

**IEA-EBC Annex 73  
2<sup>nd</sup> Experts-Meeting**

**Annex 73:**

**,Towards Net Zero Energy and  
Resilient Public Communities‘**

***Subtask D: Local Energy Planning Guide Workflow***

***Alignment with other Annex 73 Subtasks***

## **Presentation Objectives:**

- 1) Overview over Annex 73 Topics and Subtasks**
- 2) Understanding the Annex Scope(s)**
- 3) Subtask D – Approach: LEP Workflow suggestion and Contributions from other Subtasks**

# 1) Overview over Annex 73 Topics and Subtasks

# Actual Subtask Topics:

## Subtask A:

,Collection of Input Data for EMP‘

**ST Leaders:** S. Bucking, R. Jeffers, T. Sharp

## Subtask B:

,Review of Case Studies and implemented Pilot Projects‘

**ST Leaders:** I. Leusbrock, M. Case

## Subtask C:

,Selected Tools for Energy Conversion Systems and (el.& th.) Distribution Systems‘

**ST Leaders:** A. Dyrelund, D. Hering

## Subtask D:

,LEP Guidebook‘

**ST Leaders:** A. Zhivov, R. Jank

## Subtask E:

,Analysis of existing LEP Tools and development of a stand-alone Planning Tool‘

**ST Leaders:** P. Ellis, U. Eicker

## Subtask F:

,Business Aspects of NZE Master Planning‘

**ST Leader:** R. Lohse

## Annex 73 Deliverables:

- ▶ **Guidebook on NZE planning of Public (and military) Communities**
- ▶ **NZP Tool: *„Enhanced Net Zero Energy Planner“***
- ▶ **„Book about Case Studies and Implemented NZE Projects“**
- ▶ **Training for NZE Planners (national in participating countries)**

### Time frame:

**Feb. 2018 – Dec. 2021**  
**(plus reporting period)**

## 2) Understanding the Annex Scope(s)

... common understanding of

## (1) ,Net Zero Energy‘?

← Subtask A

*Definition: Amount of fossil fuel use is equal to ,exported‘ renewable energy*

**Question:** do we adopt this?

**Alternatives:** ,Near Zero‘ (EPBD) or ,Low-Carbon‘?

## (2) ,Public Communities‘?

*... university campuses, hospital centers, military installations ...*

**Question:** includes mixed zones (incl. residential)? industrial areas?

**excluded:** cities, urban districts

**Consequence:**

,Energy Master Plan‘ usually addressing Cities! → **Annex 51!**

→ **Annex 73:** ,Local Energy Plan‘ or

,Neighbourhood / Community Energy Action Plan‘ ??

## Difference between

**Urban energy planning**  
(cities, large districts)



### Strategic

- energy policy targets
  - urban activity sectors
  - adjustment with urban development dynamics
- *overarching long-term climate strategy*

