



MANAGING RISK

DET NORSKE VERITAS



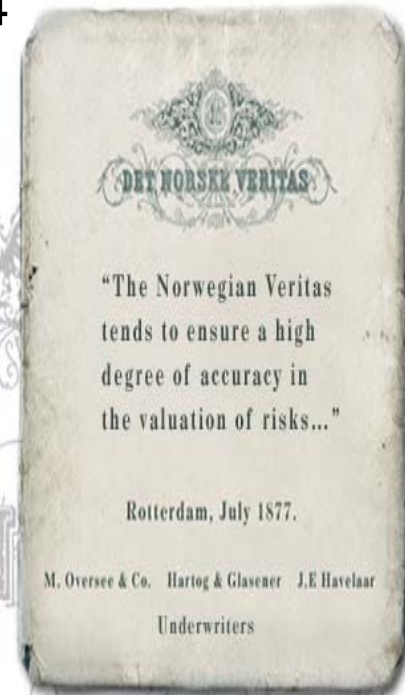
M. Mustafa Imam

DNV – an independent foundation



MANAGING RISK

- Objective: To “Safeguard life, property, and the environment”
- Independent Foundation, established 1864 in Norway
- Mission: Safeguard life, property and the environment
- 7000 employees working in 300 offices in more than 100 countries
- Strong experience in the oil and gas and process industry sectors
- The first DOE under the CDM, presently also the largest DOE
- Involved in a number of GHG initiatives world wide

