Smart Energy Hubs Conference

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Smart Energy Hubs
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Smart Energy Hubs Conference 2025

Smart Energy in Action: A Look Back at the Smart Energy Hubs Conference 2025

On November 12, 2025, more than 200 professionals, researchers, policymakers, and innovators gathered at the U-Park Hotel on the University of Twente campus for the second edition of the Smart Energy Hubs Conference. The event focused on accelerating the energy transition through smart, integrated energy systems.

A Platform for Collaboration and Innovation
The conference offered a rich program of parallel sessions, panel discussions, and project presentations. Topics such as grid congestion, hydrogen integration, digital twins, smart charging, regularity and policy framework, cybersecurity in energy hubs, learning community and local energy markets were extensively covered. Participants shared practical experiences and explored how Smart Energy Hubs can contribute to robust, decarbonized energy systems.

Keynote: Professor Henrik Lund
One of the highlights of the day was the keynote by Professor Henrik Lund from Aalborg University in Denmark. Lund, internationally recognized as a pioneer in sustainable energy systems, presented his vision on the role of Smart Energy Systems in achieving a fully CO_2-neutral society. He compared Denmark's challenges with those of the Netherlands, noting they are quite similar. His call to action: learn from each other.

In his lecture, Lund emphasized the importance of an integrated approach—smartly connecting electricity, heat, mobility, and fuels—as the foundation for a future-proof energy system. He demonstrated how digital technologies, such as Energy Management Systems and AI-driven optimization, are crucial to ensuring flexibility and reliability. Lund urged for a holistic approach where technology, policy, and local communities work together. While electrification is the current focus, other energy carriers must not be overlooked. The real challenge lies in aligning energy demand with supply.

"Smart Energy Systems are not a distant dream but a necessary reality. Only through collaboration and systems thinking can we accelerate the energy transition," said Lund.

Panel Discussion: Energy Hubs – From Vision to Reality
The central question during the Smart Energy Hubs Conference was: How do we turn energy hubs into a robust and scalable solution for our energy system? Under the moderation of Marjolein Bot, experts from government, grid operators, and industry discussed this topic.

From Pioneering to Formalizing
The era of experimentation seems over. Panelists stressed that the Netherlands can no longer remain in a pioneering phase regarding legislation. Clear frameworks and a holistic approach are needed. "We must actively involve lawmakers and adapt regulations," was the message. The ACM code, expected by the end of this year, will resolve some liability issues, but learning will continue.

Collaboration and Urgency
Should all companies on a business park be required to join an energy hub? For now, no, was the consensus. "We are still in a learning phase," said Marc Leeuw of Oost NL. However, urgency is crucial: without pressure, there is no movement. New business parks must consider hubs from the outset. Grid operators play a key role, but tensions remain: do they accelerate or slow down deployment? "We acknowledge the slow pace, but we must prioritize," said Jinny Moe Soe Let of

Netbeheer Nederland.

From Pilots to Scaling Up
The discussion revealed the 'pilot paradox': scaling up is difficult, even though the market is ready. "If we don't scale now, companies will lose trust," warned Marc. Alexander Savelkoul of Enexis emphasized the need for internal automation and cultural change, which takes time. Success stories can help build trust. An energy hub must be not only technically but also financially attractive. Currently, a solid business case is missing. Possible solutions? Public-private financing and a guarantee fund. The ministry expects the business case to improve over time, but action is needed now.

Rethinking the Energy System
Energy hubs solve local problems but require a new system design. Roles are shifting, and collaboration is more important than ever. Grid congestion is the main driver now, but there are other reasons to change—and we must actively seek them.

Technology and Culture
Beyond technical challenges, a social transition is needed. Working in silos must end; integration of electricity, heat, hydrogen, and data is crucial. "We must create success together" was the recurring theme.

Key Takeaways from the Panel:
- Accelerate the application of GTO
- Adapt legislation so that system changes don't require constant legal revisions
- Develop a business case
- Focus on an integrated energy system
- Create shared success stories

Practical Examples and Regional Pilots – The Workshops

Various projects and studies were presented during the conference. Legal and organizational issues, such as contract forms and governance, were also addressed. Summaries of participating projects can be found in the 'book of abstracts' on the website.

Content Highlights
The conference covered current topics and innovative applications:
- **Grid congestion and regional energy planning**: Cases like Beatrixhaven in Maastricht and Voorst business park in Zwolle showed how area-based approaches contribute to smart grid development.
- **Hydrogen integration and sector coupling**: Sessions highlighted how hydrogen and thermal residual streams are smartly linked to existing infrastructures.
- **Digital tools and AI**: Researchers presented applications of digital twins and AI for optimizing energy hubs.
- **Community-driven hubs**: Local energy markets and citizen initiatives were discussed as drivers of sustainable energy solutions.
- **Smart charging and district heating**: Innovations in smart charging and urban heating networks were explored as key components of integrated hubs.
- **Financing hubs:** Concrete examples illustrated what is needed to develop a strong business case.

Building the future together

Robert-Niels van Droffelaar of Oost NL concluded: "*We must keep learning and implementing together, while also seeking robust long-term solutions. Action is needed on legal, economic, and organizational fronts to ensure energy hubs become a permanent part of the energy system*!"

Yashar Hajimolana (UT Twente) and Richard van Leeuwen (Saxion University of Applied Sciences) presented awards for the best presenters. Lucas van Cappellen and Aditya Pappu are the lucky winners. The event ended with a networking reception. The atmosphere was energetic, and participants left Enschede with new insights, contacts, and concrete ideas for collaboration. See you next year! The date will be announced soon.