

# KARACHI INSURANCE INSTITUTE RENEWABLE ENERGY –INTERNATIONAL SOLUTIONS TO LOCAL CHALLENGES

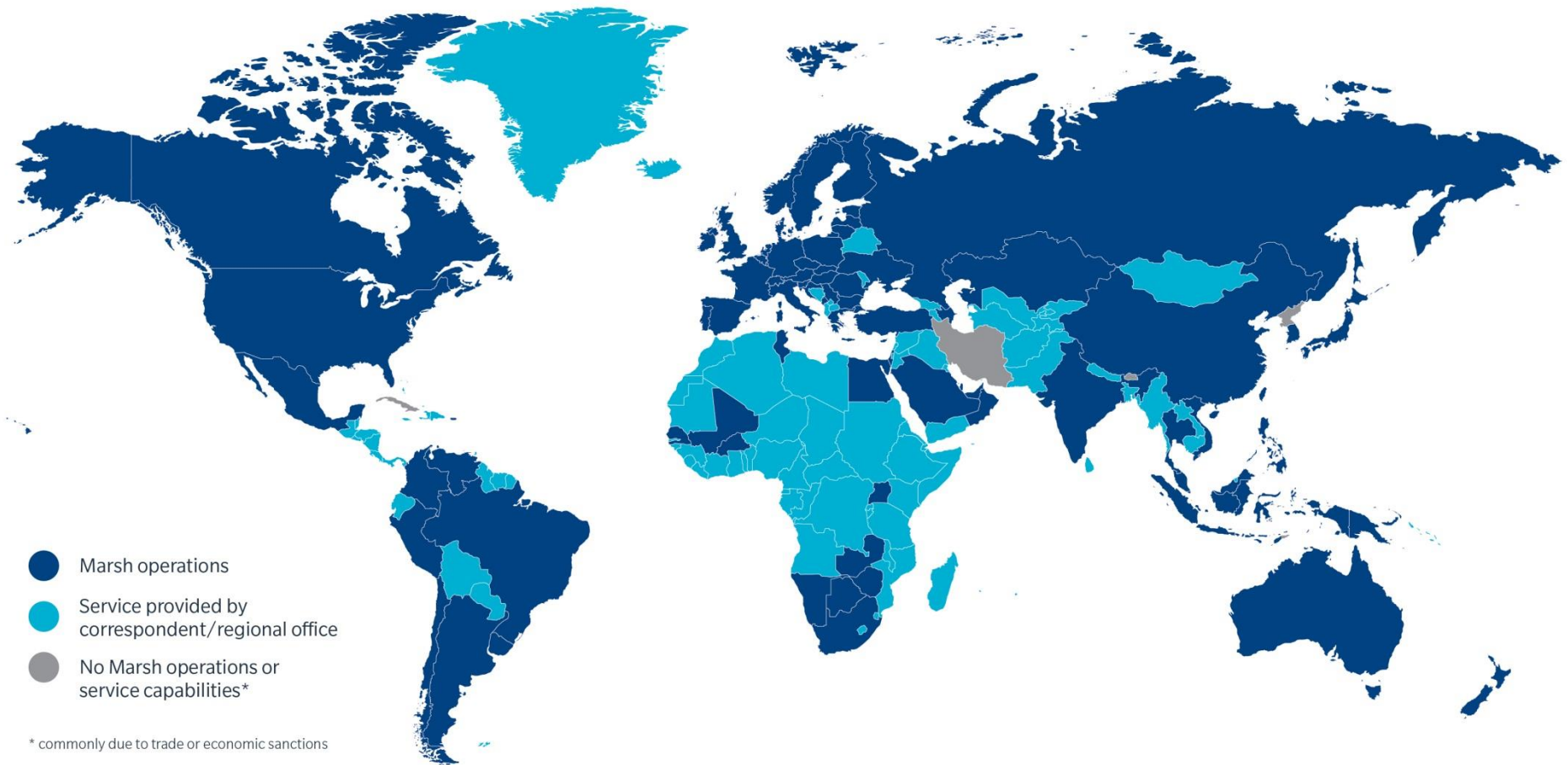
31 OCTOBER 2013

**Steven Munday ACII**

**London (Tower Place)**

Renewable Energy and Power – International Practice Leader

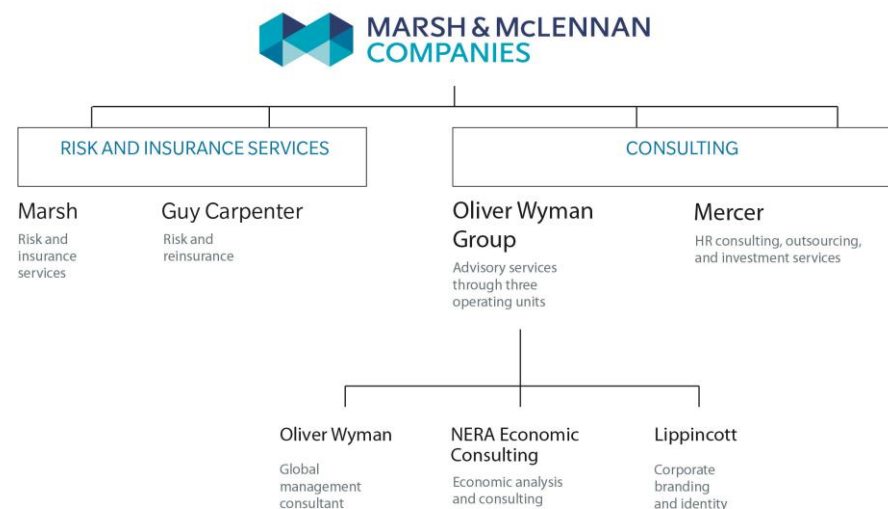
# Marsh Global Office Locations



# Marsh in Brief...

A leader in quality, scale and scope

- Global leader in delivering risk and insurance services and solutions to clients
- Provides global risk management, advising/consulting/engineering and insurance broking services
- Extensive global footprint:
  - 26,000 employees around the world
  - Serving clients in over 130 countries
  - A global network of 400+ offices
- No.1 among the world's 10 largest insurance brokers (Business Insurance, 2012)
- A wholly owned subsidiary of Marsh & McLennan Companies (MMC)



**Present in Pakistan through Unique Insurance Brokers (Pvt.) Limited**

Marsh is the leading provider in the provision of **Renewable Energy and Power** insurance and risk management services to the energy, international power and utilities, and independent power sectors...

# Marsh Renewable Energy and Power Practice

## Delivering change via a global network of renewable energy specialists

- Specialist teams have been set up in **London, New York, Hamburg, Netherlands, and Cape Town**
- Seamlessly dovetails into Marsh's broader Energy, Power & Utility and Infrastructure Practices
- Involved with some of the world's largest, most complex and often evolutionary projects, through to smaller, local schemes
- Supporting a diverse range of project delivery, financing and business models
- Working directly with sponsors/developers, manufacturers, contractors, operators, utilities and financiers



**Renewable energy: a specialist field requiring skilled experts**

# Global Renewable Energy Markets:

## A growing demand for insurance and risk transfer solutions

- 50% increase in renewable energy investment by 2020 predicted to **double** insurance spend in six of the world's leading renewable energy markets
- Annual expenditure on risk management services to reach **US\$1.5 – 2.8 billion** in the same period
- 3 primary drivers:
  - **Government support and policy incentives/new capital sources.**
  - **Technology improvements –reduced costs/ increased efficiency.**
  - **Diversification of assets /security of supply as renewables play a growing role in the energy mix**
- Insurance can mitigate some risks. Robust risk management will therefore be critical in attracting and securing capital investment



**Innovative financial and risk transfer solutions and robust risk management will be vital to sustainable industry development**

Source: 'Profiling the risks in solar and wind.' Bloomberg New Energy Finance and Swiss Re, 2013.

