General Cable

Cables for wind farms

INTRODUCTION

The Rio Summit in 1992 and the Kyoto Protocol in 1997 pushed to reduce emissions from the atmosphere.
The European Union has set objectives for 2020 to reduce emissions by 20% and to reach a 20% share of energy generation from renewable sources.

Wind power is one of the most important sources of renewable energy, providing over 2.5% of the world's energy usage and worldwide installed capacity is expected to reach 500 GW in 2017 according to the Global Wind Energy Council (GWEC). Renewable energy is enjoying strong growth not only in Europe but worldwide (large renewable markets have developed in China and the USA) due to escalating energy costs and concerns about global warming. As wind energy production costs diminish, users increasingly view this energy source as clean, economical and reliable. Offshore wind farms are currently a powerful worldwide trend.

A COMPLETE RANGE OF CABLES FOR WIND POWER

General Cable is a global leader in the cable sector with 57 modern production facilities and more than 14,000 employees worldwide. With a broad range of wind generation, transmission and distribution cables that link wind turbine sources to the grid and beyond, General Cable is your renewable energy cable partner.

Through long-term relations with major manufacturers of wind turbine generators (WTG), installers and developers, General Cable has engineered its product range for wind energy cables to provide power, control and instrumentation solutions to withstand the demands of both onshore or offshore facilities.

The excellent electrical, mechanical and installation features of General Cable wind energy cables make them the best choice for your wind turbine generator, providing efficient, reliable service life under the most severe operating conditions.

General Cable's technical expertise allows for customized solutions for special purposes. Kits can be measured to order to facilitate pre-installation cabling work and reduce costs.

SPECIAL FEATURES FOR WIND TURBINE GENERATOR CABLES

- Full product range for onshore and offshore installations
- Designs developed to optimize energy efficiency
- High mechanical resistance for torsion flexing applications
- Excellent resistance to industrial oils
- Resistance to chemicals, especially to high ozone concentrations
- Suitable for extreme ambient temperatures (-40ºC to +90ºC)
- Cross-linked rubber compounds (LSF-OH option available)
- Flame-retardant
- Life expectancy greater than 25 years
- Easy to handle and install

MECHANICAL FEATURES

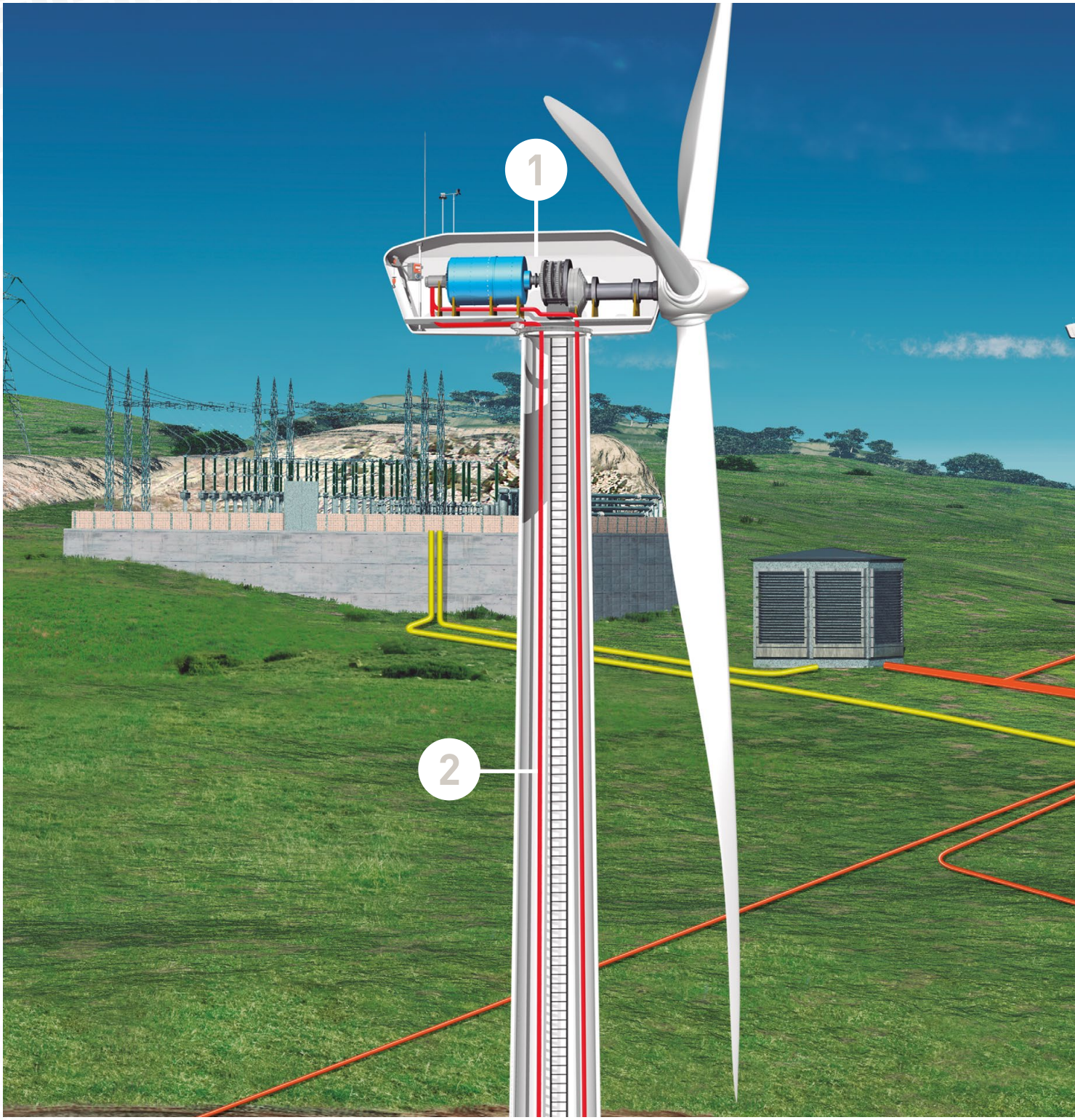
- Resistant to impact, tear and abrasion
- Torsion stress resistance even in ultra-low temperature
- Minimum bending radius: 4 times outer diameter

