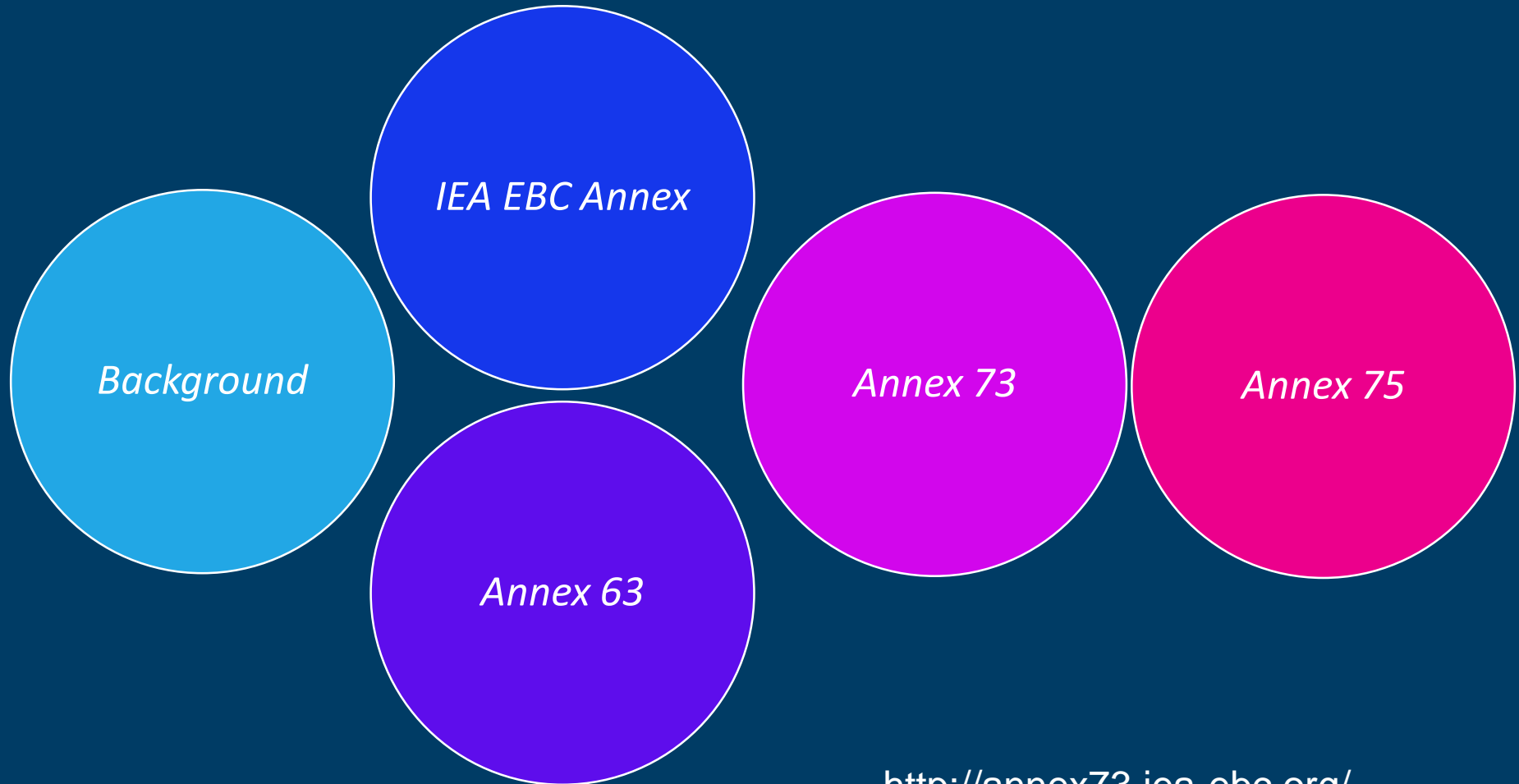
**A Book of Case Studies (Examples of Energy Master Plans)**

**Results of several realized or partially realized projects.**



# Summary

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<http://annex73.iea-ebc.org/>



Technology for a better society