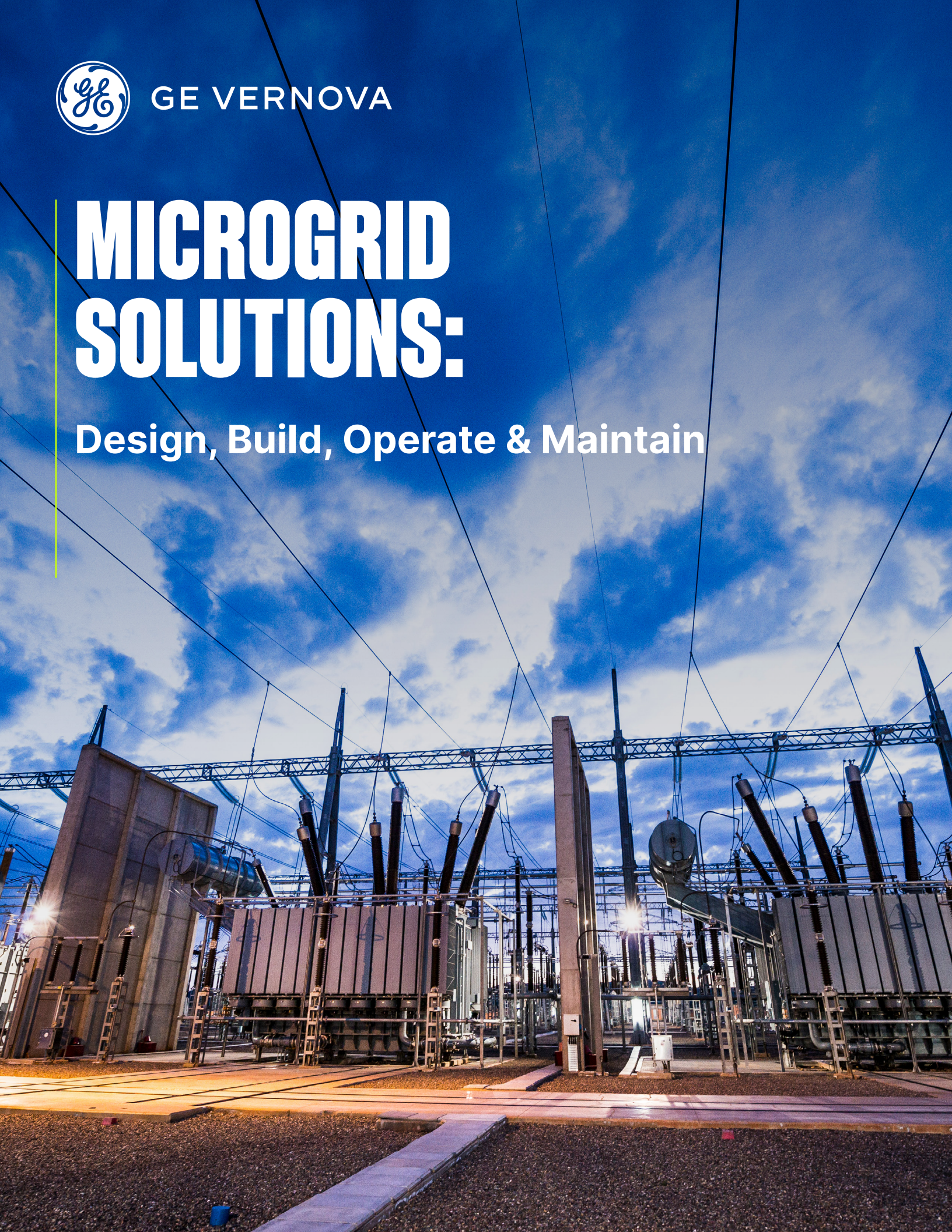
GE VERNOVA

MICROGRID SOLUTIONS:

Design, Build, Operate & Maintain

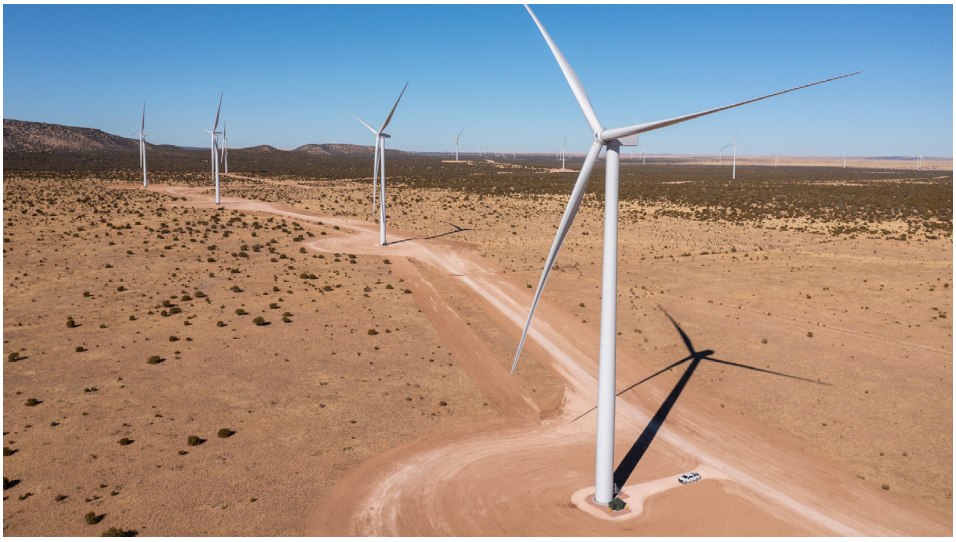


GE VERNOVA'S MICROGRID

A scalable and flexible solution designed to meet your objectives

GE Vernova solutions are flexible, scalable, and configurable to support your specific needs. From a first equipment pilot to a full end-to-end solution, or anywhere in between, we can help bring your utility into a new era of opportunity.

Our broad experience lets us better understand your needs as we develop a path to achieve your desired outcome. We bring a complete range of technologies and industry knowledge together to enable cleaner, safer, more competitive, and more efficient operations for your utility.



GE VERNOVA'S MICROGRID WILL HELP YOU:

MEET
your financial goals by leveraging assets, driving revenue through market participation

RECEIVE
full product capability across segments

UPGRADE
aging infrastructure at no cost through EaaS business models

IMPROVE
reliability, access, and resilience with seamless islanding

REDUCE
emissions and environmental footprint through an increased use of renewables

IMPROVE
balancing generation and demand

SAVE
energy through optimal dispatch

ACHIEVE
decarbonization goals

LOCALLY ADDRESS
your power needs

A flexible delivery model adapted to your specific needs

Starting with the collection of customers inputs and priorities, GE Vernova model ensures proper adequation between customers expectation and delivered solutions. Build on a rich portfolio of assets and strong engineering and digital capabilities, GE Vernova microgrids are optimized to meet high reliability, availability and cybersecurity requirements, low emission regulations and are available for both grid-tied and islanded configurations.

> ***GE Vernova microgrid development offer is tailored to fit every customer needs***
>
> *Our flexible Design Build Operate Maintain delivery model allows us to focus on what our customers require. We provide a full range of engineering, consulting, integration, testing, and support services. We offer digital asset performance management solutions, including remote monitoring and diagnostics for uptime performances.*

DESIGN

Business Case
- Techno-economic studies
- Simulation analysis
- Energy O&M planning

Financing
- PPA, EaaS, SaaS
- Project financing
- Planning and budgeting

System Engineering
- Functional specification
- Design
- Engineering studies

BUILD

Energy management system

System integration
- Electrical equipment
- Protection and automation
- I&C

Turnkey Project
- Implementation
- DER installation
- Site management

OPERATE & MAINTAIN

Operation support

Performance maintenance

Training
- Local, remote

Services
- Comprehensive maintenance plan covering spares, local and remote support
- Emergency and scheduled maintenance

CUSTOMER INPUTS

Basics
- Power generation need
- Existing equipment list

Specifics
- Customer priorities
- Load profile
- Critical loads
- Existing equipment characteristics
- Technical requirements and/or constraints

\+

ENERGY SOURCES

- Gas turbine/engine
- Wind turbine
- Hydro plant
- Solar

BALANCE OF PLANT

- Inverters
- Batteries
- Microgrid control system
- SCADA Communication network

SERVICES

- Engineering
- Project schedule
- Maintenance & APM services
- Post-sales services
- Financing

\+

GE VERNOVA OPTIMIZATION TOOL

=

DISTRIBUTED ENERGY SOLUTION

1	2	3	4	5	6
Business Case • Economic studies • Energy O&M planning • Simulation analysis	**System Engineering** • Functional specification • Design • Engineering studies	**Financing** • PPA, EaaS, SaaS • Project financing • Planning & budgeting	**System Integration** • Electrical equipment • Protection & automation • I&C	**Turnkey Project** • Project implementation • DER & BOP installation • Site management • Commissioning & Training	**Service Agreements** • EaaS vis PPA • O&M MSA • Training and support
DESIGN			BUILD		O & M

DESIGN

Working with you to select the appropriate energy assets and define the appropriate system architecture

Our design process starts with an evaluation of your existing conditions. We analyze your data, identify efficiency opportunities, determine permitting and regulatory requirements and perform techno-economic studies to confirm the project viability. Upon request, up to 30% design can be delivered at that stage and financing vehicles can be evaluated and proposed.

