4TU.Energy Symposium

Energy Transition in Horticulture

3rd April 2025

4TU.Energy

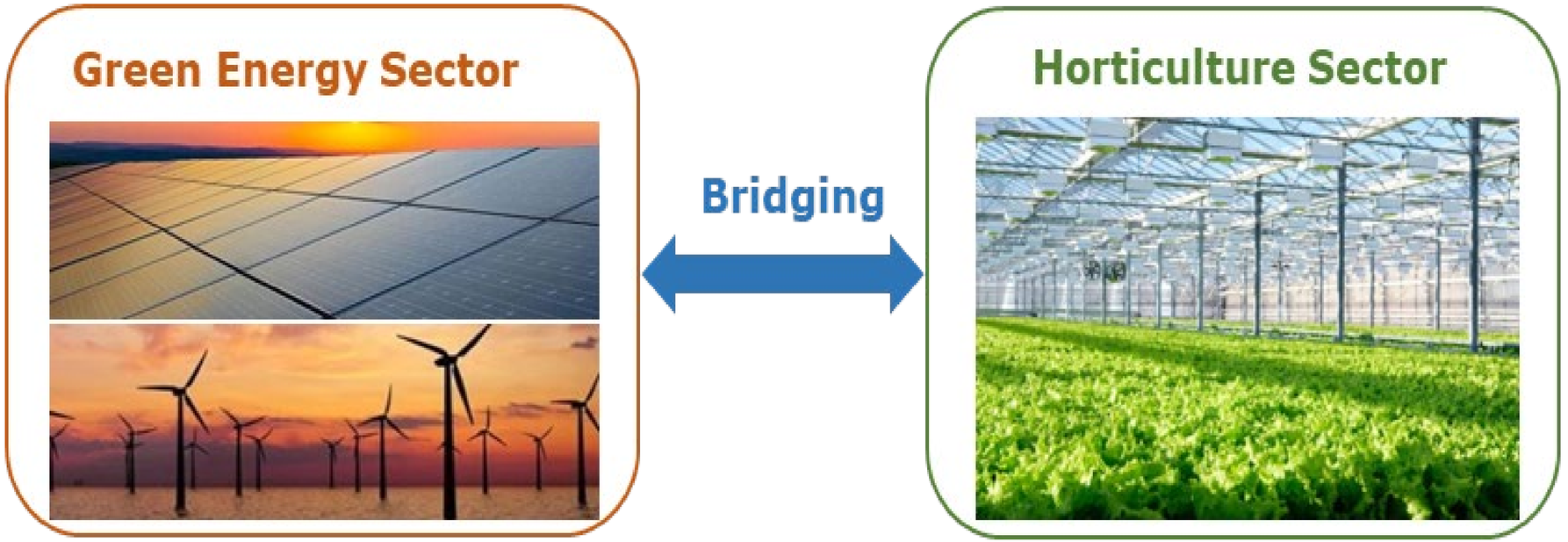
WAGENINGEN
UNIVERSITY & RESEARCH

Challenges

- ☞High Energy Cost in Greenhouses, Vertical Farming
- ☞Dependency on Fossil Fuels
- ☞Achieving Carbon Neutrality by 2050

Why 4TU.Energy Symposium?

- Bridging the Green Energy and Horticulture Sectors



Why 4TU.Energy Symposium?

☞ Creating synergy among 4TU, academia, industry, and stakeholders

WAGENINGEN UNIVERSITY & RESEARCH

UNIVERSITY OF TWENTE.

Industry

4TU.Energy

TU Delft

Delft University of Technology

TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY

Participants

65

17

48

WAGENINGEN UNIVERSITY & RESEARCH 33

TU Delft 3
Delft University of Technology

TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY 2

UNIVERSITY OF TWENTE. 2

18
Industry

CREATING A CLIMATE FOR GROWTH PRIVA

VAN DER HOEVEN Horticultural projects

Witteveen + Bos

heliospectra

Agriculture

VOLTIRIS

achmea

svensson

CIIAE
Centro Ibérico de Investigación en Almacenamiento Energético

Glastuinbouw Nederland
morgen groeit vandaag

world horti center

Hippotainer

IUNU

Day I – Expert Talks & Discussions

Plenary Session Keynote Speech & Panel Discussion

Energy Transition in Greenhouses: Challenges & Perspectives -**Dr. Silke Hemming** (WUR)

Net-Zero Energy Management in Building & Greenhouse Environments - **Dr. Jan Westra** (Priva, B.V.)

Agrivoltaics: Multifunctional Solar Energy in Cultural Landscapes - **Dr. Dirk Oudes** (WUR)

Embracing Hydrogen for a Greener Future - **Dr. Canan Acar** (Twente University)

Day I – Interactive Sessions & Networking

Poster Session

Breakroom Discussions

Topic 1: *Address practical challenges in Energy Transition within Horticulture*

Topic 2: *Envision Future Post-Energy Transition scenarios*

Topic 3: *Identify opportunities for Energy Transition within horticulture*

Campus Tour: *B-MEX B.V.*

Day II – Excursion & Industry Insights

Excursion

To net-zero high-tech greenhouse at Bleiswijk (WUR): operation & energy-efficient practices

Industry & Stakeholder Session

Control systems for energy-efficient greenhouses - **Dr. Theo Rieswijk** (Priva, B.V.)

