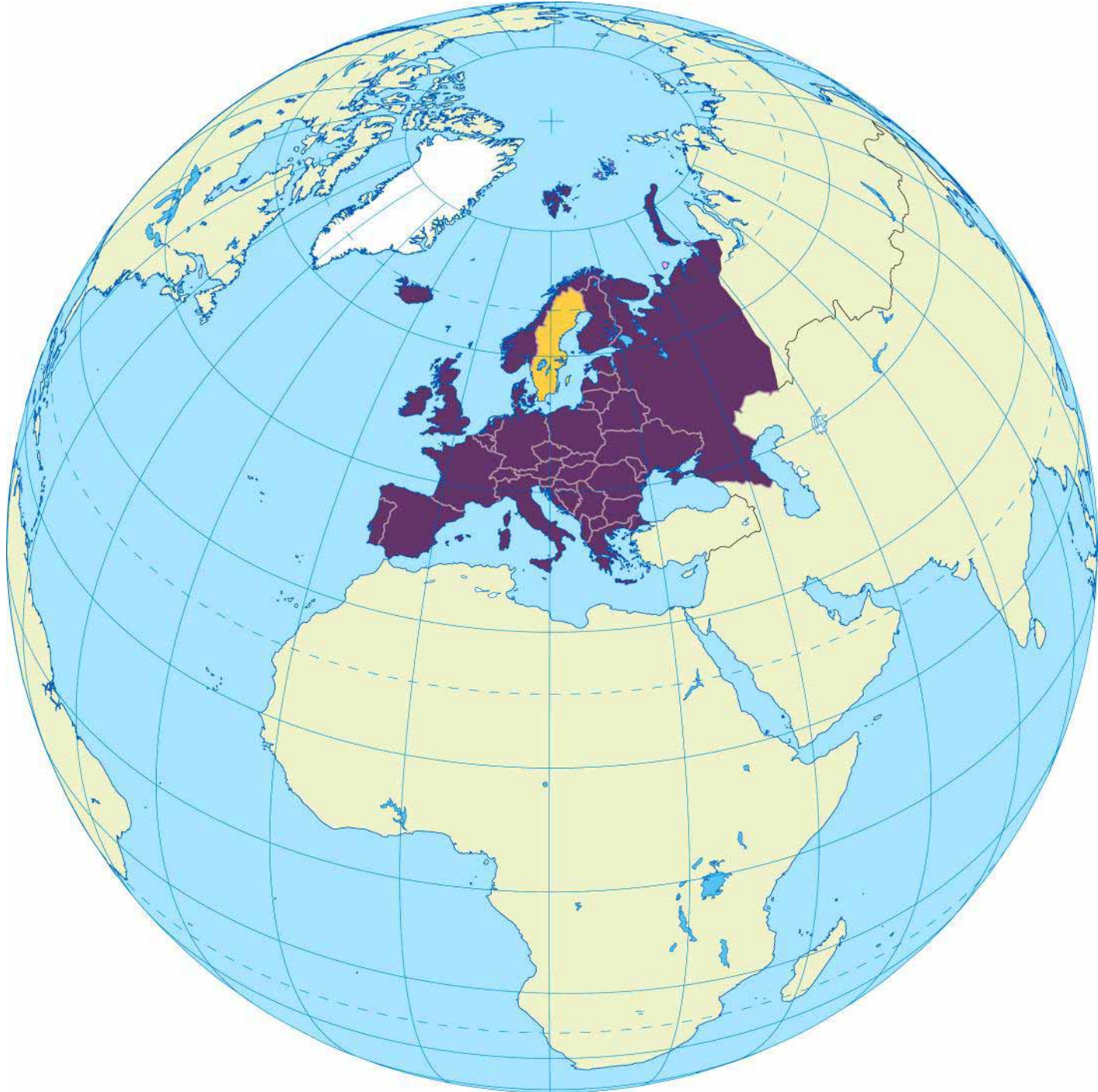


Reducing Environmental Impacts of Short Rotation Coppice (SRC) through Evidence-Based Integrated Decision Support Tools

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SLU, Sweden



SLU in Sweden

- Faculty of Forest Sciences
- Faculty of Natural Resources and Agricultural Sciences
- Faculty of Veterinary Medicine and Animal Science
- Faculty of Landscape Planning, Horticulture and Agricultural Science



What is SRC?