THERMAL FEATURES

- Max. ambient temperature of 90ºC
- Minimum ambient temperature of -40ºC

CHEMICAL FEATURES

- Weather-resistant (optional)
- Resistant to oils
- Resistant to ozone
- Halogen free materials (optional)



1 NACELLE

exZhellent VENT

TENAFLEX WIND
VULCAN WIND

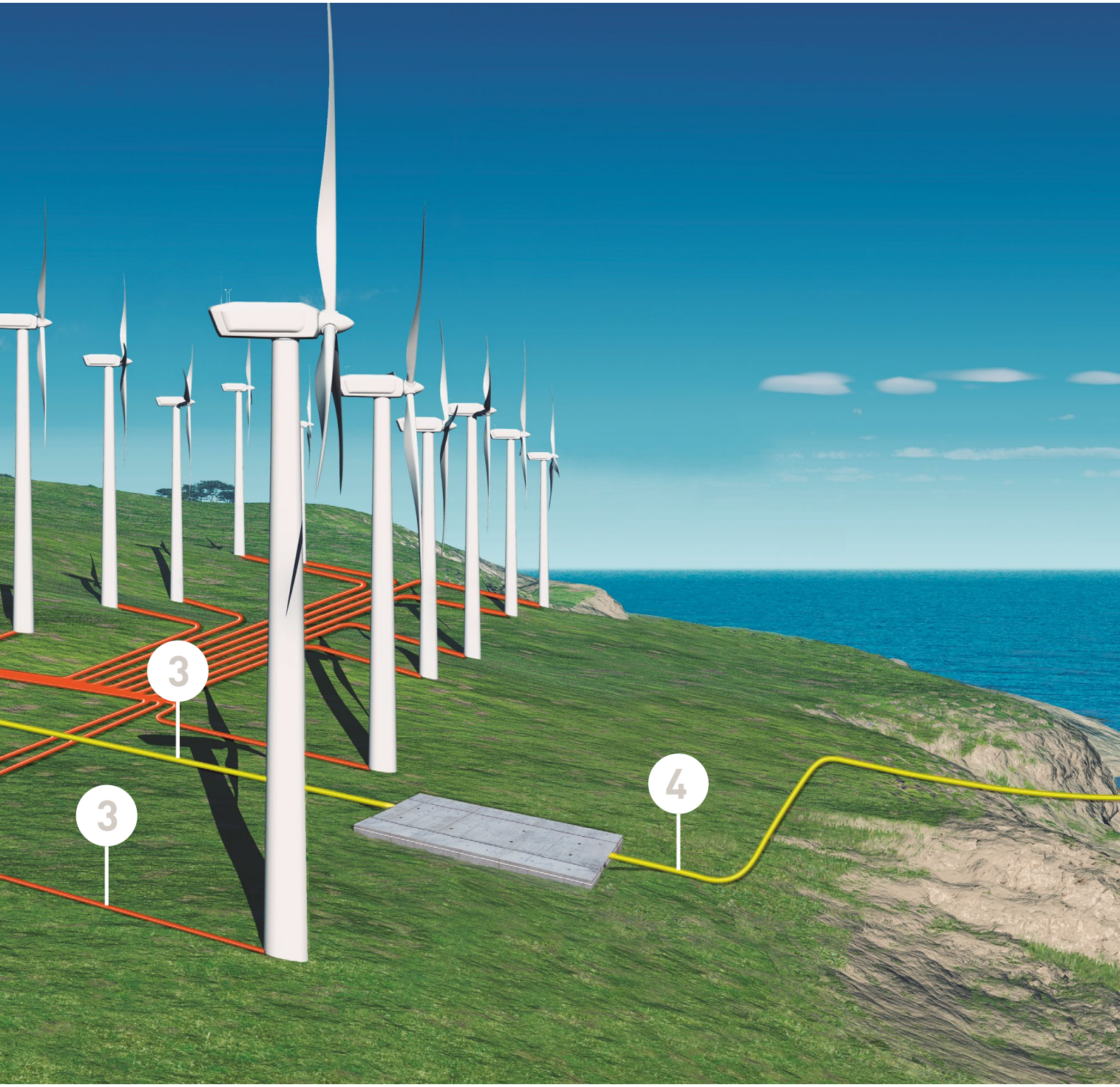
exZhellent Mobile

POWER

Auxilary & Control

Low-Voltage XLPE or elastomeric insulated cables with or without LSF-0H materials.[1]

[1] Construction depending on wind power generator manufacturer.



2 TOWER

POWER

exZhellentVENT LV

exZhellentVENT MV

Auxilary & Control

TENAFLEX WIND
VULCAN WIND

exZhellent Mobile

3 CONNECTION TO GRID (ONSHORE)

Low- and Medium-Voltage elastomeric insulated cables provide mobile service and excellent torsion, stress and oil resistance.

Power & Telecom

HERSATENE

VULPREN

ALL GROUND

SAVE ON INSTALLATION COST²

SILEC BRAND

4 CONNECTION TO GRID (OFFSHORE)

Medium-Voltage XLPE or HEPR insulated cables interconnect onshore WTG3 and export power to the grid.
HV/EHV XLPE cables export power from offshore WTG3 to the grid.
Full range of fiber optic cables for all applications.

[2] Cables specifically designed for onshore wind farms to dramatically reduce the cost of installation (out of conventional civil work construction).

