Taking a broader view – A brief introduction to DNV GL

David Walker
Chief Group Development Officer
DNV GL
We are a global classification, certification, technical assurance and advisory company

OUR PURPOSE

TO SAFEGUARD LIFE, PROPERTY AND THE ENVIRONMENT
In a challenging world we make businesses better prepared

- Low carbon energy
- Short-term cost efficiency
- Complexity and lack of global governance
- Efficient and fast
- Reliable and affordable energy
- Long-term competitiveness
- Trust and transparency
- Safe
Make them Safer, Smarter, Greener, by connecting the dots

- We classify, certify, verify and test against regulatory requirements, rules, standards and recommended practices
- We develop new rules, standards and recommended practices
- We qualify new technologies and operational concepts
- We give expert advice to enhance sustainable business performance
Organized to maximise customer value

MARITIME    OIL & GAS    ENERGY    BUSINESS ASSURANCE    SOFTWARE

RESEARCH & INNOVATION
Global reach – local competence

150 years
350 offices
100 countries
13,500 employees
Assisting companies in solving the energy trilemma
### Our customers in the energy sector face tremendous challenges

<table>
<thead>
<tr>
<th>Electrification</th>
<th>Hybrid grids</th>
<th>Reducing the cost of renewables</th>
<th>Cyber security threats</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
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</tbody>
</table>

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<thead>
<tr>
<th>Big data &amp; digitalisation</th>
<th>Optimising aging assets</th>
<th>Stranded assets</th>
<th>Decentralisation</th>
</tr>
</thead>
</table>
We help our customers solve complexity and manage risks

2500 passionate energy experts

90 years of experience, in electricity, 30 years in energy efficiency & wind

30 offices in 30 countries in every continent

Largest independent technical advisor on renewable energy

25 Leading certification body with more than 25 published standards and guidelines

No. 1 in high-power and high-voltage testing

10 labs including the world’s largest high-power and high-voltage test laboratories
**DNV GL Energy - Recent development**

- **70 million investment in High Power Lab for reliable grids**
- **Smart Cable Guard:** Pro-active detection of faults to minimize outages
- **Testing of smart meters in NL, UK and co-founder of USEF**

- **Big data & digitalisation**
- **Involved in 80% of all offshore windfarms in the world**
- **Largest solar plant in the Middle East managed by DNV GL’s Green Power Monitor solutions**
The Internet of Energy has the potential to connect and integrate energy systems globally.

Data is the new raw material of business

**CONNECTIVITY**
Connect equipment and systems to enable them to work smarter and faster

**DATA-DRIVEN DECISIONS**
Increasingly rely on data and new analysis techniques in all business decision making

**TRANSFORMATION**
Transform the operation of the energy market
What digitalization means for the energy industry

- Raw data from across the value chain
- Using data to predict failures and avoid costly corrective maintenance
- Enabling control of an increasingly complex hybrid power system
- Facilitate integration of variable renewables
- Benchmark against new technological standards & results
Veracity industry data platform: Unlocking silos by connecting multiple stakeholders and data sets

Diagram showing network connections between service provider, operator, asset owner, systems integrator, authority, and manufacturer.
RESEARCH AND INNOVATION
Pursuing innovation initiatives through four means

- Extraordinary innovation projects
- Service development, incl. Joint Industry Projects
- Core technology leadership disciplines
- Strategic research & innovation programmes
Group Technology and Research – program set up

MARITIME
Digital class
Autonomous Ships
Safe & sustain. shipping

OIL & GAS and OCEAN SPACE
Real-time risk
Virtual Testing
Subsea systems
Offshore food

POWER & RENEWABLES
Super grids
Smart grids
Energy storage
Renewables

LIFE SCIENCES
Future healthcare
Precision medicine
Food safety

CLIMATE ACTION: adaptation, governance and energy transition

DIGITAL ASSURANCE: cyber-physical systems, digital class and assurance

Technology Excellence Networks
Extraordinary Innovation projects related to Sustainable Development Goals

- Future of Spaceship Earth
- Global Opportunity Report
- Energy Transition Outlook
- Strategic Partner to the Climate Technology Center and Network
Future of Spaceship Earth – an evaluation of the likelihood of reaching the Sustainable Development Goals by 2030

Key takeaways from 17 companies:

- **Optimism**
  - The SDGs are a blueprint for Business, representing a unique set of opportunities, and business can make a difference

- **Power of connectedness**
  - Many of the most effective actions on the SDGs build upon the dramatically increasing connectedness of the world.

- **What people want**
  - The SDGs describe the future that humanity desires, and the companies focusing the SDGs will be the future market leaders

Risk Spurs Innovation

http://www.globalopportunitynetwork.org/

GLOBAL OPPORTUNITY REPORT 2017

INNOVATION CREATES NEW OPPORTUNITIES

OPPORTUNITIES FOR SOCIETY AND BUSINESS
DNV GL will start producing and publishing an independent Energy Transition Outlook

- Understanding the energy future is critical for DNV GL
  - Will give insight, agility and invaluable input to our strategy
- Critical for our customers
  - A balanced, trustworthy (and tailored) source for long term decision-making
- Objective view
  - Customers and stakeholders across the energy industry have an interest in an independent view – all need the ‘voice of reason’

Illustrations from *Future of Spaceship Earth* project
Strategic Partner to CTCN

- DNV GL is a strategic Partner of the Climate Technology Centre and Network
  - Supports the CTCN operation by utilizing its extensive experience in technology transfer, knowledge management and capacity building.
  - Facilitates engagement with the private sector in the centre’s network to stimulate technology cooperation among developed and developing countries.

https://www.ctc-n.org
OUR VISION

GLOBAL IMPACT FOR A SAFE AND SUSTAINABLE FUTURE

www.dnvgl.com

SAFER, SMARTER, GREENER