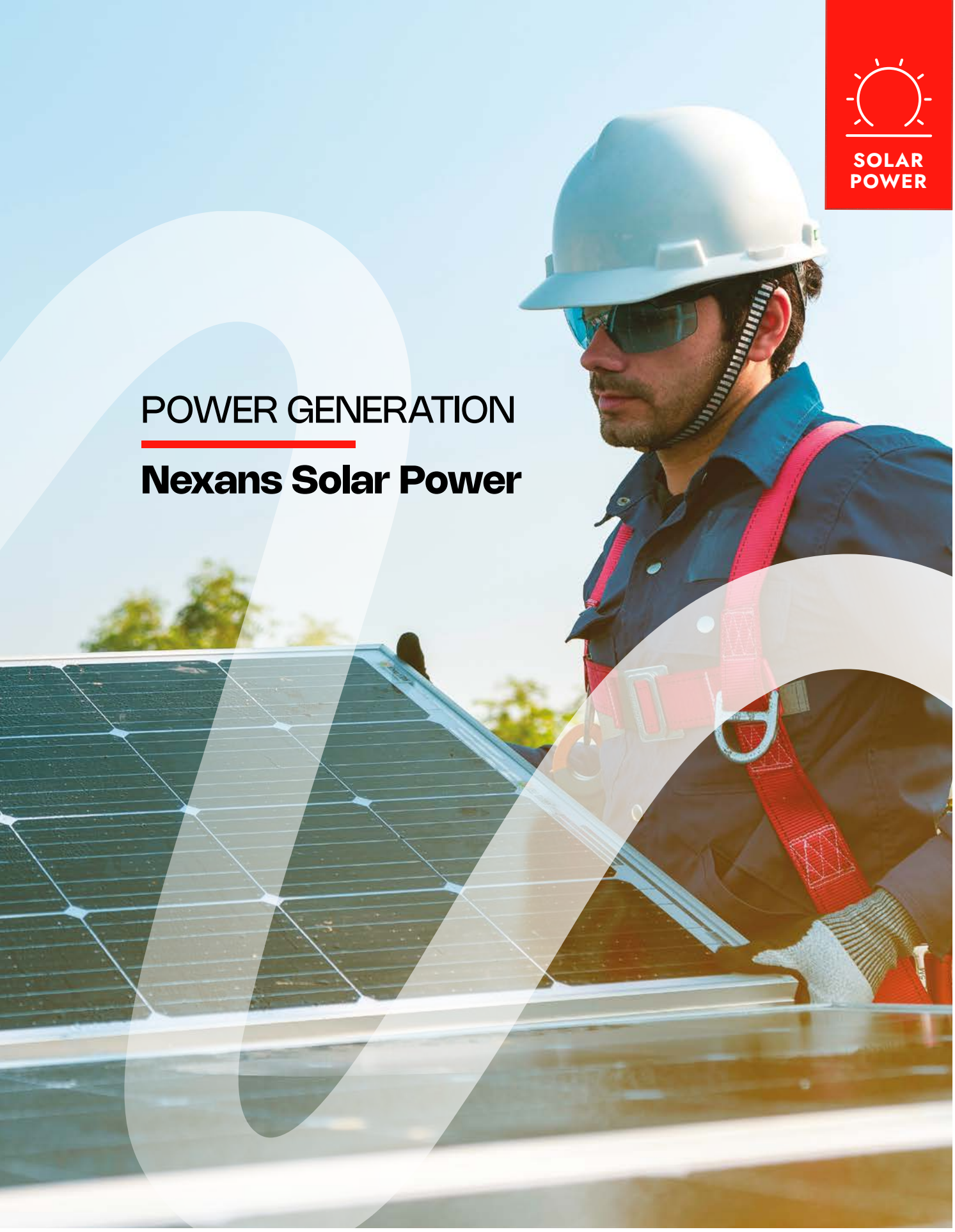


POWER GENERATION

Nexans Solar Power

Log in
To the energy of the future

Nexans
ELECTRIFY THE FUTURE

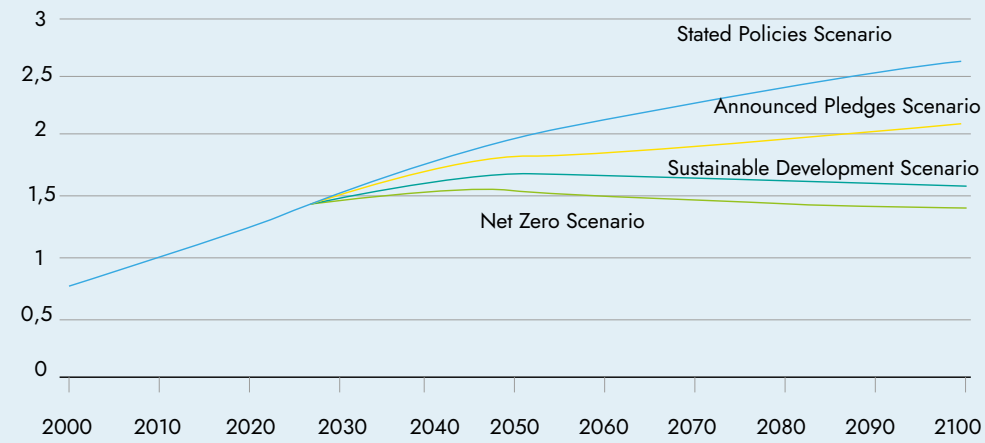
Nexans Solar Power

SOLAR POWER

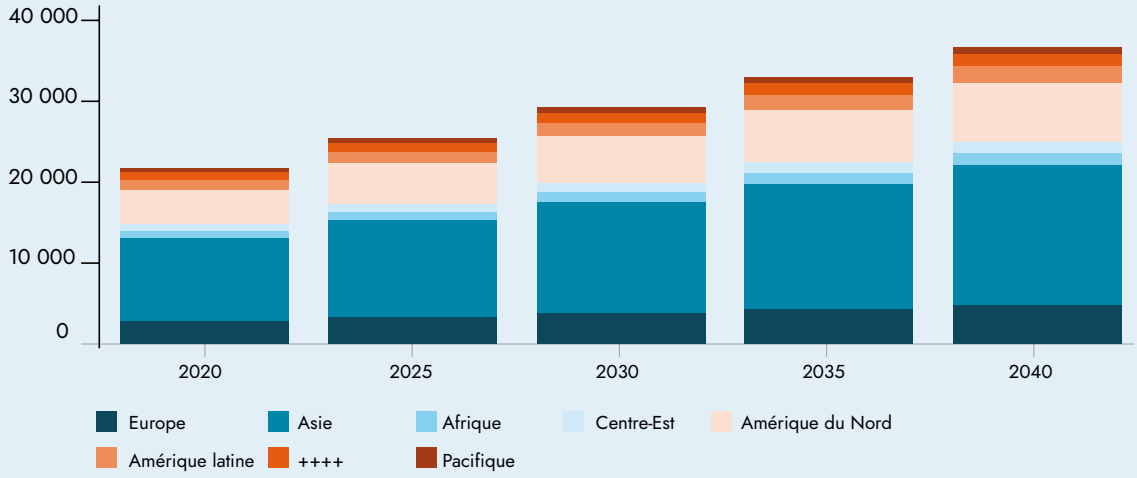
Globally Solar photovoltaic energy is growing rapidly, as is wind energy. However, to achieve "Net-Zero" emissions by 2050, it is necessary to accelerate the pace. This involves not only the multiplication of large ground-based solar plants, but also the installation of solar panels on the roofs of parking lots, commercial and industrial buildings, as well as individual homes. It is necessary to increase our current performance in photovoltaic solar energy by seven times over the next ten years to meet rapidly growing demand.