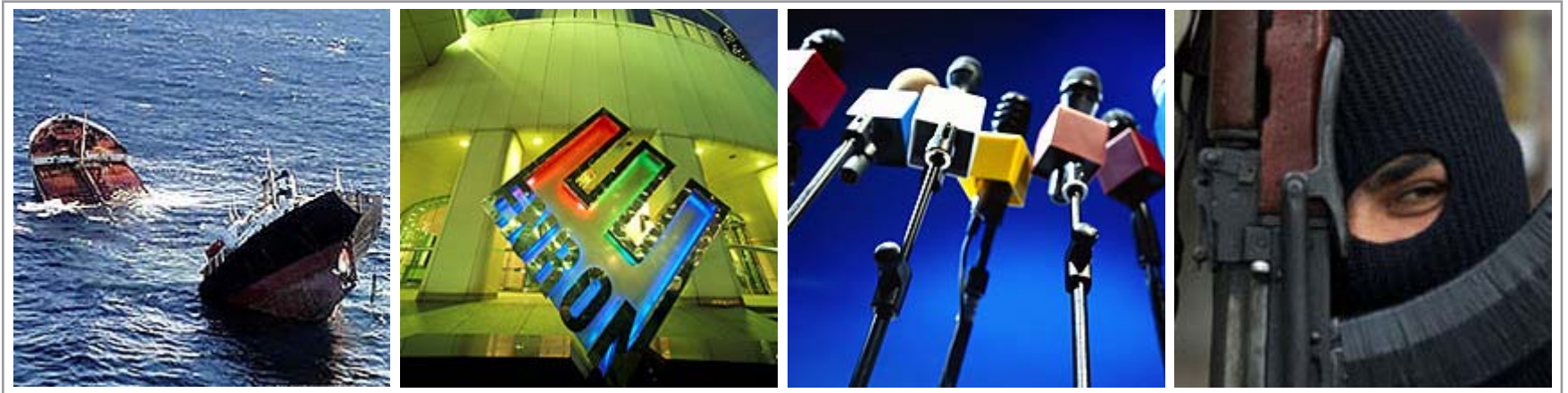




DNV Head Office - VERITAS CENTRE – HØVIK



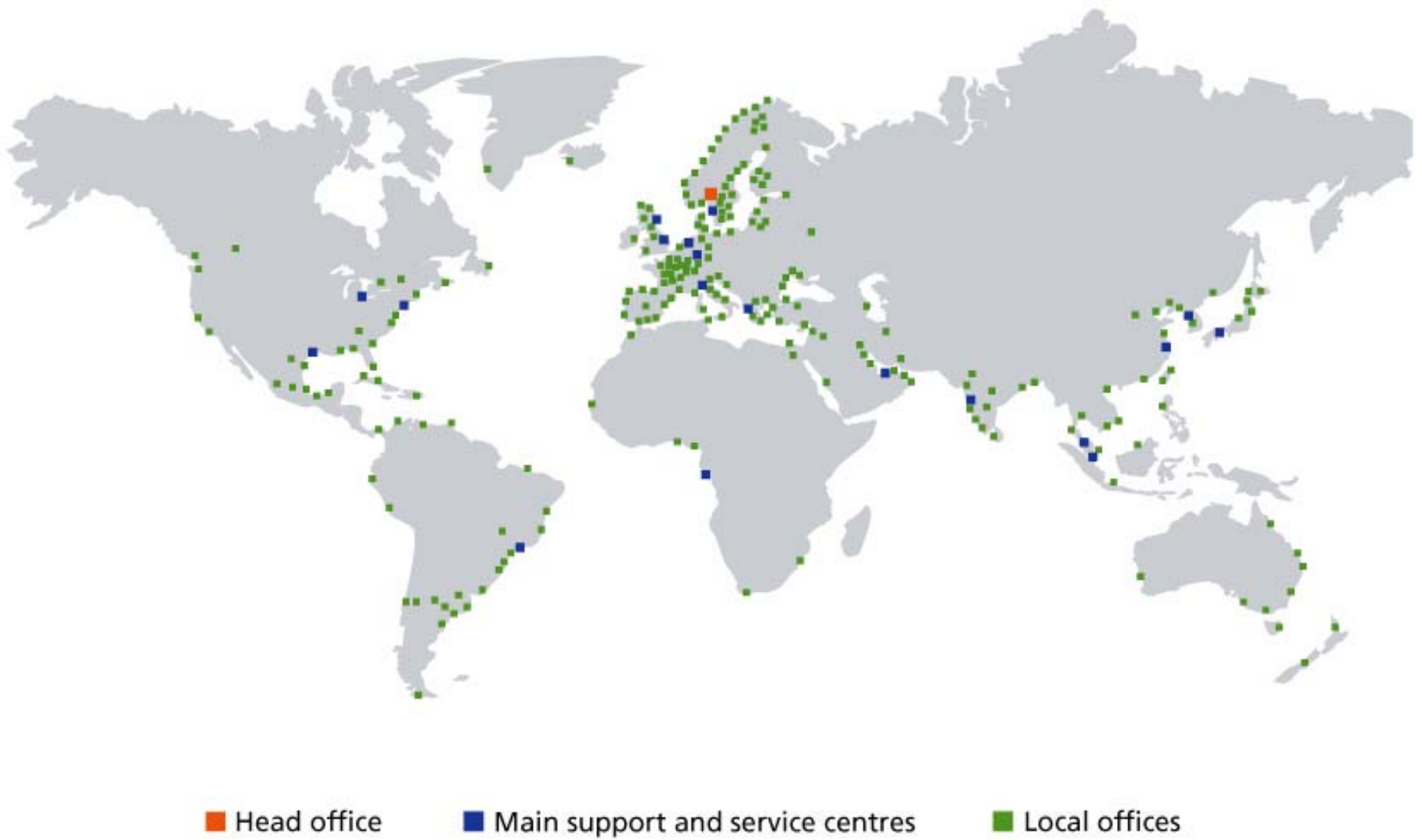
- Companies today are operating in an increasingly more complex and demanding risk environment



- Society at large is gradually adopting a “zero tolerance” for failure
- More detailed reporting and demands for transparency
- Stricter regulatory requirements

