Framework Conditions

- Large buildings older than 5 years
- High energy intensity
- Older, but extant, centralised energy systems
- Possibly building management systems in place
- Poor energy performance / high use
- Potentially thinking about renovation
- No own funds to address challenges

• Starting Point



- -Buildings available but not being addressed
- -No procurement experience for contracting
- -No financing mechanisms available
- High operating costs causing financial difficulties
- -Aging building stock

Approach



- Energy Savings Contracting with support for LG decision making process development
- Innovative System for Energy System Optimisation in Buildings
 w/ computational Model Based Optimisation of extant systems.
- Systems that support/extend lifecycle of Building Management
 Systems
- Strategy for combining clusters of buildings/urban areas
- Innovative funding sources

Outputs



- For individual buildings: 10-20% savings without capex
- For LGs: Reduced CO2 footprint w/o investment
- For LGs: Immediate moderate savings, good long-term cost reductions
- For the future: Detailed information on energy use/problem areas to guide future building shell renovation
- For investor: Safe, long, term investments with acceptable returns (especially now)
- For urban areas: Integration of consumption and generation models to reduce dependency and increase resilience





- Energy Savings Contracting is a good idea, but cities must have rapid, uncomplicated decision-making protocols to be attractive.
- ESC investors can be very different, also ito expectations
- Energy Systems Optimization, especially model-based, delivers good results and has many side benefits
- Measure first, measure again, measure always.
- Be open to unusual methodologies ito the above, as risk is mainly elsewhere.



Follow Up / Urgent Issues

- Lack of capacity/experience in LGs for dealing with contracting
- Energy Systems Optimisation is still fairly unknown amd poorly understood amongst LGs
- Models need to be developed for non-centralised heating & cooling scenarios, especially for developing countries (we have one)
- Metering at very low cost in statistical models to correctly determine urban area energy demand and potential supply (we are working on it)
- Access to building stock for small and medium enterprises interested in doing contracting – invite us in!