Challenges on Renewable

Limitation objective
of the temperature rise **at +1.5°C**

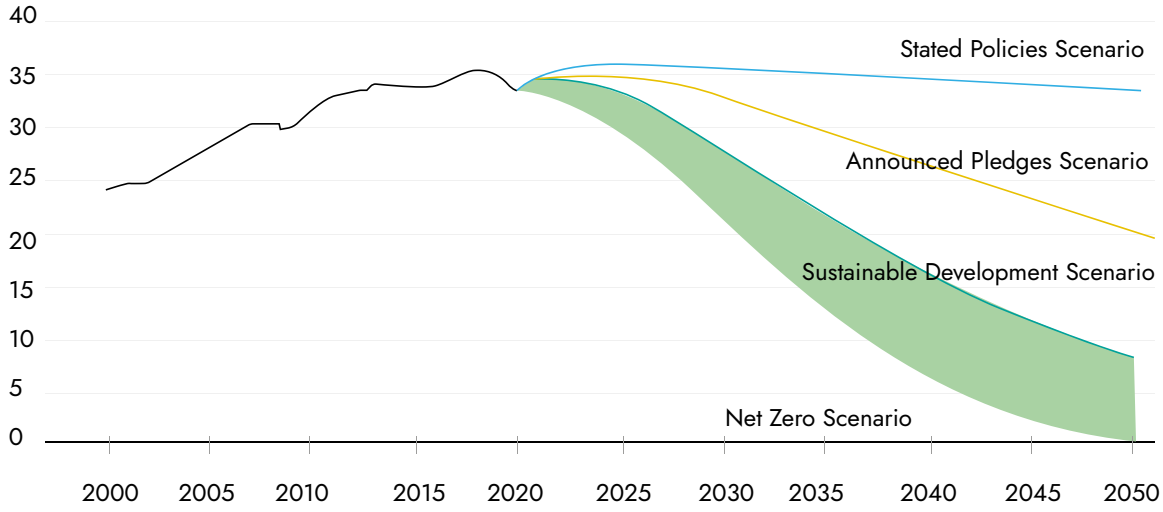


Continued growth of
electricity demand
+ 15000TWh 2020 - 2040



Source: IEA, ENERDATA

Imperatives of decarbonization



Source: IEA, ENERDATA

And Nexans MOROCCO

Nexans Morocco is the partner of choice to support and accelerate the realization of these projects through its value proposition.

Design

Optimiser et sécuriser la performance des installations grâce à l'expertise ingénierie de Nexans.

- Optimization of network connection.
- Optimization of the farm's electrical network.
- Knowledge of network operators.
- Proposal of a basic diagram or comparison between the existing diagram and the optimized diagram.
- Selection of optimization criteria: losses, CAPEX.

Supply

Create reliable and secure cabling and network connections with Nexans cables and accessories.

- PV DC solar cable.
- AC/DC solar cable.
- HTA & HTB cable.
- Bare copper.
- MT accessories.

Secure the performance and availability of critical equipment.

- Solar & power transformers.
- Prefabricated cells & substations.
- Inverters.

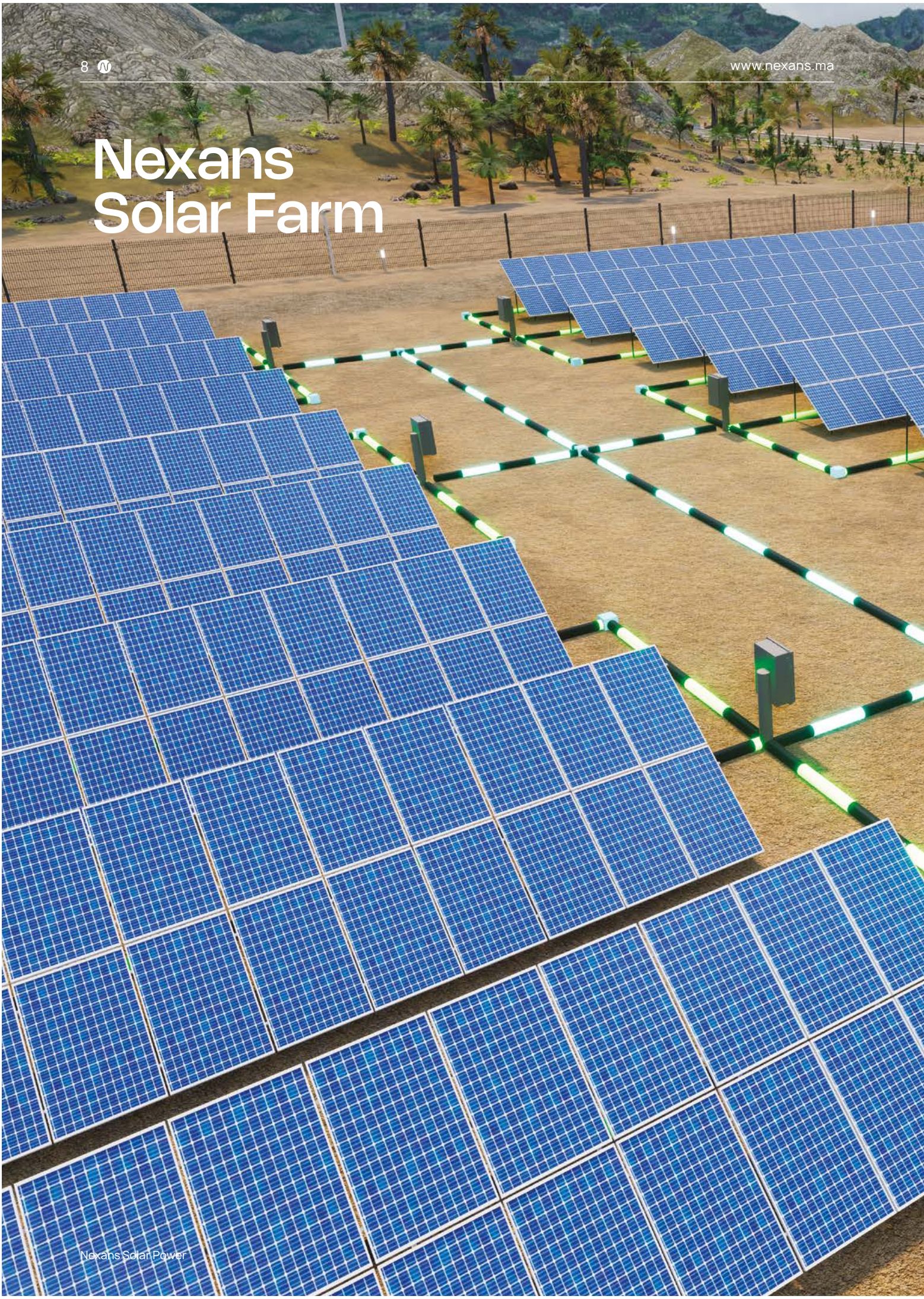
Integrated conversion and transformation.