Core competence

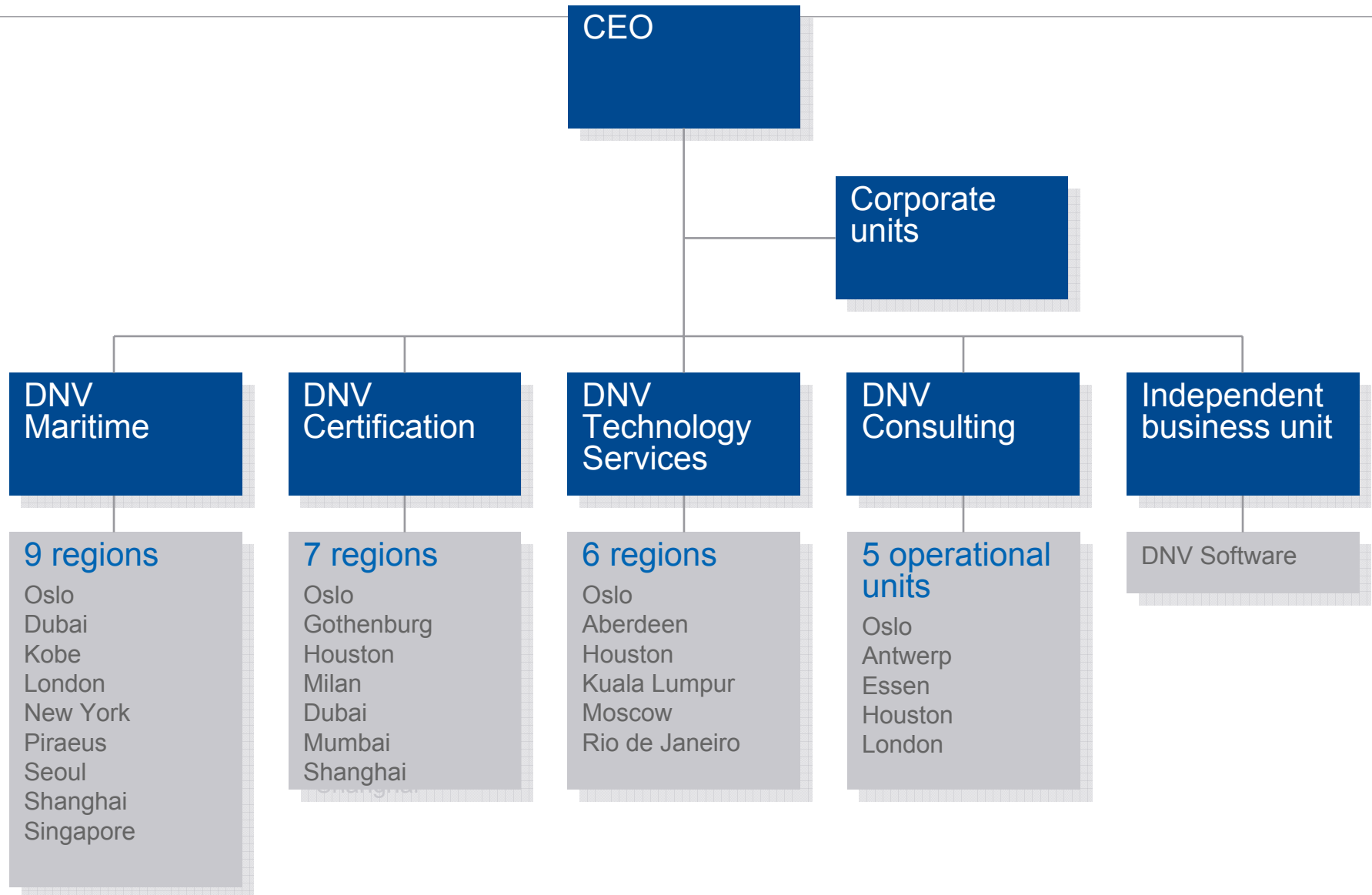




The DNV organisation



MANAGING RISK



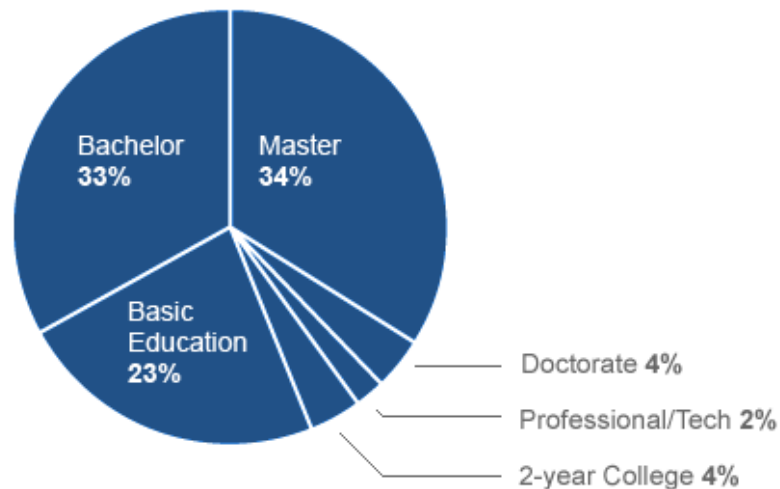
Our people – a vital resource

■ People are the core of DNV

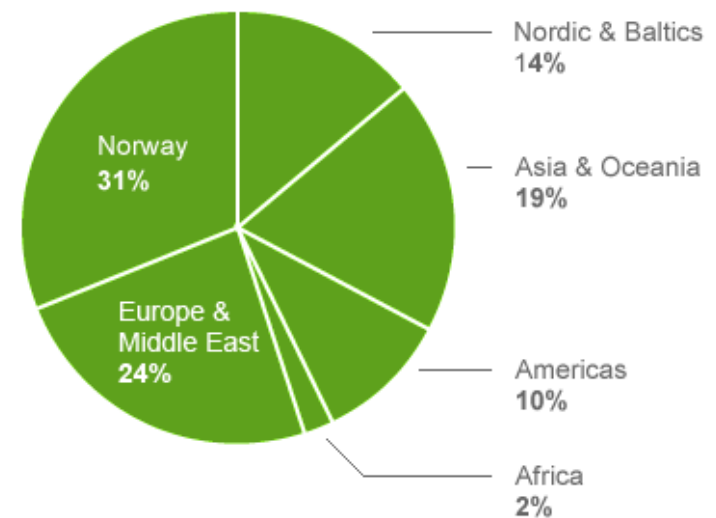
■ 85 different nationalities



Competency chart



DNV staff around the world



DNV's four business areas



MANAGING RISK



A world leading classification society

DNV Maritime



A world leading provider of certification, verification, and assessment services

DNV Certification



Providing safe and reliable operations to the oil, gas and process industry through cutting-edge technology