Business Case evaluation

- Techno-economic studies: modeling and LCoE analysis.
- Variable generation studies: wind and solar integration and the impact on grid ancillary services.
- Integrated resource planning: system reliability analysis
- Power market assessments: Energy and capacity market structures and price forecasting, generation dispatch and bidding behavior, renewable tariff mechanisms, and fuel and transmission availability.

Basic design development

- Functional power system operations, planning and design
- Analysis of regulatory and performance requirements of thermal or renewables, controls and protection
- Conceptual, pre-FEED, FEED studies, and up to basic design

Project finance vehicle

Our financial support includes but not limited to:

- Renewables tax equity
- Structured/project equity
- Co-development capital and development credit support
- Access to export credit agency and development
- finance institution capital
- Third-party debt raise

And the outcome... A profitable and sustainable investment strategy and cash optimized solution

EXPERTS AT ASSET MANAGEMENT

1 GWh+
base installed or in construction

>20 GW
clean energy in 20+ countries

19 GW+
Inverter for Solar & BESS installed or in construction

54K
Wind turbines installed in >50 countries...

>$19B
renewables investment since 2004

BUILD

Supporting you before, during, and after the award process.

Our procurement process includes bidding documentation development, bid tabulation, procurement support, power plant modeling, and all necessary updates. During construction, we offer general contractor oversite, budget tracking, change management support, project management support, safety plan reviews, and quality oversight.

It's all based on our own capabilities as well as a solid network of EPC partners who can successfully deliver your project. Engaging experts that can help with scope, timing, and price is essential to achieving the best results for you, especially when many complex variables are involved.

Our integrated system experience spans the energy landscape:

GENERATION

Inverter Based Resources

- Solar
- Onshore wind
- Offshore wind
- Fuel cell
- Collector & Interconnect substations

Conventional Renewable

- Hydro/micro-hydro
- Pump storage (PS Power Plant)
- Collector & Interconnect substations

Conventional Heat & Power

- Gas
- CHP
- Steam
- Geothermal

TRANSMISSION AND DISTRIBUTION

Power Quality

- Series compensation
- Synchronous condenser
- STATCOM/SVC
- Filters

Battery Storage

- Microgrid/resilience
- Frequency regulation
- T&D deferral
- Black start
- Fast start
- Fast frequency response
- Energy shifting

HVDC

- Back-to-back
- Line/cable transmission
- VSC & LCC converters
- Onshore and offshore

Substation

- Protection & control
- SCADA
- AIS & GIS
- Asset Performance Management

POWER CONSUMER

Industrial (non-utility)

- Primary substation
- Filters and rectifiers
- Electrical Motors and Drives
- Energy management system
- Asset Performance Management

Utilities

- Protection & control
- SCADA
- AIS & GIS
- Asset Performance Management
- Advance Distribution Management System (ADMS)

Oil & Gas

- Primary substation
- Offshore platform power
- Electrical motors and Drive (Down Stream, Mid-Stream, Up stream)
- Advance distribution management system ADMS
- Asset Performance Management

KEY SEGMENTS

Ports

- Shore-to-Ship power
- Integration of Distributed Energy Resources
- Energy Management System (EMS)

Oil & Gas

- Refineries and Petrochemical plants
- LNG trains & terminals
- Offshore platforms & FPSO
- Energy Management System (EMS)

Hydrogen

- Power-to-Gas & Gas-to-Power power conditioning
- Off-grid green hydrogen power network
- Energy Management System (EMS)

Other Industries & infrastructures

- Data centers
- Green steel
- Mining
- Hospitals & Communities

OPERATE AND MAINTAIN

Partnering with you to help reduce risk and enhance uptime through performance, efficiency, and long-term relationships.