**Local energy planning**  
(neighbourhoods, campuses,  
revitalization zones, new  
developments/greenfields)



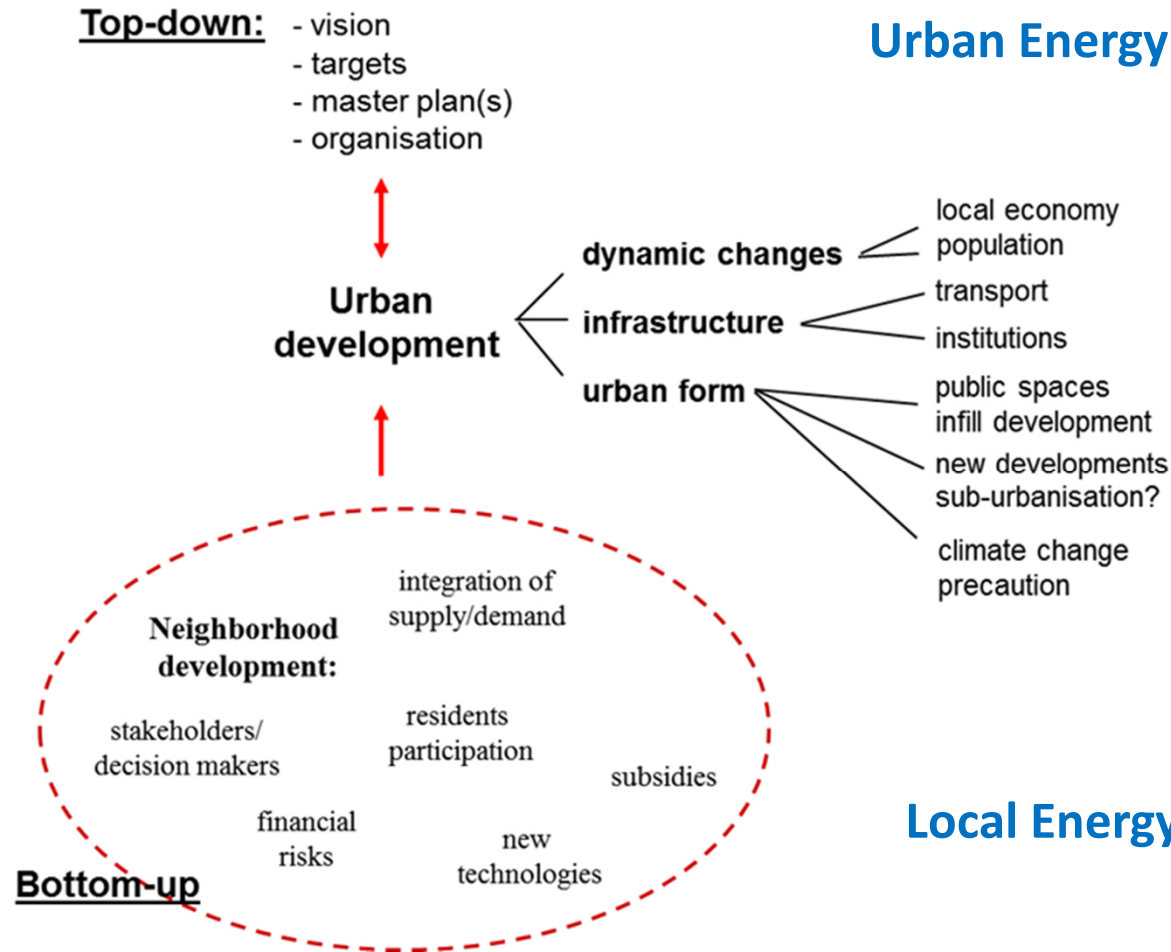
### Operational

- assessment of existing facilities
  - economic scenario analysis
  - actionable investment plan
  - business model(s)
  - implementation responsibilities
- *Neighbourhood action plan*

→ different approaches, methods, tools, actors ...



# Assignment of Planning Tasks:



## Urban Energy Master Plan

## Local Energy Planning

### (3) ,Computer-based tools': scope?

← Subtask C & Subtask E

- (a) Evaluation of **existing tools**?
- (b) Development of **new tools**?

#### Objectives?

- intended for which planning phase?  
pre-planning, feasibility study, lay-out planning ...
- comprehensive energy system models? (like NZP: ,Net Zero Planner')
- simulation of (campus-scale) communities? (based on 8760 h?)
- buildings included in simulation?
- including GIS? 3D modeling of neighbourhoods?
- distribution network tools?
- multi-criteria analysis tool?  
... including resilience, security, etc.