DNV Technology Services



Safely and responsibly improving business performance

DNV Consulting



**Clean Development Mechanism –
Validation and verification processes**



**Are you planning to reduce
your greenhouse gas emissions?**

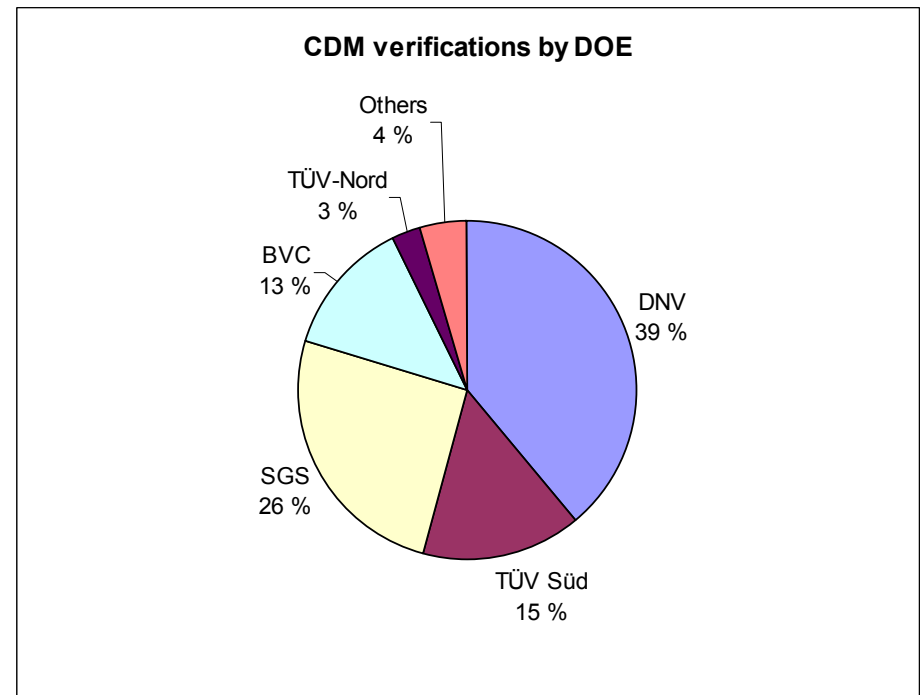
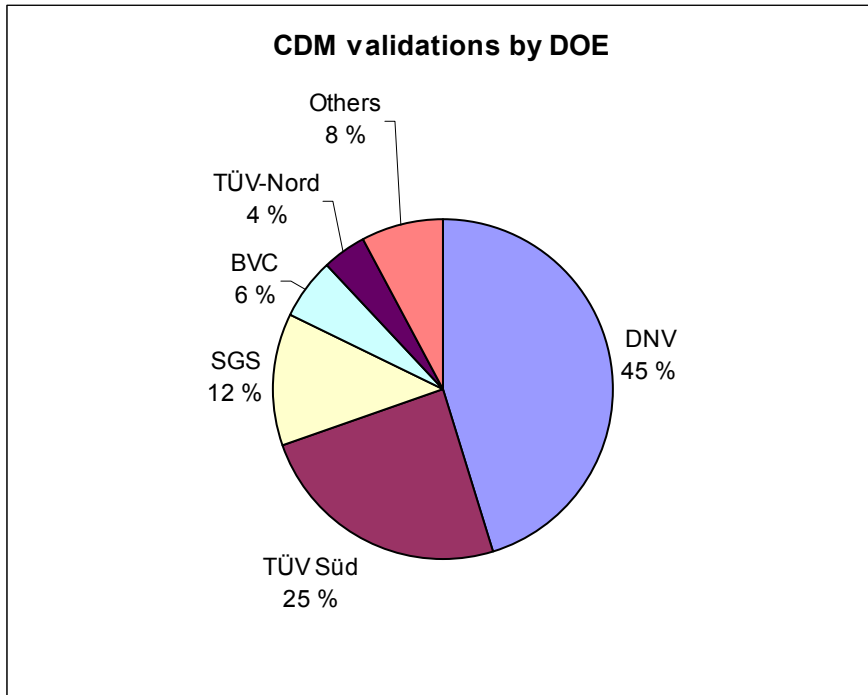
A photograph of a large industrial smokestack emitting a thick plume of white smoke against a dark sky. The smoke is illuminated from below, giving it a yellowish-orange glow. The text 'Validation', 'Verification', and 'Certification' is overlaid in white on the smoke.

**Validation
Verification
Certification**

of your emissions reduction actions.

- Validates and subsequently requests registration of a proposed CDM project activity which will be considered valid after 8 weeks if no request for review was made;
- Verifies emission reduction of a registered CDM project activity, certifies as appropriate and requests the Board to issue Certified Emission Reductions accordingly. The issuance will be considered final 15 days after the request is made unless a request of review is made.
- Validation OR verification/certification of a given CDM project.