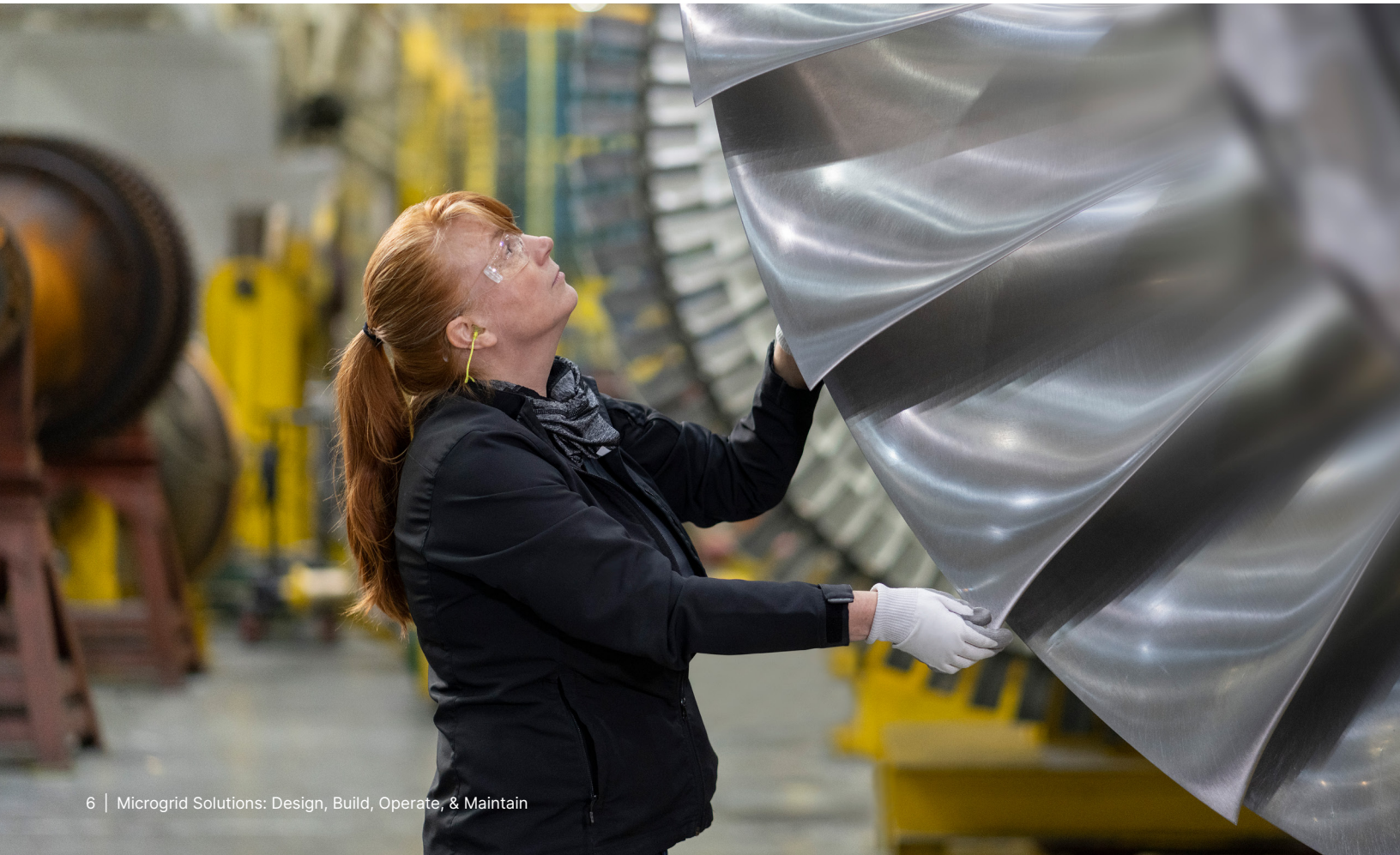
Through dedicated service agreements, and depending on your needs, GE Vernova can design, build, own, operate, and maintain your tailored, on-site energy infrastructure.

Managed Services

- Provides Long Term Service Agreement to maintain operations and meet energy availability targets
- Includes three levels of services to match customer needs : extended warranty, preventive care and complete care
- Integrates Asset Performance Management system to optimize microgrid uptime with remote monitoring and diagnosis capabilities
- Supports on-premises or cloud-based solutions to optimize operations (revenue generation, energy dispatch…)

Energy-as-a-Service

- Deploys custom-designed, on-site energy infrastructure without any up-front capital investment needed
- Enables organizations to focus on core business needs.
- Provides access to reliable partners & experts
- Secures long-term price certainty & cost efficiency via Purchased Power Agreement



SERVICE AGREEMENTS

Minimizing Risk and Maximizing Productivity

	EXTENDED WARRANTY	PREVENTIVE CARE	COMPLETE CARE	PERFORMANCE
Warranty				
Time and/or material	■			
Preventive maintenance				
Remote equipment health monitoring		■	■	■
Scheduled maintenance		■	■	■
Spares inventory management		■	■	■
Contract/fleet manager				
Dedicated contract/fleet manager		■	■	■
Corrective maintenance				
Over-the-phone diagnostics and troubleshooting			■	■
Remote diagnostics and troubleshooting			■	■
Field diagnostics and troubleshooting			■	■
Operations				
Operations monitoring				■
Obsolescence management				
Obsolescence treatment				■
Performance				
Performance commitment				■

VISIT, JOIN, FOLLOW

Visit our website at **www.gevernova.com**

Join us on **LinkedIn**

More info at **www.gemicrogridsolutions.com**

Contact us at **www.gepowerconversion.com/contact**

CS21582-02 (10/2023)

GE VERNOVA