



# Climate Change & Built Environment

## FINLAND

ECCE 46th meeting on October 19, 2007

Hotel Amalia, Athens, GREECE



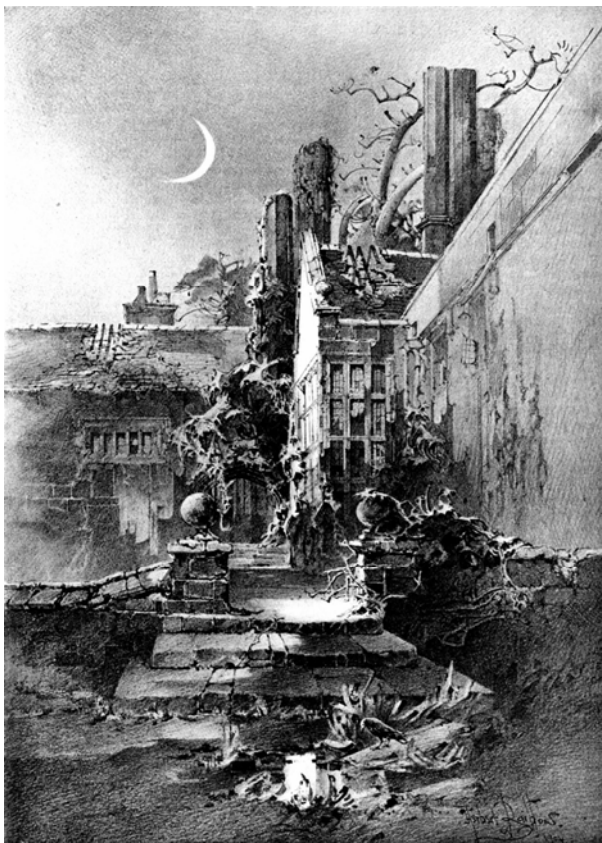
## Content

- ✓ Impacts of climate change
- ✓ Challenges and opportunities of climate change combat
  - Prevention
  - Adaptation



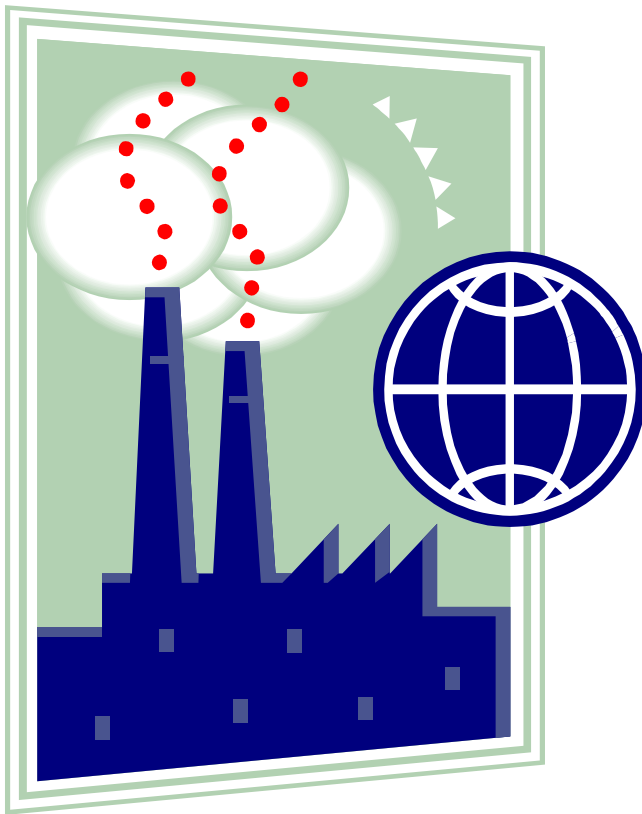
## Impacts of climate change

- **Weather gets warmer**
  - Min and max temperatures rise 15 degrees Celsius
- **Rains become heavier and more frequent**
  - Number of rainy days will double
  - Snowfall will be replaced by rain
- **Winds become harder and windy conditions more common**
  - Heavy storms increase
- **Water level rises**
  - Floods increase
  - Waves become higher
- **Ecology changes**
  - Pests thrive
  - Dominant species change
  - Habitats change



## Direct Impacts on Build Environment

- **Design of Structures**
  - Loads
    - Wind
    - Ice and freezing
  - Details are important
- **Soil mechanics and geotechnics**
  - Frost freezing and melting cycles
  - Thawing of permafrost
- **Water resources management**
  - Dam safety
  - Flood control
  - Water quality
- **Building materials**
  - Corrosion
  - Mould, pests
- **Land use**
  - Flooding
  - Town planning
  - Transportation systems



## Challenges and opportunities of climate change combat

- **Energy efficiency**
  - Heating
    - CHP energy production
    - Renewable energy sources
    - HVAC
  - Electricity consumption
    - Lighting
    - Electronic devices
  - Transportation
    - Efficient town plans and land use
    - Biofuels
- **Sustainability of materials**
  - Safety
  - Healthiness
  - Durability
  - Recycling



# Thank You!

**Any questions? Contact:**

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