DNV- the market leader in CDM



Accredited DOEs:

- DNV Certification AS
- TÜV Süddeutschland (TÜV Süd)
- Société Générale de Surveillance (SGS)
- Bureau Veritas Certification (BVC)

Source:

www.cdmpipeline.org, 6 September 2007

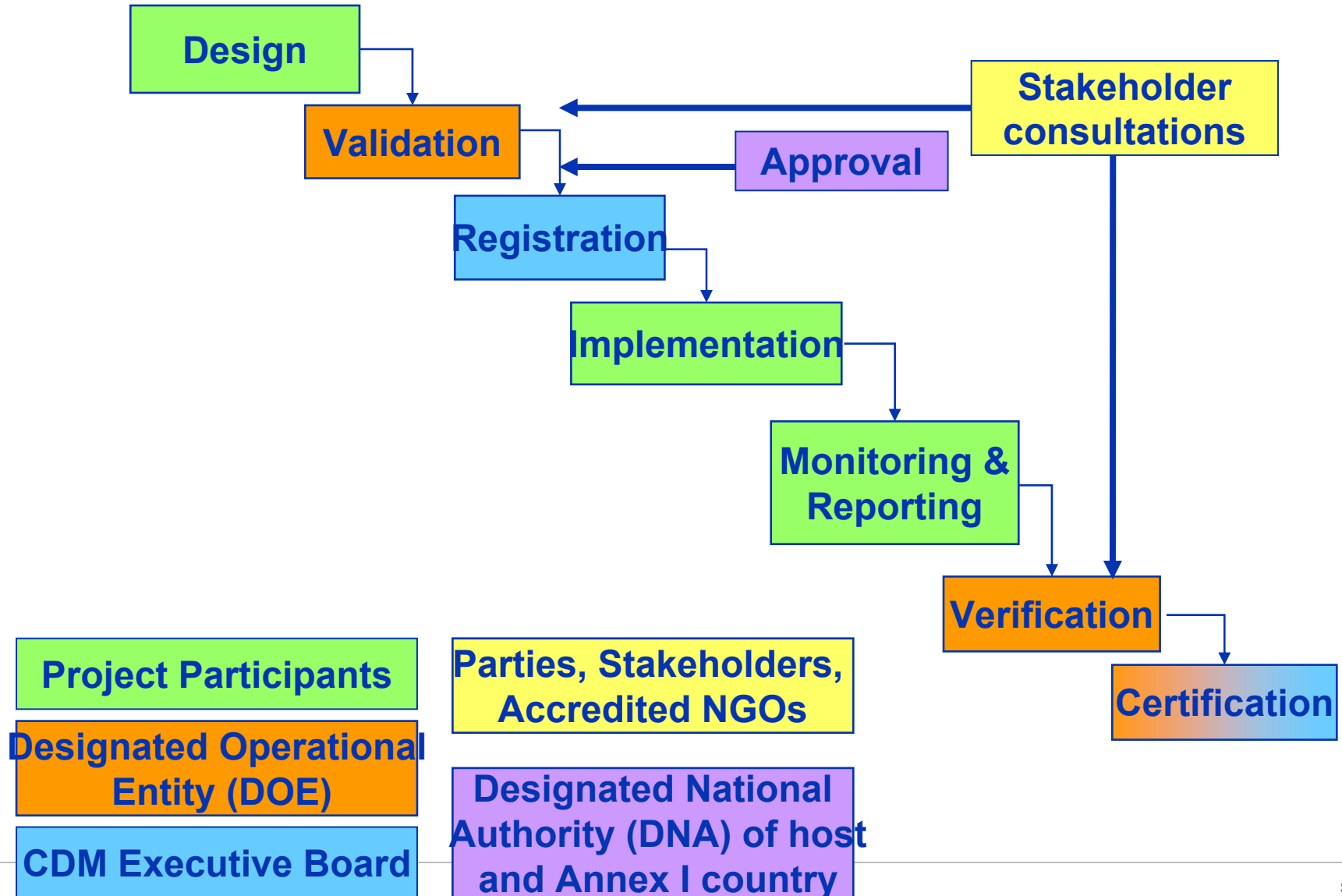
Accreditation Scopes



MANAGING RISK

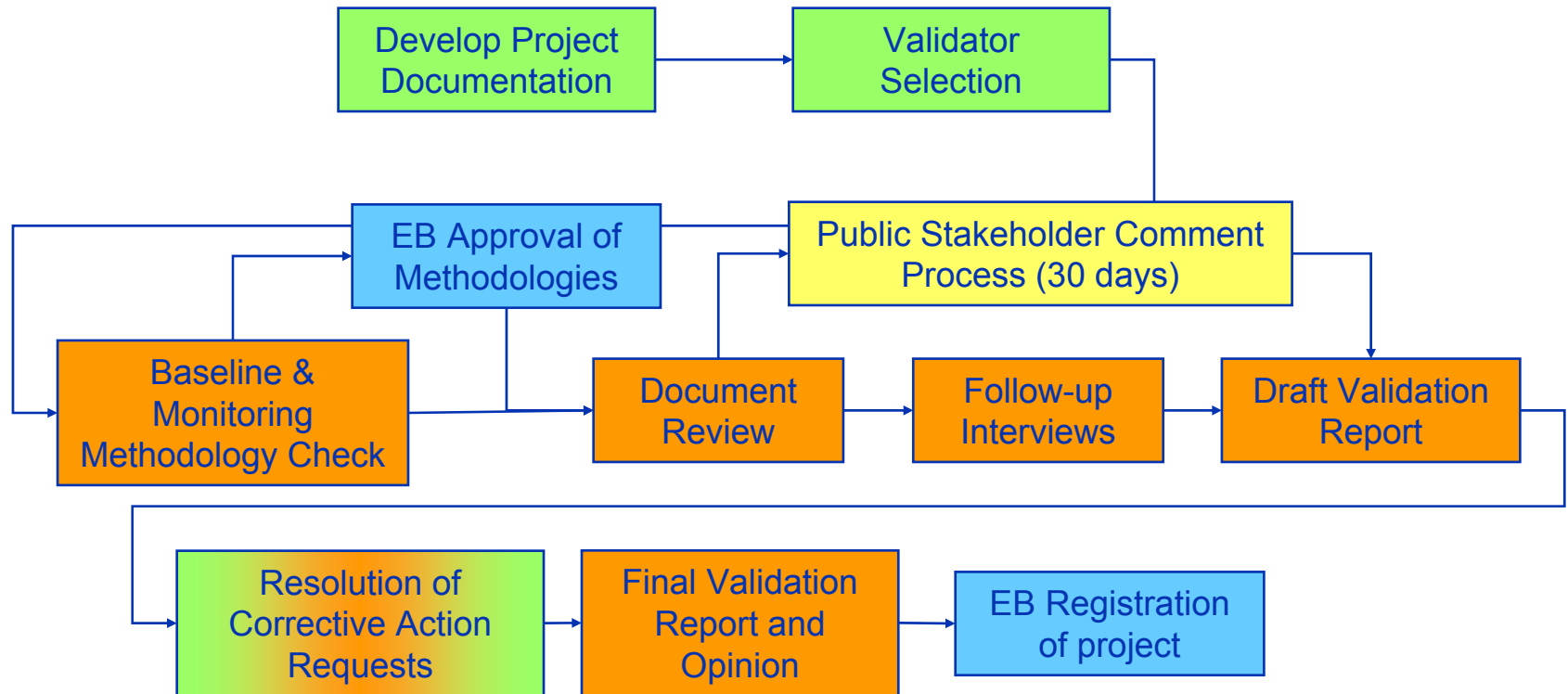
Sector 01	Energy industries (renewal - / non-renewable resources)
Sector 02	Energy distribution
Sector 03	Energy demand
Sector 04	Manufacturing industries
Sector 05	Chemical industries
Sector 06	Construction
Sector 07	Transport
Sector 08	Mining/mineral production
Sector 09	Metal production
Sector 10	Fugitive emissions from fuels (solid, oil and gas)
Sector 11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride
Sector 12	Solvent use
Sector 13	Waste handling and disposal
[Sector 14	Afforestation and Reforestation]
Sector 15	Agriculture

CDM Project Stages and Parties Involved



- **Validation** is the process of independent evaluation of a project activity by a designated operational entity against the requirements of the CDM, on the basis of the project design document.
- **Verification** is the periodic independent review and ex-post determination by the designated operational entity of the monitored emission reductions that have occurred as a result of a registered CDM project during the verification period.
- **Certification** is the written assurance by a designated operational entity that, during a specific period in time, a project activity achieved the emission reductions as verified.