Mechanised planting with approx. 12 000 cuttings/ha









Harvest in winter after 3 years

Chips direct to the boiler of combined heat and power plant



SRC willow in Sweden

- Ca. 15 000 ha are currently cultivated commercially in Sweden for energy**
- Predictions for increase to 30 000 ha in the near future (Ministry of Agriculture, 2006)**
- Grown on agricultural land**
- Double-row system, fertilisation, weed control**
- Average production: 6-10 t DM/ha/yr**
- Almost 85% of all SRC applied with sludge**



Photo: Ragnsells Avfallsbehandling AB

Short Rotation
Willow Coppice
fields in Sweden

Uppsala
SLU

STEM
SLU
Agrobränsle

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If there will be a **rapid increase** of SRC (as projected), what would be the **impact on the environment?**

- We need to evaluate the implications (**positive and negative**) to environmental parameters (**soil, water, biodiversity, landscape**) in **micro-** (near the field) and **macro-** (regional) scale (further use by **decision-makers**)

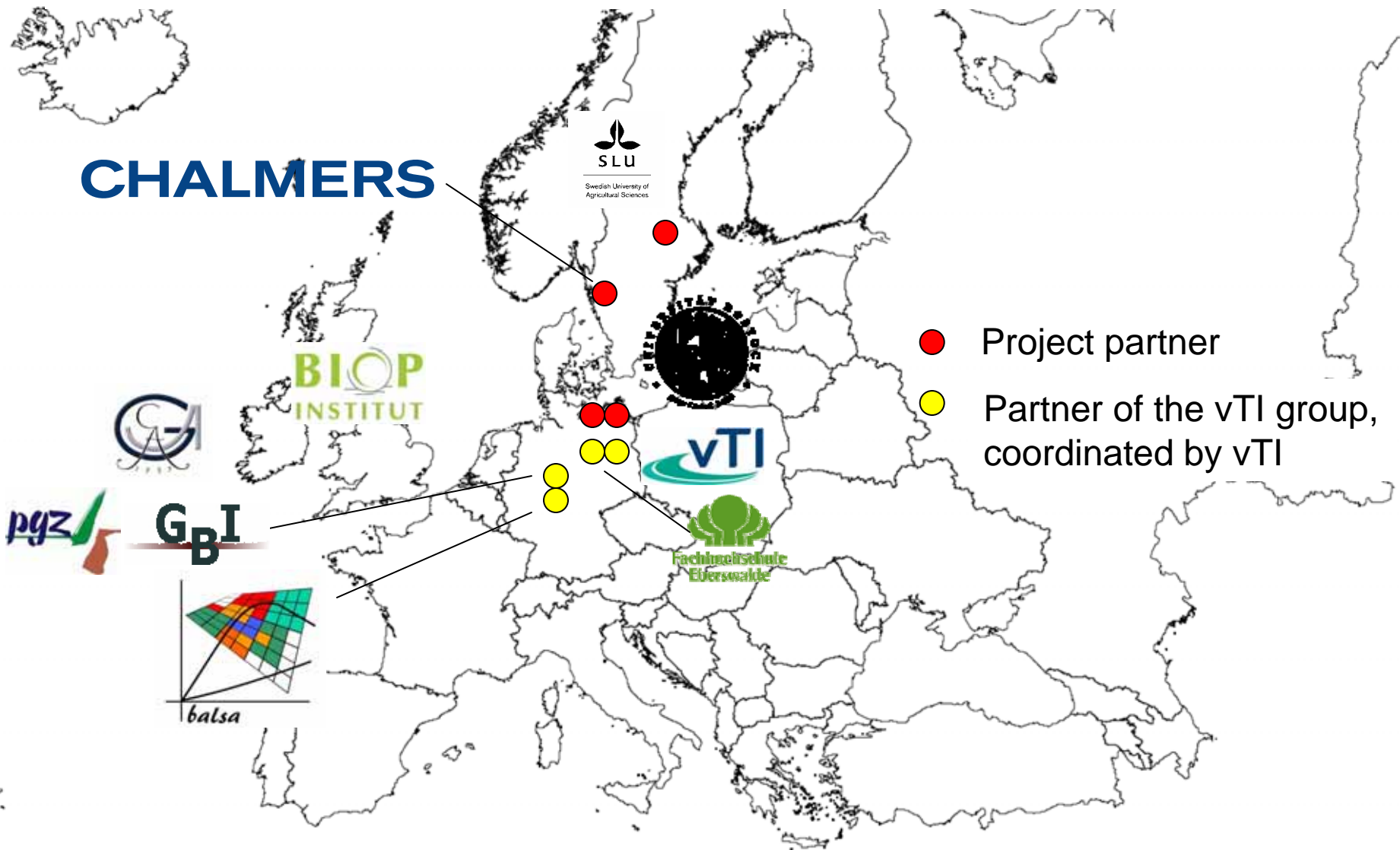
RATING-SRC (“Reducing environmental impacts of SRC through evidence-based integrated decision support tools”)