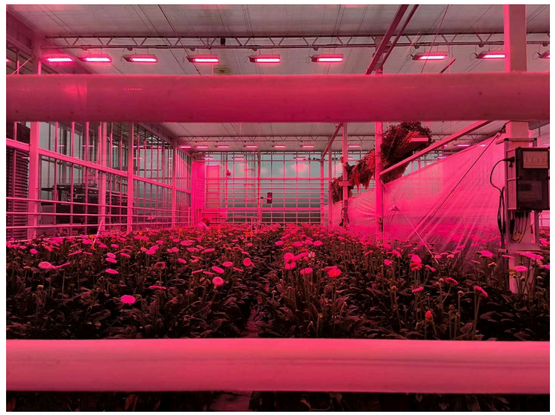
Revolutionizing Greenhouse Energy with Spectral Filtering PV - **Mr. Kaz Vermeer** *(Voltiris, B.V.)*

Aquifer Thermal Energy Storage & Integration for seasonal heat utilization – **Mr. Tim Koning** (Division Q)

Other speakers: Ms. Liesanne Wieleman (Glastuinbouw, the Nederland), **Dr. Lou Sha** (Coordinator, 4TU.Energy, the Netherland)

Closing Remarks

Dr. Congcong Sun (WUR)



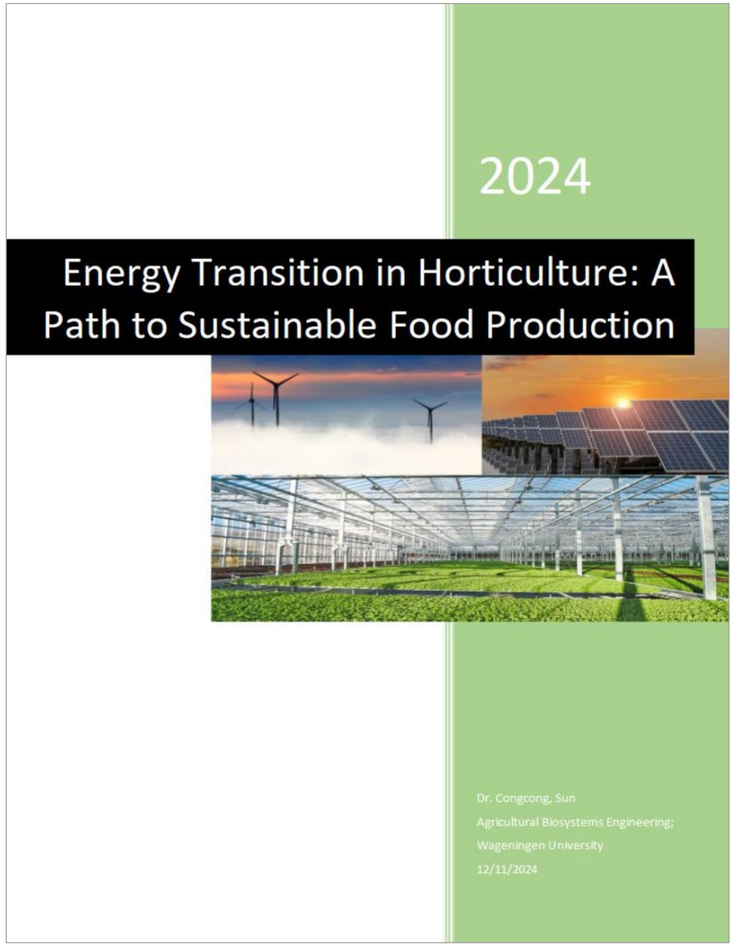
Insights & Future Directions

White Paper Report – Key Themes

- Challenges in Energy Transition
- The Role of Horticulture
- Maintaining Global Competitiveness

Build on the Momentum:

- ✓ From insight to action
- ✓ Cross-sector engagement
- ✓ Scalability & global impact



Moving Forward

Ongoing Projects & Collaborations

- Established **Energy Transition in Horticulture Consortium**
- A second-stage NWO KIC and FFAR **joint proposal -** *Greenhouses in Transitions*, the Netherland & the US involved.
- NWO OTP **proposal** submission,

  partnership with **4TU.Energy, Priva, WUR Greenhouse Horticulture, JPFA (Japan Plant Factory Association), and Glastuinbouw Nederlands.**
- On going PhD research in Renewable Energy & Vertical Farming
- A visit to Universitat Politecnica de Valencis (Spain), explore collaborations
- …

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Organization Team

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Associate Professor, TU/e

Prof. Eldert van Henten
ABE Group, WUR

Funded by 4TU.Energy

- **Knowledge centre** on topic of **Energy** of TUDelft, TU/e, Twente and WUR.
- Aims to **accelerate transition** to a **carbon-neutral society** by uniting its energy community.
- **Key stakeholder** of this **Symposium** on Energy Transition in Horticulture.

Dr. Sha Lou
4TU.Energy Coordinator