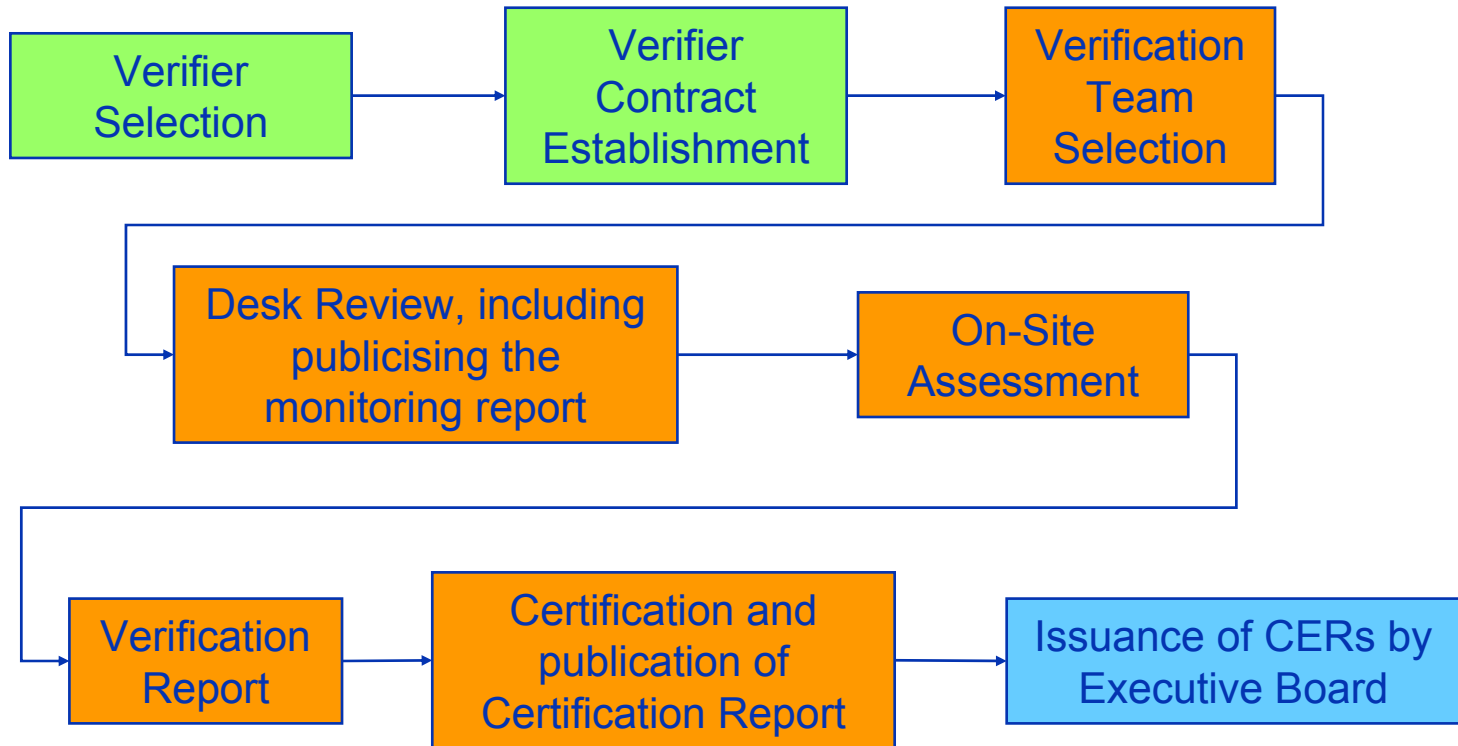
CDM Validation Process



- During the validation, DNV will assess:
 - the project design
 - the proposed baseline, including the additionality of the project
 - the methodology and the assumptions made to estimate the emission reductions produced over the project's lifetime
 - the monitoring plan
 - the environmental and social impacts

- DNV applies a risk-based approach

CDM Verification Process



Verification Objective

- To ensure that the project has been implemented as planned
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan
- To establish that an audit trail of project performance records is present and sustains the claimed emission reductions



DNV and the oil and gas sector

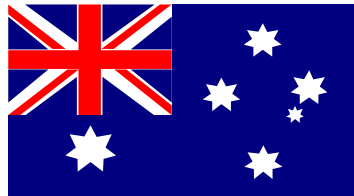


Our experience: Governments trust in us

MANAGING RISK



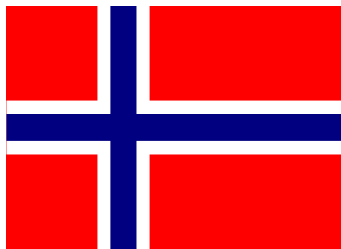
Why choose DNV as your partner ?



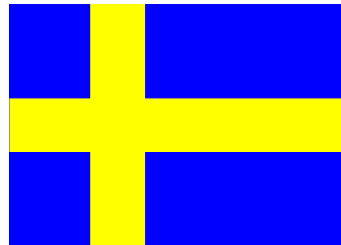
Australia



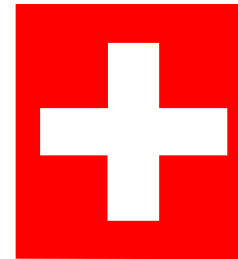
Netherlands



Norway



Sweden



Switzerland

DNV's expertise is used by Governments

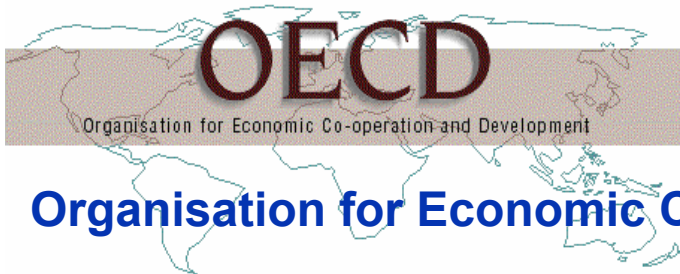
Why choose DNV as your partner ?



United Nations Framework Convention on Climate Change

DNV's expertise is used by international organisations

THE WORLD BANK GROUP



Organisation for Economic Co-operation and Development



Why choose DNV as your partner ?