Operation and maintenance

Guarantee smooth execution of projects until commissioning thanks to Nexans services.

- Reduction in installation costs and duration with digital services and connected objects.
- Hedging of the metal part and reservation of production capacity.
- Solar farm monitoring system.
- Weather station for production forecasts.
- Maintenance and reparation contracts.
- Predictive maintenance and technical recommendations thanks to digital solutions.

Nexans Solar Farm



Nexans Solar Power


Nexans Solar Power
Solar PV System
Nexans

Example of a solar installation

Nexans MV Cable

Nexans Monitoring

Transformateur de puissance

Nexans Solar Station

- *Nexans solar Transformer*
- *GIS cell*
- *Inverter or TGBT*

Nexans Cables
PV DC Solar Cable

Use

Used for interconnecting solar panels and linking them to a combiner box or inverter. Rated voltage 1.5/1.5kV DC – 1/1kV AC. PV DC cables are designed to meet the requirements of international solar farm standards. They are dedicated to the direct current (DC) part of photovoltaic systems with a nominal voltage (DC) of 1.5 kV and a maximum voltage (DC) of 1.8 kV.

Advantages & benefits

- Resistance to extreme conditions (temperature and UV).
- Water immersion resistance (AD8).
- Simplified installation: flexibility, ease of stripping.
- Reinforced fire resistance.
- Halogen-free sheath.

Technical informations

- Normal maximum conductor temperature: 90°C for -40° C hours up to 90°C.
- Lifespan under normal conditions of use: 30 to 40 years (according to the Arrhenius diagram).

Nexans
PV AC DC Cable

Use

Used for the interconnection of string inverters to the main voltage board or from combiner boxes to the central inverter.
Rated voltage is 1.5/1.5kV. Insulation level at 1.8/3 (3.6)kV according to IEC60502-1.