- ERA-NET Bioenergy Joint Call SRC focus area 3:
Environmental aspects of SRC
- Duration: **36 months** (2/9/2008–31/8/2011)
- 5 partners from 2 ERA-NET Bioenergy countries
(**Sweden** and **Germany**)

Project's general objective

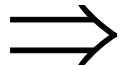
- to produce **scientific evidence** in order to create appropriate **decision-making tools** to **optimise impacts** of SRC on the environment

Project consortium



How?

- **Identification** → **Quantification** → **Evaluation** of potential environmental impacts on soil, water, biodiversity, landscape (positive or negative)



- **Recommendations** to optimise SRC impact
- **Filter mapping** of appropriate SRC locations



Photo: Nils-Erik Nordh



Photo: Nils-Erik Nordh



Photo: Norbert Lamersdorf





Photo: Ragnsells Avfallsbehandling AB





Photo: Nils-Erik Nordh





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WP 1 - Identifying the baseline: current knowledge of SRC impacts

- 1.1. Identification of decision-making and policy context for SRC in the ERA-Net countries
- 1.2. Analysis of perceptions related to SRC impact on landscape
- 1.3. Identification of potential effects of SRC cultivation on biodiversity (including effects of wood-ash recycling)
- 1.4. Identification of potential effects of SRC concerning soil aspects (including effects of wood-ash recycling)
- 1.5. Identification of potential effects of SRC concerning water issues

Phase 1:
Current
status, gaps
in knowledge

**WP 2 -
Assessment of
SRC impact on
biodiversity**

- 2.1. Synthesis of research results from biodiversity projects performed by consortium members
- 2.2. Impact of SRC on soil microbial diversity
- 2.3. Impact of wood-ash/sludge recycling on plant diversity in SRC

**WP 3 -
Assessment of
SRC impact on
soil issues**

- 3.1. Impact of SRC on soil physical characteristics and composition of SOM
- 3.2. Impact of SRC on soil quality in terms of heavy metals

**WP 4 -
Assessment of
SRC impact on
water issues**

- 4.1. Impact of SRC on water budgets
- 4.2. Assessment of SRC impact on water quality

Phase 2:
Assessment

Field work

WP 5 - Evaluation of SRC impact on the environment and development of support tools for decision-making

- 5.1. Development of a sustainability framework appropriate for SRC establishment
- 5.2. Evaluation of SRC impact on the environment
- 5.3. Recommendations to increase the positive and mitigate the negative impacts of SRC on the environment
- 5.4. Filter mapping of appropriate SRC locations in case study areas
- 5.5. Dissemination of project results

Phase 3:
Evaluation
Recommendations
Dissemination

“Unique” features of RATING-SRC

- SRC with both willow and poplar
- Chronosequence, but priority to “old” SRC fields (10-15 years)
- Set of common investigation plots for impact of SRC on soil, water and biodiversity
- Development of sustainability framework appropriate for SRC establishment
- Integrated evaluation of impact on all environmental parameters

**Thank you very much for
your attention!**