Following international competitive bidding DNV won **the first contract ever** for verification and certification of GHG emission reductions:

**“Pilot verification and certification of the ILUMEX AIJ project”
in Mexico**

Contract concluded with the World bank in December 1998

Project completed by June 1999

Why choose DNV as your partner ?

Some of our projects:

- Netherlands: Baseline Guidelines for Baseline and Verification & Certification Procedures Development
- Australia: Verification of Australian Greenhouse Actions
- Prototype Carbon Fund, a World Bank initiative: Validation of Solid Waste Management project in Latvia
- Switzerland: Validation of Thermal power project in Rumania
- Sweden: Pilot Validation Exercise for a Latvian Combined Heat power (Cogeneration) Project
- BP Amoco: Verification of 1990 Baselines, 1998 emissions and pilot trades
- World Bank: ILUMEX project in Mexico
- more

Why choose DNV as your partner ?



- DNV has personnel **specially trained** for validation, verification or certification of Greenhouse Gas Emission reductions
- DNV has trained people **all over the world**: Norway, Netherlands, UK, Australia, USA and more

- Already registered projects applying CDM Approved Methodology AM0009:
 - Recovery of associated gas that would otherwise be flared at Kwale oil-gas processing plant, Nigeria.
 - Al-Shaheen Oil Field Gas Recovery and Utilization Project, Qatar.
 - Rang Dong Oil Field Associated Gas Recovery and Utilization Project, Vietnam.

Emission reductions: 677,000-1,513,764 tonnes of CO₂-equivalents per year

- Oil and Natural Gas Corporation (ONGC): 9 gas flaring reduction projects, India
- Ovade Ogharefe Gas Capture and Processing Project, Nigeria

For more information on the projects, visit <http://cdm.unfccc.int>

DNV: OTHER PROJECTS IN OIL, GAS & ENERGY SECTOR



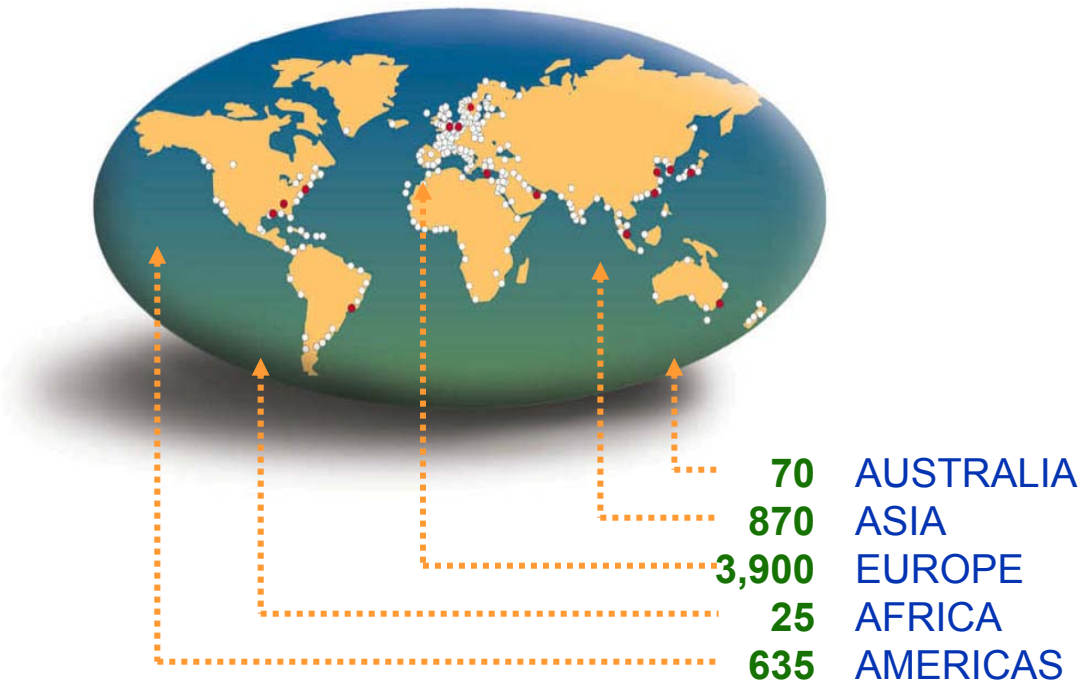
MANAGING RISK

- BP PAKISTAN
- ENI PAKISTAN
- OMV PAKISTAN
- BHP PAKISTAN
- KOHINOOR ENERGY LIMITED
- WARTSILA PAKISTAN
- OTHER SERVICE COMPANIES TO OIL & GAS

Why choose DNV as your partner ?

DNV can offer you:

- **world-wide** experience
- **world-wide** resources
- **local** people, speaking your language
- **local** knowledge





www.dnv.com/certification or www.greenhousechallenge.com

DET NORSKE VERITAS ...



... for you **GREENHOUSE GAS** emissions reduction



Thank you!