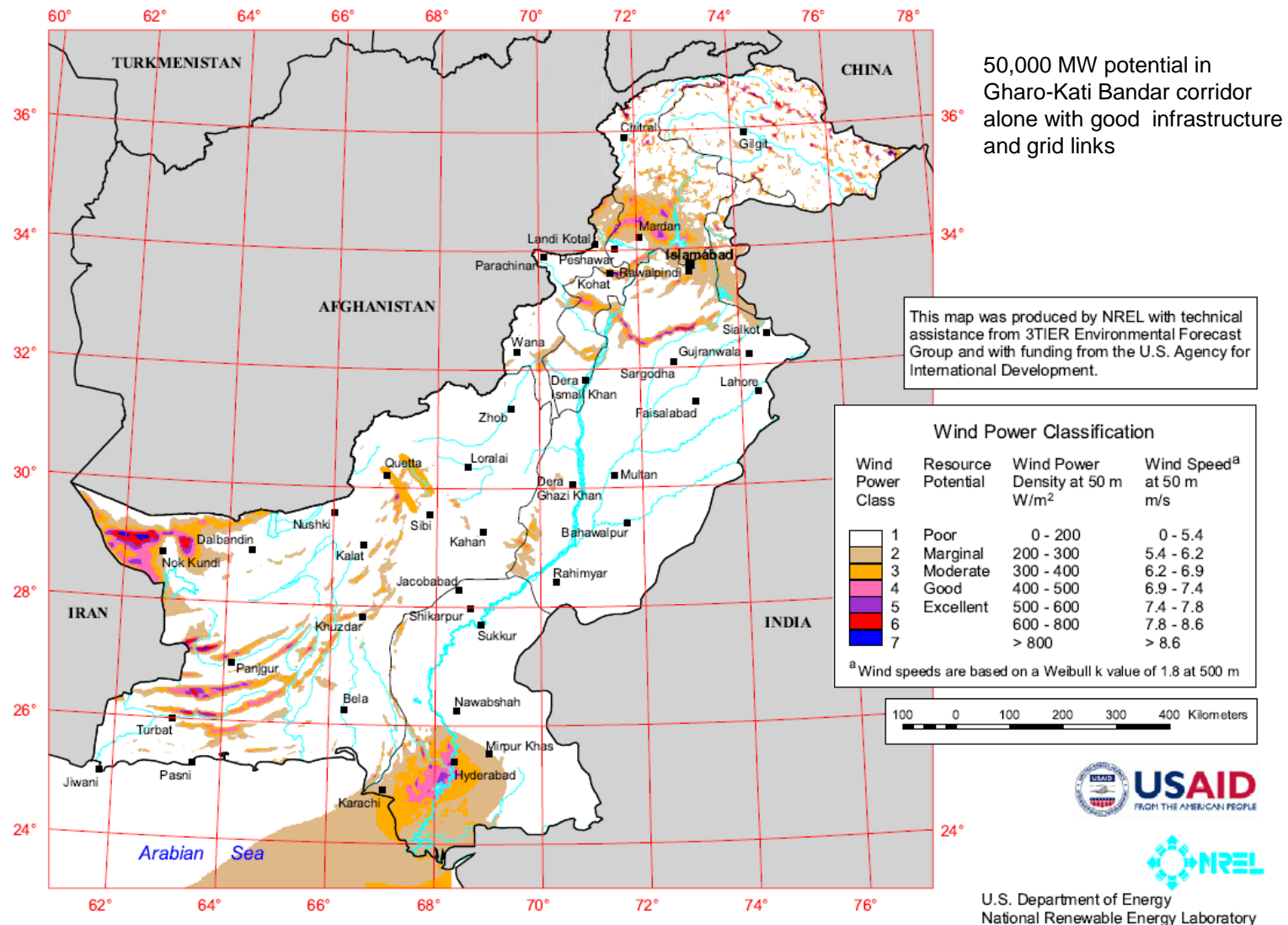


# Pakistan A Renewable Energy future?



# Pakistan – Onshore wind

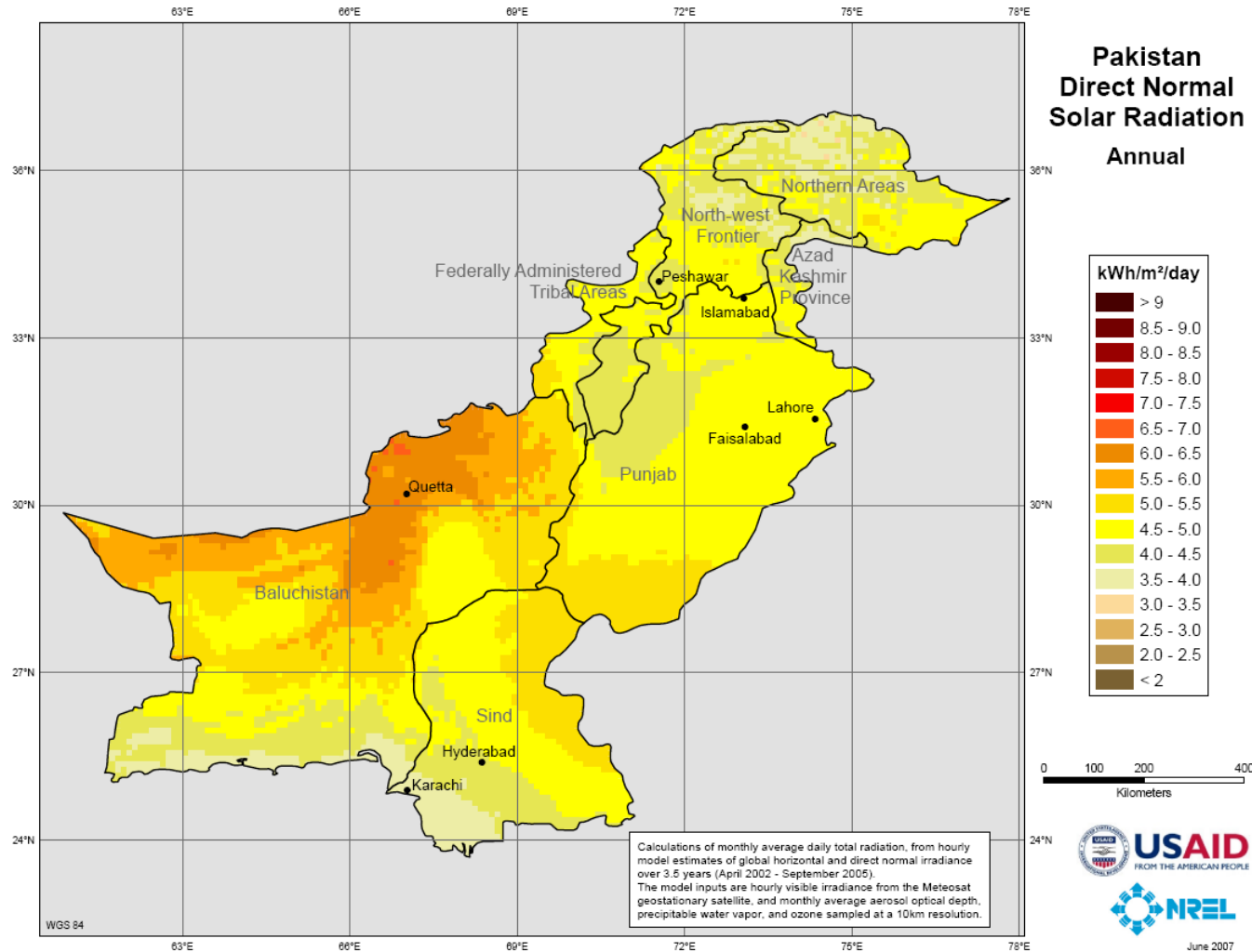
## Good-to-excellent speeds totaling a 340,000MW potential





# Pakistan – Solar PV

Significant PV and thermal potential, on/off grid and water and heating



# Significant potential across the country

## Hydropower

- Significant development potential -- **50,000MW** -- storage-based and high-head schemes would be more suitable in the north than run-of-river plants to the south
- Substantial incentives under the 2002 Power Policy
- Tariff petitions accepted and approved through 2011/2012

## Solar PV

- Significant PV and thermal potential, on/off grid and water and heating
- An estimated 5-6kWh (kilowatt hours) m<sup>2</sup>/day could be harnessed for on- and off-grid power, heating and water and heat projects.
- A combined **226MW** are currently under letters of intent to develop.

## Geothermal

- Several sites identified (in theory) for heating, cooling, and power
- State estimates a generation potential in excess of **2,000MW**

## Biomass and waste-to-energy

- Alternative energy rather than renewable?
- Significant opportunity given Pakistan's population (e.g. municipal waste volumes)
- Est. 35m hectares of marginal/degraded land potentially available for crops
- Still in its infancy
- 2012 saw the first tariff petitions filed for IPP multi-fuel biomass
- power plants

## Onshore Wind

- **340,000MW** potential for onshore wind - good/excellent wind speeds
- Gharo-Kati Bandar corridor: 50GW could capitalise on good infrastructure and grid links already in place
- 1<sup>st</sup> significant commercial wind farm, FCCEL 60MW farm at Jhimpir, commissioned; a second wind farm expected online soon
- Grid connection issues

Source: Marsh research including 'State of the Industry Report 2012 (NEPRA), US Department of Energy's National Renewable Energy Laboratory (NREL), Alternative Energy Development Board, Private Power & Infrastructure Board, Government of Pakistan, and other secondary sources.

