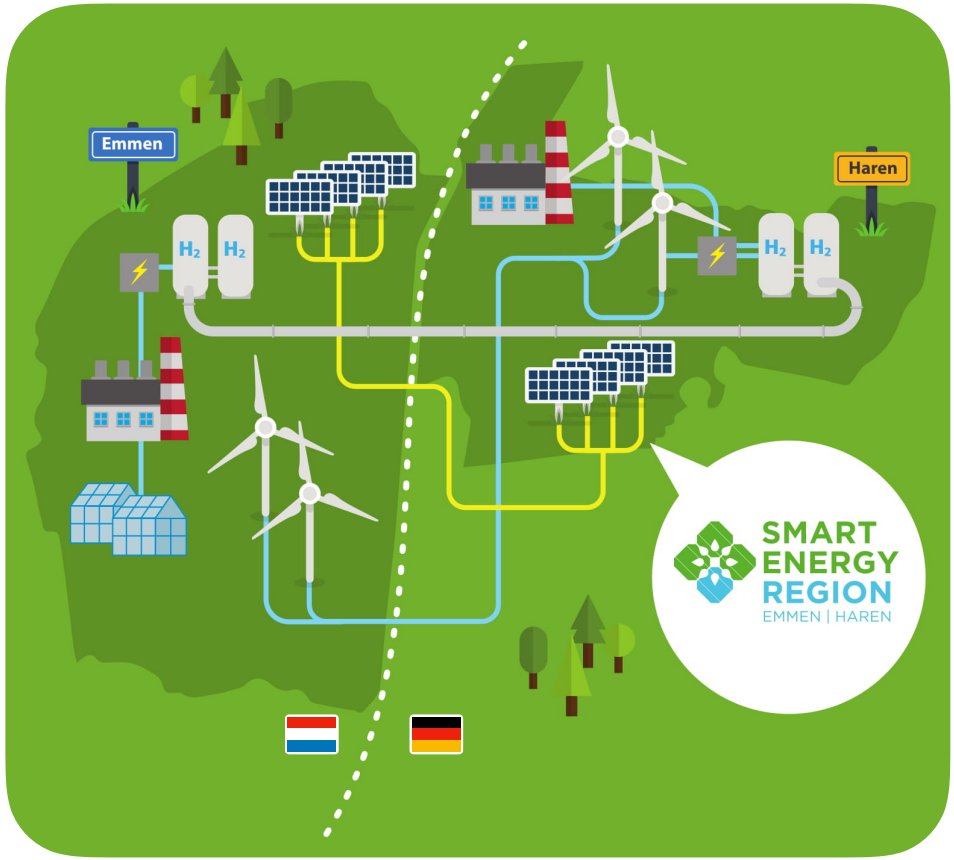
# SEREH

**The Smart Energy Region of Emmen-Haren**
With the Smart Energy Region, the municipalities of Emmen and Stadt Haren (Ems) have developed the energy system of the future by means of smart links between the regional energy systems and exchanging energy across the border. We will balance the demand and supply of sustainable energy regionally, decentrally and across the border.

When, within the smart energy region, more wind and solar energy is produced than is used, the surplus can be stored in batteries or converted into hydrogen. There are opportunities for this within the region, both in Emmen and in Haren (Ems). The regional surplus could also be taken up by the industry sector in Emmen or by companies in Haren. The Physical exchange of energy between the Netherlands and Germany can also be created at the medium voltage level by connecting the network connections of wind farm Fehndorf-Lindloh (D) and Zwartenbergerweg (NL) to each other. Exchange of hydrogen is possible by making the existing pipes of the NAM suitable for hydrogen distribution. This will allow the eventual cross-border system integration to be realised as the basis for a regional energy market.

**Effects**
The intended effects of the cross-border connections of the energy systems are:
- Lower system costs within the Smart Energy Region and therefore a lower energy bill;
- The proceeds of sustainable energy will remain available within the region as much as possible;
- Speeding up of energy transition through cross-border regional cooperation;
- More efficient production of sustainable energy.

**European regulations**
The SEREH project is ground-breaking because it is ahead of the implementation of European regulation about the internal energy market. The SEREH project can therefore be a pilot for implementation of various components of the Clean Energy Package.




SMART ENERGY REGION
EMMEN | HAREN

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**SEREH Interreg Germany-Netherlands project**
During the first phase of the project, with the support of the Interreg Germany-Netherlands program, an economic, technical and legal framework will be developed, within which the Smart Energy Region of Emmen-Haren can be accomplished. In addition, a computer simulation will be created with which concepts can be calculated and tested before realisation.

**Results of the first phase**
- A concept for the regional energy market with which the cross-border exchange of sustainable energy will lead to economic proceeds;
- An overview of technical and infrastructural requirements for cross-border exchange of sustainable energy;
- A legal framework with which electricity and hydrogen can be exchanged across the border;
- A computer model with which the feasibility of various concepts can be tested for the Smart Energy Region;
- Involvement of the stakeholders that are required for the realisation of the Smart Energy Region Emmen-Haren;
- Acquisition of political and governmental platform for the cross-border and regional exchange of sustainable energy.

**Partners**
The municipalities of Emmen, Stadt Haren (Ems), Hochschule Osnabrück, the University of Twente, European Centre of Energy Law (the University of Groningen), Agrowea and the NAM.
Associated partners:  Westnetz, Raedthuys and Enercon.

**Duration**
From March 2018 to August 2021

**Budget**
€ 1,488,290.93

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Financiers: INTERREG Deutschland Nederland, Europäische Union / European Union, provincie Drenthe, Ministerie van Economische Zaken en Klimaat, Niedersächsisches Ministerium für Bundes- und Europaangelegenheiten und Regionale Entwicklung

Partners: Gemeente Emmen, HAREN (EMS), university of groningen faculty of law groningen centre of energy law, UNIVERSITY OF TWENTE., OCHSCHULE OSNABRÜCK UNIVERSITY OF APPLIED SCIENCES, NAM, agrowea WIND IST UNSER ANTRIEB