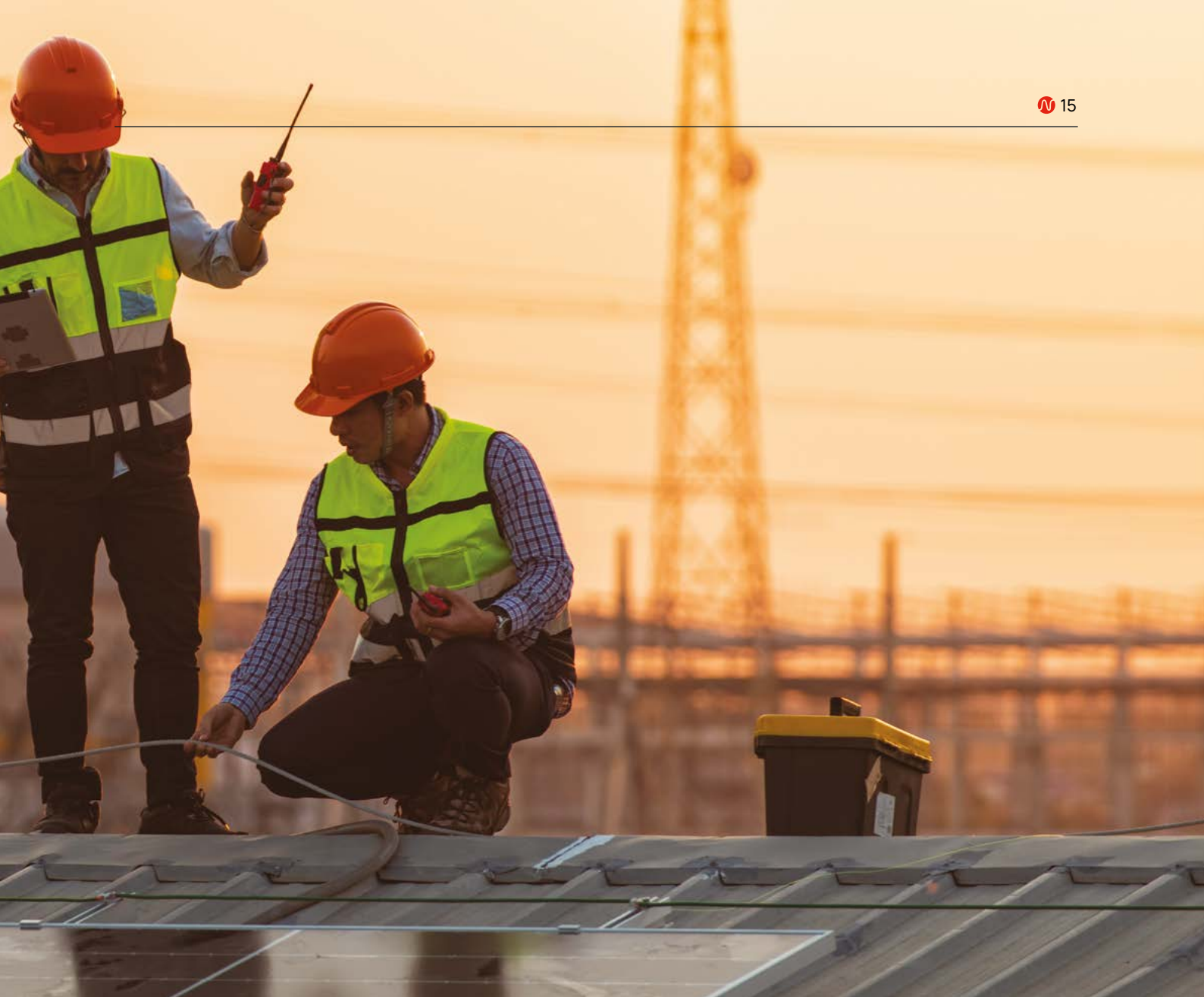
Advantages & benefits

- Reinforced insulation to prevent the anti-PID effect of certain inverters which can significantly increase voltage to earth. This phenomenon can induce partial discharges on conventional cables.
- Halogen-free sheath.
- Resistance to extreme conditions (temperatures and UV).
- Suitable for buried or open air installation.

Technical informations

- Cable designed according to IEC 60502-1 at insulation level : 1.8/3 (3.6)kV.
- UV-resistant halogen-free sheath (ST7).

Nexans Solar Power



Nexans
MV Cable

Use

Used for the interconnection of the solar station (Nexans solar station) to the evacuation station. Rated voltage 15/25kV AC or 18/30kV AC. Nexans MV cable is designed to meet the requirements of international MV medium voltage public distribution standards.
Its manufacturing technology allows it to be installed without additional mechanical protection. It can be made up of 1 or 3 phase conductors. The seal is ensured by a swelling powder.

Nexans Solar Station (Centrale)

Use

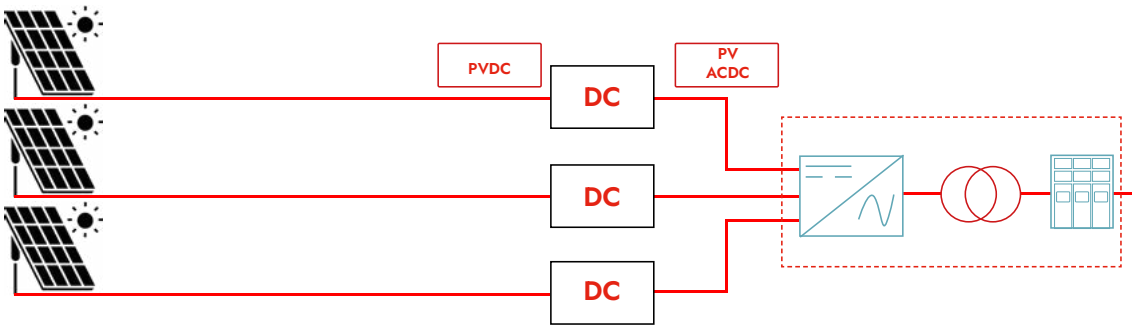
Collects DC energy from combiner boxes, performs DC/AC conversion and raises the energy produced to medium voltage before injecting it into the MV network.

Advantages & benefits

- Reduced installation time and control of deadlines.
- Optimized on-site transport.
- Product adapted to hot climate (up to 55 °C) and the intermittency of solar conversion.
- High level of service thanks to the modularity of the inverters.
- Monitoring option available.
- Increased simplification of the photovoltaic production chain.
- Reduced total costs compared to the String configuration.

Technical informations

- Powers available from 1.5MVA to 6.6MVA and up to 36KV in insulation voltage.
- Configurable inverter, transformer and HTA cells integrated into a standard shipping
- container (20ft or 40ft).
- Anti-corrosion surface treatment C4.



