WG 3: energy storage
Increasing fluctuation in energy production on the one hand and volatile demand on the other cause balancing needs. Energy storage systems can handle that challenge.

Our main topics in this context are:
- storage systems for the electricity and the heat sector
- system stability and system flexibility
- long term storage of regenerative electricity

WG 4: gas infrastructure
Gas supply as of key importance for energy transition:
The gas and storage infrastructure have to be adjusted and further developed to secure energy supply. In the same time gas infrastructure is the backbone for sector coupling.

The connection of electricity from RES with the heat, mobility and industry sector offer vast possibilities of value creation.

Therefore, we focus on the following topics:
- gas infrastructure with focus on grid integration of new CHP- and Power-to-Gas-facilities
- the Grid Development Plan Gas and Gas storage systems
- L-H-Gas-switch
- Power-to-X / Power-to-Gas technologies
- synchronisation and optimization of electricity and heat grids by integration of the gas infrastructure
Grids and Storage Network NRW

EnergyAgency.NRW
The work of the EnergyAgency.NRW is organised into subject divisions and covers all the relevant energy technologies. Within the EnergyAgency.NRW the Grids and Storage Network covers all questions concerning energy infrastructure and energy storage.

Grid expansion, optimisation & flexibilization
In the context of the „energy transition“, NRW as Germany’s most important energy state, holds a key position within energy infrastructure: new RE facilities and storage systems need to be regionally integrated within the distribution grids. Transport requirements via the transmission grid need to be coordinated on national and international scale.

Transparency & partizipation
The Grids and Storage Network integrates actors from all areas of society into its various processes. The input is mainly generated within working groups (WG), which are „transmission grids“, „distribution grids“, „storage“ and „gas infrastructure“.

The working groups

WG 1: transmission grids
In the future, transmission grids will increasingly be required to transport wind energy from the north to the south of Germany.

Our working group covers the following main topics:
- technologies and concepts for future transmission grids such as grid supporting application of storage systems and sector coupling technologies
- demand-based adjustments, expansion and connection of electricity transmission grids
- Network Development Plan and Scenario Framework
- congestion management
- synchronisation and optimization of electricity and heat grids by integration of the gas infrastructure

WG 2: distribution grids
Development scenarios show, that the build-up of RE facilities – especially wind energy and PV – will mainly take place on the distribution grid level.

Therefore, we cover the following topics:
- grid connection and system integration of RE-facilities and electromobility
- expansion and transformation of distribution grids
- operation of smart grids
- grid stability and cyber security
- grid supporting application of storage systems and sector linking technologies
- synchronisation and optimization of electricity and heat grids by integration of the gas infrastructure

Our tasks
Our networking creates synergies:
- we support companies with technical competence and innovative projects
- we generate a close exchange between economy, science and public institutions
- we link companies and institutions along the value chain
- we publish subject-specific brochures, newsletter and actual information on our homepage
- we organise conferences and workshops with genuine added-value for our network partners – especially SME