Power & Telecom

NSW BRAND

ocean

Medium-Voltage XLPE insulated cables with optional optical fibers interconnect offshore WTG3 and export the power to the onshore grid.
Medium-Voltage subsea cables can be delivered either in continuous lengths or in pre-defined lengths (on drums).

[3] Wind turbine generator.

General Cable

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CONNECTING THE WORLD

FRANCE
Tel: +33 (0) 160 573 000
info@generalcable-fr.com

GERMANY
Tel: +49 473 182 10 00
info@nsw.com

ITALY
Tel: +39 026 604 94 94
info@generalcable-it.com

MAROCCO
Tel: +212 522 865 300
info@generalcable-ma.com

NORWAY
Tel: +47 649 559 00
firmapost@generalcable.no

PORTUGAL
Tel: +351 219 678 500
info@generalcable.pt

ROMANIA
Tel: +40 734 668 520
info@generalcable.ro

SPAIN
Tel: +34 932 279 700
info@generalcable.es

UNITED ARAB EMIRATES
Tel: +971 264 346 66
info@generalcable-ae.com

UNITED KINGDOM
Tel: +44 (0) 7788 243 292
sales@nswcable.co.uk

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GENERAL CABLE Casanova, 150 · 08036 Barcelona, Spain · Tel: +34 93 227 97 00 · info@generalcable.es **www.generalcable.es**

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