Nexans Solar Station (String)

Use

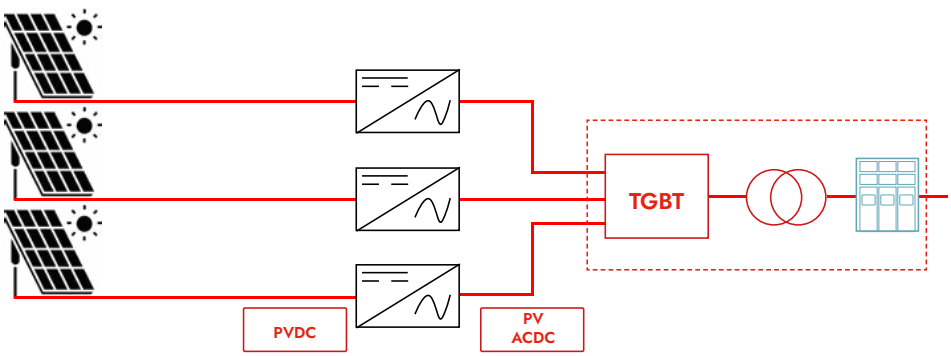
Collects AC energy from string inverters and raises the energy produced to medium voltage before injecting it to the MV network.

Advantages & benefits

- Reduced installation time and control of deadlines.
- Optimized on-site transport.
- Product adapted to hot climate (up to 55°) and solar intermittency.
- Increased simplification of the photovoltaic production chain.
- High resilience to inverter failure, well adapted for small installations.

Technical informations

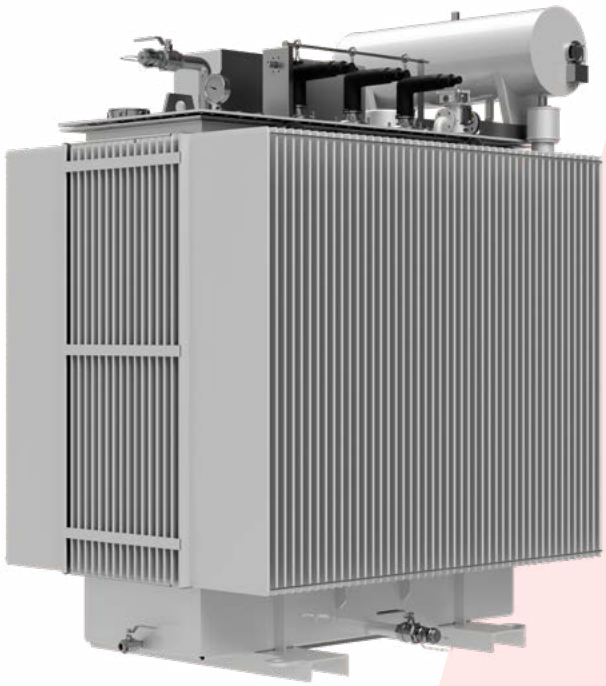
- Powers available from 1.5MVA to 6.6MVA and up to 36KV in insulation voltage.
- General low voltage panel, transformer and configurable HTA cells.
- Integrated into a standard shipping container (20ft or 40ft).
- Anti-corrosion surface treatment C4.



Nexans Solar Transfomer

Use

An important link in the solar energy conversion chain, it elevates the tension from LV voltage (400-1000V) to medium voltage (HTA) in order to reduce current and Joule losses.



Advantages & benefits

- Insulation level compatible with overvoltages from zero sequence and harmonic currents due to switching of power electronics of inverters.
- Presence of an electrostatic screen to ensure galvanic isolation between the LV and the HTA windings despite the direct current component that may come from the inverter.

Technical informations

- Voltage levels available
  - Low voltage (LV) 400V, 525, 690, 800 and 1100V
  - Medium voltage (HTA): 6.6, 10, 15, 20, 22, 30 and 33kV.
- Standard loss level, Eco-Design or optimized for better LCOE.
- Suitable for outdoor installation and exposure to sunlight.
- Powers covered by the range: from 250KVA to 4.4MVA. Consult us directly for higher powers.

GIS Cells

Use

Controls, redirects and secures the flow of medium voltage electrical energy.

Advantages & benefits

- Insensitivity to the environment.
- Low level of maintenance.
- Small footprint.
- Configurable as needed.

Technical informations

- SF6 insulation.
- Up to 36kV, 630A and short-term current withstand up to 21kA/1s.
- Modular or compact depending on the need.

