

## Main issues

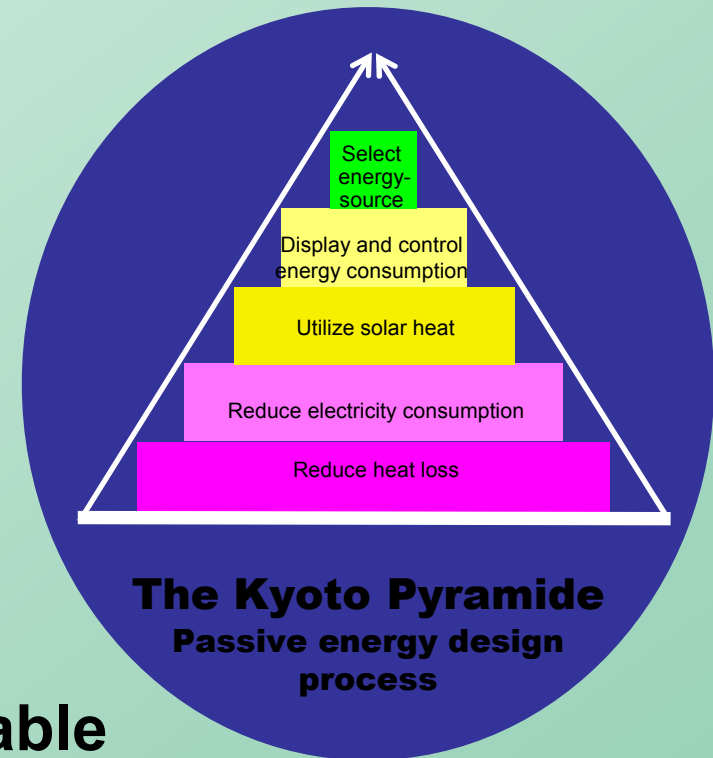
**The objective of energy in community planning from a sustainability point of view is**

- ▶ **To minimize the energy demand through appropriate planning and building design and**
- ▶ **To minimize the environmental impact of energy consumption by utilizing renewable energy, waste energy sources, and clean technologies**



# Recommendations

- ▶ Energy demand reduction
- ▶ On site low environmental impact sources
- ▶ On site renewable
- ▶ Energy storage systems
- ▶ Off site energy source/renewable
- ▶ Efficient energy use
- ▶ The kyoto pyramide, guiding principle



# Examples

## ▶ Energy demand reduction

- Insulation, heat recovery

## ▶ On site low environmental impact sources

- Ground pump, Small Combined heat power

## ▶ On/off site renewable

- Biomass, PV, wind, hydro, geothermal

## ▶ Energy storage systems

- Seasonal heat cold storage in aquifers

## ▶ Efficient energy use

- Condensing gas boiler



Example Kruitberg Amsterdam