#### (4) ,Case Studies & Pilot Projects‘?

← **Subtask B**

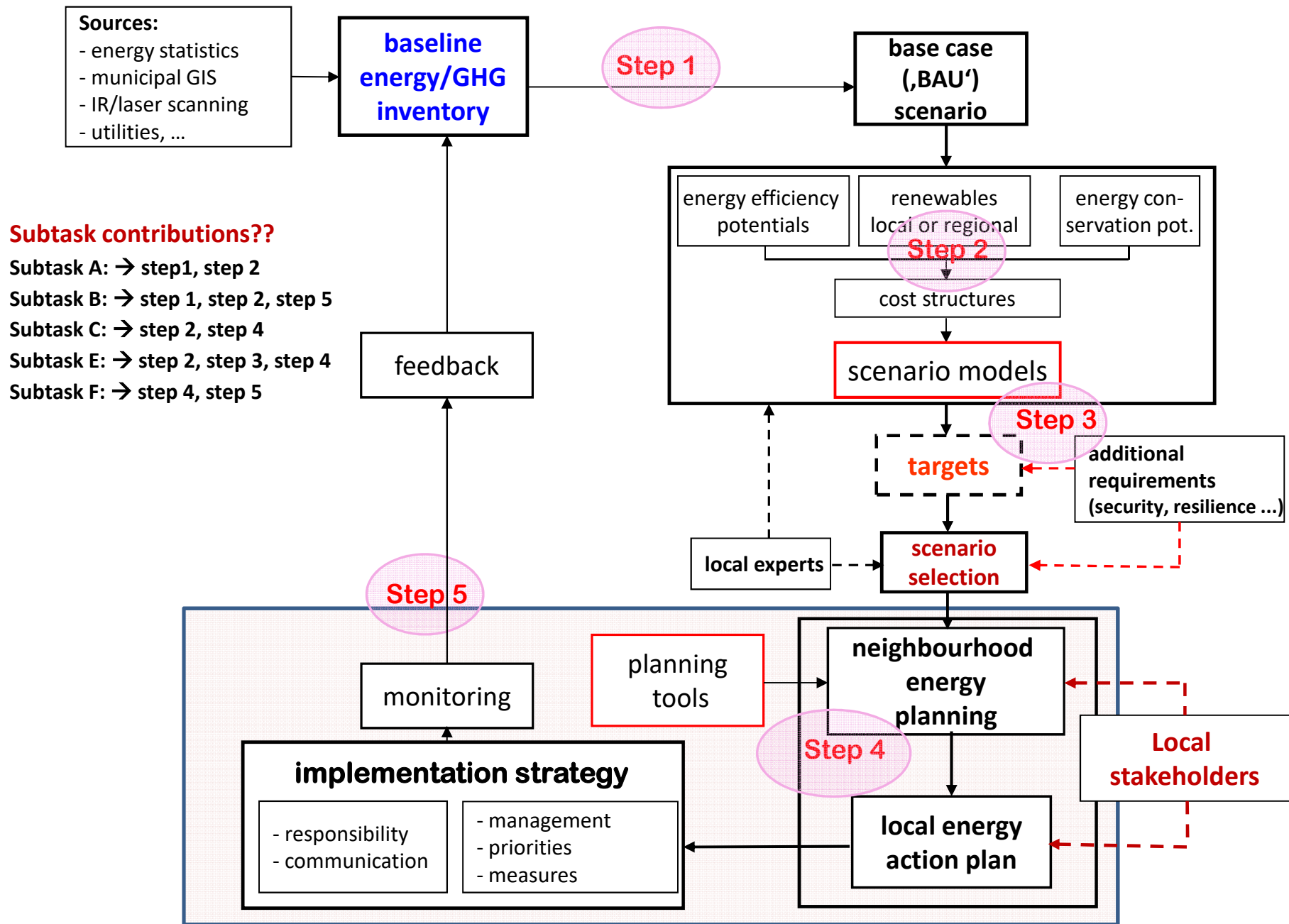
- What shall be demonstrated?  
Types of projects? Technologies? (e.g. control/monitoring devices?)
- experiences with planning tools/verification?
- Criteria for case selection? Residential neighbourhood case studies?
- Planned outcomes of the Subtask?