Power Transformers

Use

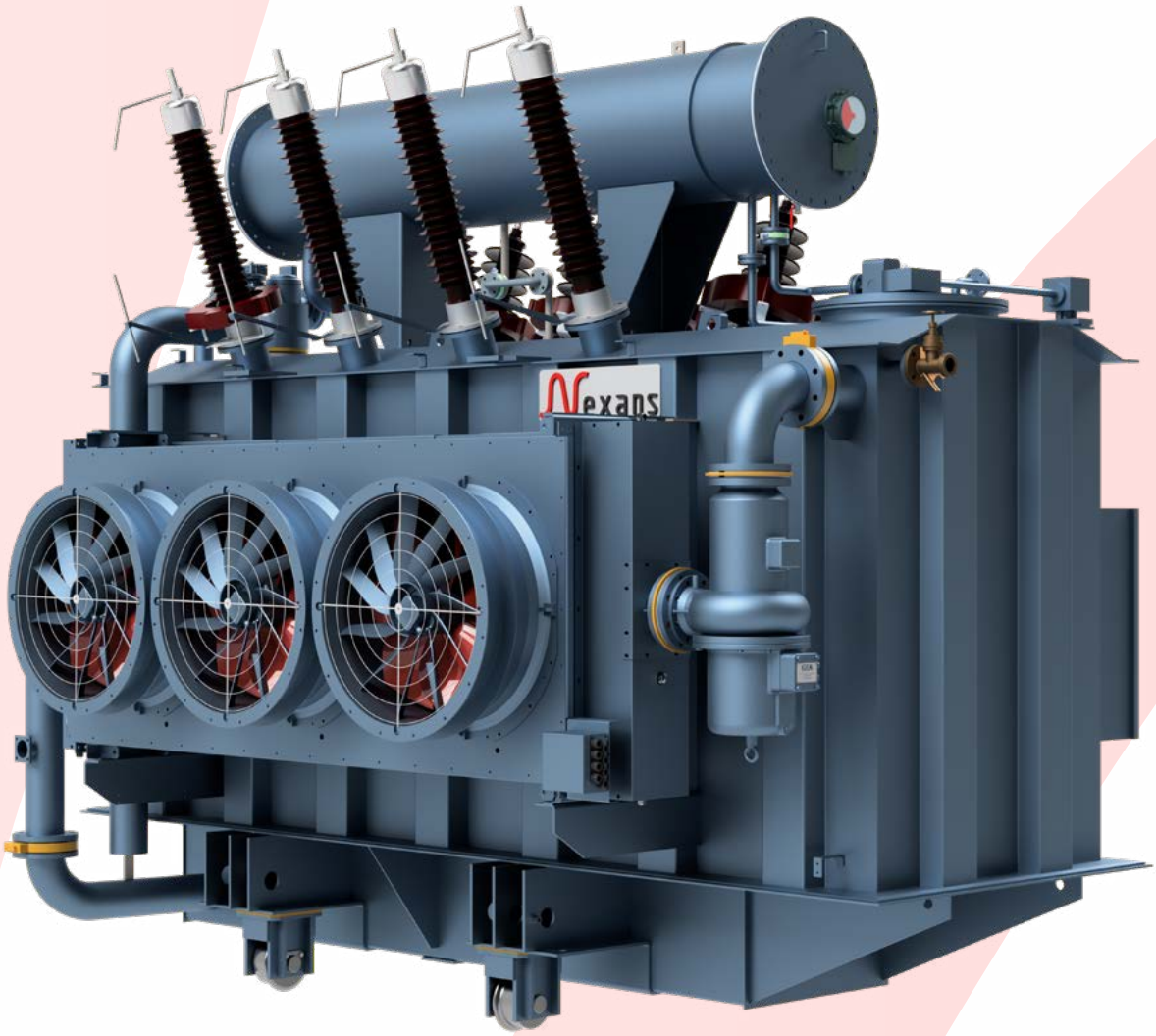
Raises the electrical voltage of the energy produced at all the substations and injects it into the high voltage (HTB) network.

Advantages & benefits

- Design adapted to the requirements of clients.
- Control of deadlines.
- Optimized on-site transport.
- Product adapted to hot climate (up to 55°) and the cyclicality of solar conversion.
- Monitoring option available.

Technical informations

- Power available from 3.15MVA to 54MVA.
- Primary voltage in 15, 20 and 24kV; Other voltages on request.
- Secondary voltage up to 63kV.
- Different cooling modes, ONAN; ONAN/ONAF, ODAF, OFAF, ...
- Anti-corrosion surface treatment.


Nexans

Nexans Engineering

Use

We support your teams in all phases of a solar project, from design to commissioning. Thanks to detailed knowledge of our products and electrical infrastructures, we can improve the LCOE of solar projects by optimizing energy losses in cables and transformers.

