

ESS – a hazardous research project

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Lund Society for Nature Conservation

- ❑ NGO - nature and environment
- ❑ 3400 members
- ❑ Part of national organization SSNC
- ❑ 10 committees – one on ESS

New knowledge...

- ▣ Is exciting, interesting and important to society

But...

- ▣ Is not worth great risks to the environment

ESS – health and environment

- ❑ Mercury or lead
- ❑ Land use
- ❑ Radiation
- ❑ Energy

Phase-out substances

- Particularly dangerous metals
 - Mercury, cadmium and lead
 - Compounds with these chemicals

Bio-accumulation

- ❑ Chemical substance that is taken up significantly quicker in an organism than it is extracted.
- ❑ All bio-accumulating substances shall be considered dangerous.
- ❑ Lead and mercury are bio-accumulating

Mercury is dangerous

- ❑ Nervous system
- ❑ Heart and vascular diseases
- ❑ Immune defense
- ❑ Reproduction
- ❑ Kidney

International work

- Sweden worked for a phase-out in the EC
 - REACH
- Sweden worked for a phase-out in the UN
 - Johannesburg 2002

How much mercury?

- ❑ Between 20 and 60 tons
- ❑ 20 tons equals 10 million clinical thermometers
- ❑ More than 50 tons is classified a Seveso-establishment

Lead is dangerous

- ❑ Nervous system
- ❑ Brain damage
- ❑ Foetal damage
- ❑ Heart and vascular diseases

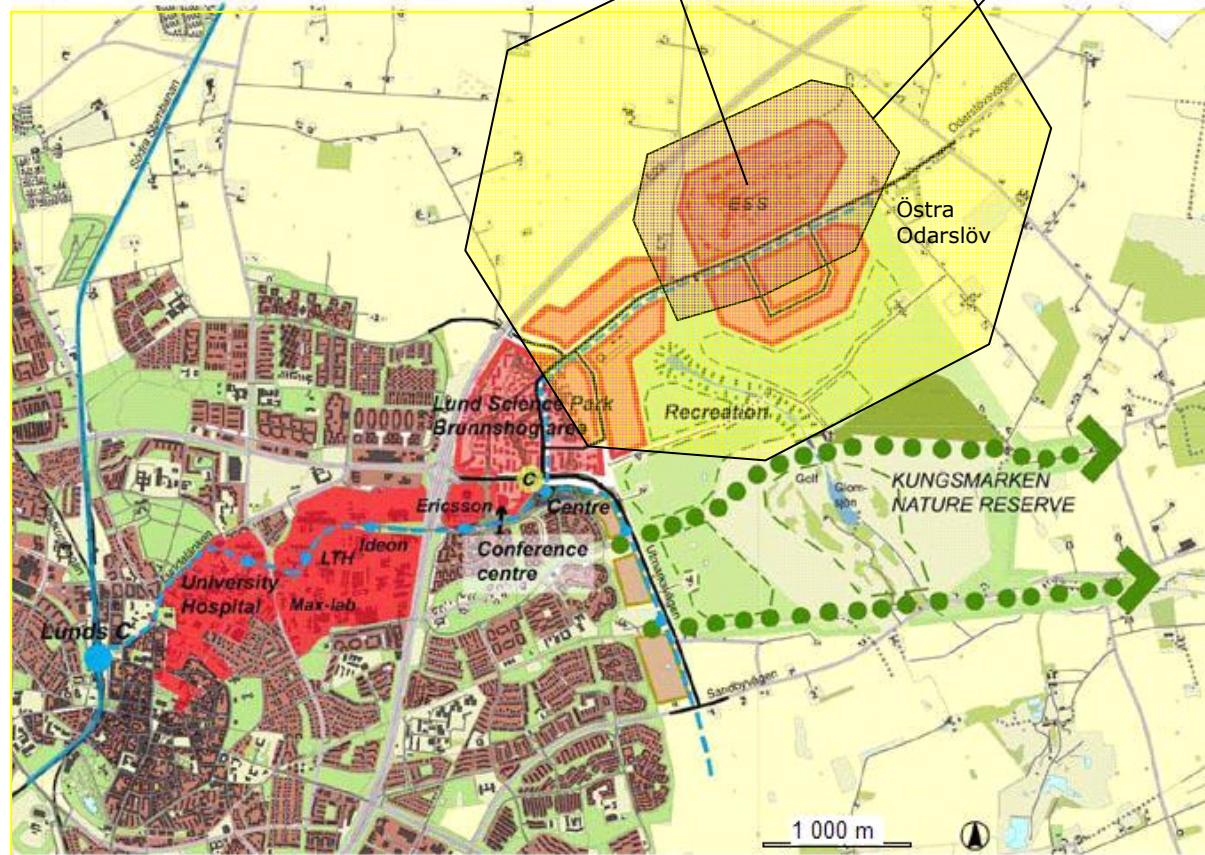
Land use

- ❑ 220 - 250 ha?
- ❑ SNS 1,4 km safety-zone (expansion?)
- ❑ Kungsmarken nature reserve
- ❑ Fertile land
- ❑ Dense population

Säkerhetszon?

ESS

Expansionszon



Radiation

- ❑ Terminal storage 3 000 years
- ❑ Radioactive iodine is formed
- ❑ Suggested construction gives to high radiation outside of the building

Energy use

- Power peak 60-150 MW
- Carbon-neutral?

Environmental legislation

- Environment (Miljöbalk)
- Radiation (Strålskyddslag)
- Town-planning (Plan- och bygglag)
They all demand environmental impact assessment (MKB)
- Government

Environmental impact assessment

- ❑ Alternatives shall be described
- ❑ Worst case scenario
- ❑ NGOs should take part
- ❑ Denmark should be invited to take part

What will an accident lead to?

- Hydrogen gas explosion
 - Radioactive cloud of mercury
 - Clearing extremely costly
 - Very long-term consequences
 - Could reach Denmark

Principle of substitution

- ❑ Swedish law – substitute dangerous substances with less dangerous
- ❑ Tungsten is less dangerous
- ❑ Used as a neutron source today

Independent trial?

- ❑ The Government has promised billions
- ❑ Lund municipality gives PR-money

Summary

- ❑ Mercury and lead is dangerous
- ❑ The land can be used better
- ❑ Radiation is to high
- ❑ Energy-demand i not sustainable