#### (5) ,Guidebook‘

← **Subtask D**

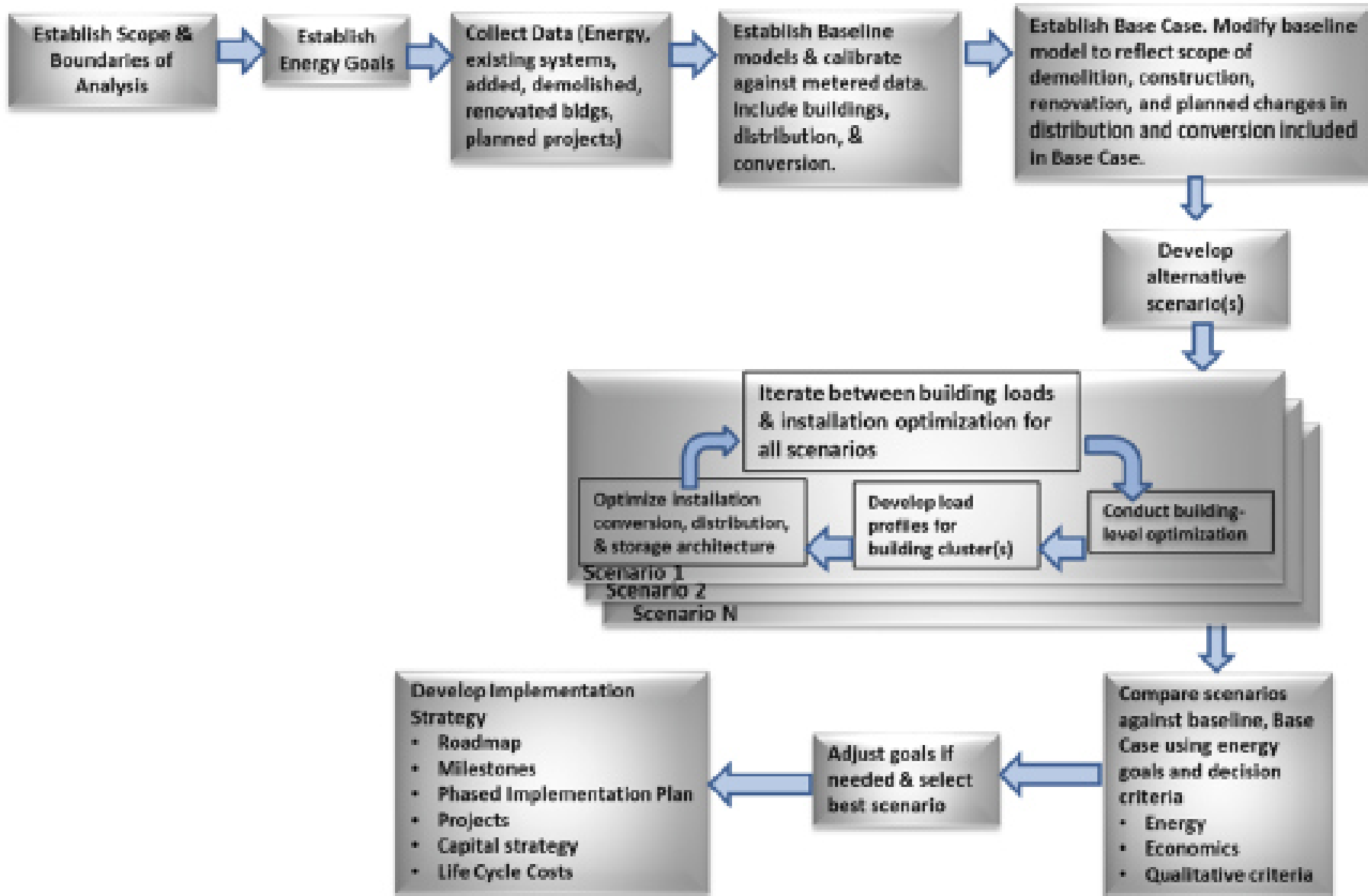
- Objectives?
- Recipients? → energy planners, decision makers,  
spatial planners, modelers?  
→ focus on techno-economic issues!
- ,Case Study Book‘ as attachment?
- Publication planned? → print??