Advantages & benefits

- Techno-economic optimization of the solar power plant for a better LCOE via the reduction of energy losses and installation costs.
- Verification of sizing.
- Commissioning and assistance in commissioning.
- Team training.
- Calculation of reactive power for long evacuation lines.

Nexans Services

To ensure continuous reliable performance, increase your production and reduce the risks of solar installations, we offer a range of services through our service and maintenance offering.

The service and maintenance offer includes:

- Installation assistance from our professional experts;
- Remote monitoring of performance via monitoring systems;
- Regular interventions for preventive maintenance and inspection; - Proactive maintenance using data collected from monitoring and technologies that make it possible to anticipate and prevent signs of damage;
- Thermal analysis for evaluating the temperature of different components: cables, inverters, transformers and other equipment;
- Stock management of spare parts;
- Technical assistance, customer support and aftersales service;

We have the skills required to maintain all elements of solar installations and to manage the maintenance of a variety of power plants, while guaranteeing high levels of performance.

Nexans Monitoring

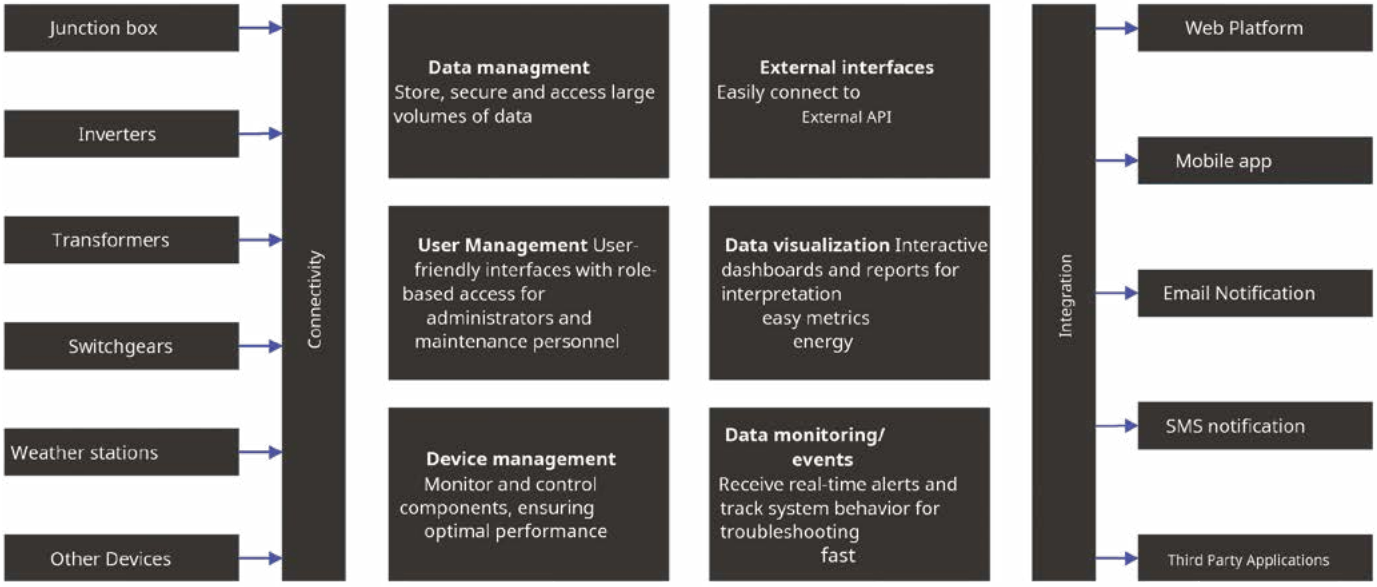
Our monitoring offer allows you to closely monitor the performance of your solar installations, from installation to operation. Continuous monitoring and in-depth data analysis enable maximum optimization of your systems. By quickly detecting anomalies and proposing appropriate solutions, we help maximize your solar energy production while minimizing losses. Additionally, our team provides technical support, helping you get the most out of your equipment and ensure it operates optimally.

With our monitoring service, you benefit from peace of mind and increased performance for your solar installations.

Advantages & benefits

- Data management: Storing, securing and accessing large volumes of data.
- User management: User-friendly interfaces with role-based access for administrators and maintenance personnel.
- Device management: Monitoring and controlling components to ensure optimal performance.
- External interfaces: Effortless connection with weather APIs, energy markets and utility networks.
- Data visualization: Interactive dashboards and reports for easy interpretation of energy metrics.
- Data and event monitoring: Receive real-time alerts and track system behavior for quick troubleshooting.

A single platform for all your solar energy production modules

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SOLAR POWER

POWER GENERATION

Nexans Solar Power

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