# Community Energy Planning Work Flow Suggestion:



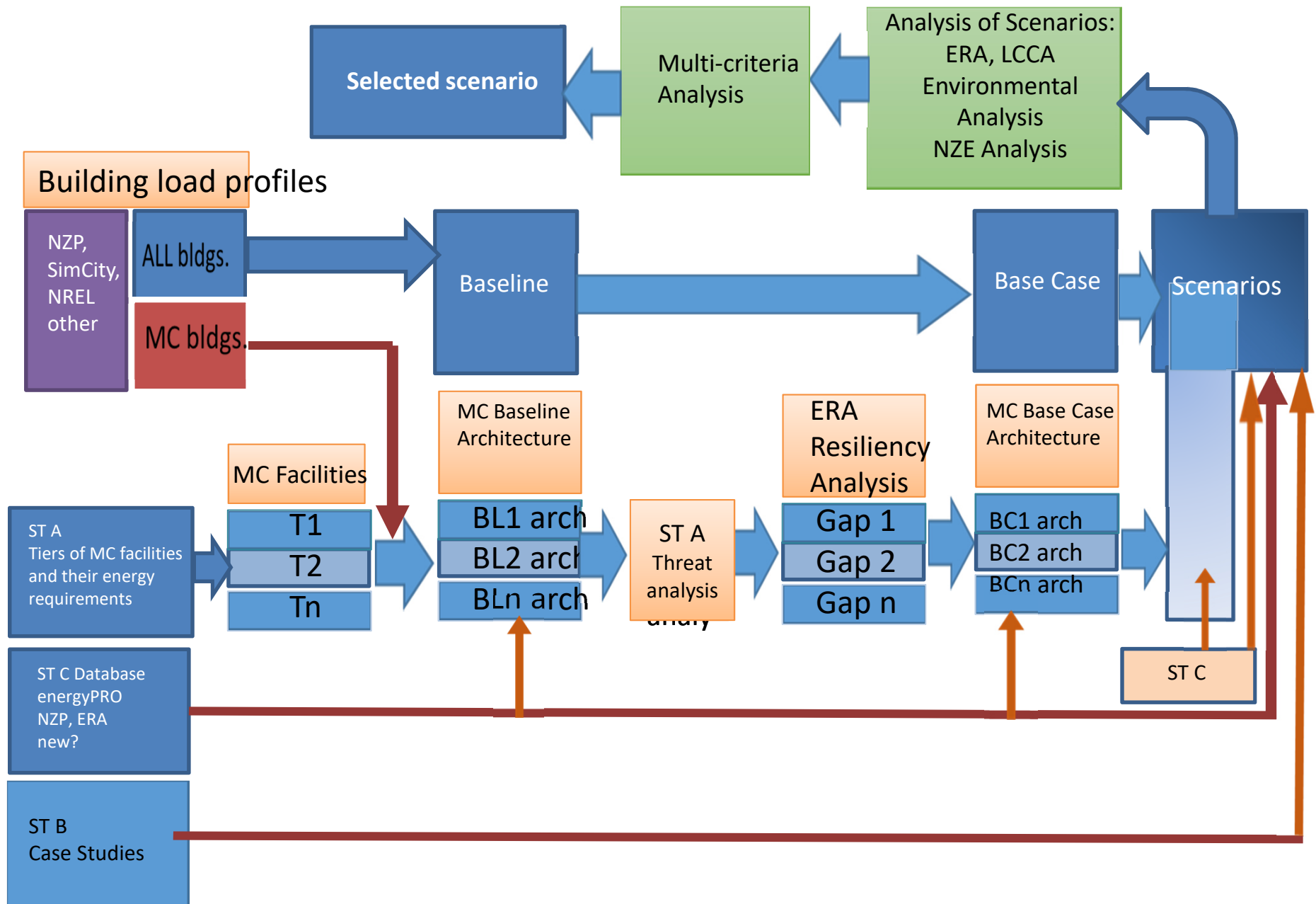
→ Time schedules?

→ Products until next ExCo Meeting?  
(Mai 2018)





# Workflow for the Annex 73 EMP and Resiliency analysis





## → Annex Structure

*(copy from ExCo Presentation, →  
Nov. 2016, Zhivov/Lohse)*

Annex 73: ,Towards Net Zero Energy  
& Resilient Public Communities‘