# Challenges for the Emerging Renewable Energy Industry in Pakistan

## 2013 and beyond

- Natural Catastrophe –Earthquake/Flood (Aggregations)
- Riot Strike and Civil Commotion
- Sabotage & Terrorism
- Site Access /Landslips
- Existing grid reliability and capacity
- Finance – availability, cost of and security
- Availability and access of sufficient cranes
- Developing technology
- Chinese contractors (International experience) and language barriers
- Skilled labour/ workforce issues
- Turnkey or Multi-contracting



# Securing Infrastructure Project Financing

## A minefield of information requirements

Project Description	Capital Investment	Project Schedules	Environmental Impact	Financing	Financial Projections	Legal Documentation
<ul style="list-style-type: none"> <li>Proposed ownership structure and sponsor information</li> <li>Legal status of project and status of government approvals (e.g. exemptions/advantages, licenses/permissions required, proposed measures/actions that could affect the project)</li> <li>Project's anticipated economic contributions (e.g. foreign exchange, employment, technology transfer etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Project site, including legal agreements for land use rights</li> <li>Civil works and buildings</li> <li>Major and auxiliary equipment</li> <li>Project Management</li> <li>Pre-operating requirements and costs</li> <li>Contingencies (physical) and escalations (financial)</li> <li>Initial working capital requirements</li> <li>Contracting and purchasing procedures to be used</li> <li>Local/foreign manpower and technical expertise required at the planning stage</li> </ul>	<ul style="list-style-type: none"> <li>Construction, start-up, operations</li> <li>Expenditures</li> <li>Funding (including timing of funds needed during project implementation)</li> <li>Regulatory compliance</li> </ul>	<ul style="list-style-type: none"> <li>Description of environment impact</li> <li>Health and safety issues</li> </ul>	<ul style="list-style-type: none"> <li>Total cost of project (e.g. details on major items of fixed assets and working capital)</li> <li>Background statement on all sponsors and participants, showing their financial or other interest in the project construction, operations, and marketing</li> <li>Capital structure: <ul style="list-style-type: none"> <li>Proposed debt/equity structure</li> </ul> </li> <li>Equity: shareholder structure, long term plans (stay private/go public), quasi-equity (subordinated debt)</li> <li>Debt: long-term debt/working capital, domestic/foreign, desired terms and conditions, funding sources already identified</li> <li>Overrun/standby arrangements</li> </ul>	<ul style="list-style-type: none"> <li>Projected financial statements including cash flows</li> <li>Clear statement of all assumptions</li> <li>Sensitivity analyses under different scenarios like interest rate risk etc.</li> <li>Net Present Value (NPV), Internal Rate of Return (IRR) and payback period of the project.</li> </ul>	<ul style="list-style-type: none"> <li>Joint venture agreements (if applicable)</li> <li>Articles of association</li> <li>Government approval documents/concession/business license</li> <li>Land certificate/red line map</li> <li>Mortgages, if any</li> <li>Loan agreements</li> <li>Major contracts including off-take agreements, supply agreements, technical assistance agreement, management agreement</li> </ul>

Source: State Bank of Pakistan

# International Insurance Markets

## Status



# The International Insurance Market: London

- London insurance market total premium exceeded **£50 billion** in 2012
- Comprising of:
  - Company sector: £24.2 billion
  - Lloyd's: £25.5 billion
- Property made the most significant contribution to the company sector (>25% of gross income and taking into account the contribution of the marine Protection & Indemnity (P&I) Clubs)
- Liability and marine business each represented 17%
- Professional lines and motor accounted for 12% each



**London premium +8.6% on  
2011**

Source: International Underwriting Association (IUA) as reported in <http://www.airmic.com/news-story/news-london-insurance-market-grew-86-2012>



# The International Insurance Market:

## Dubai International Financial Centre (DIFC)

- DIFC continues to grow as one of world's top international financial centres
- 862 active registered companies with a DIFC presence:
  - 322 regulated
  - 539 non-regulated companies
  - over 90 retailers
  - 30% are from the Middle East, 10% from Asia, 41% from Europe, 16% from North America and 3% from the rest of the world (as at March 2012)
- Operates mainly as a wholesale insurance market



**Home to six of the 10 largest insurers**

# Innovative Solutions from Marsh

## MAR Product Suite

## Marsh/Unique Advantage

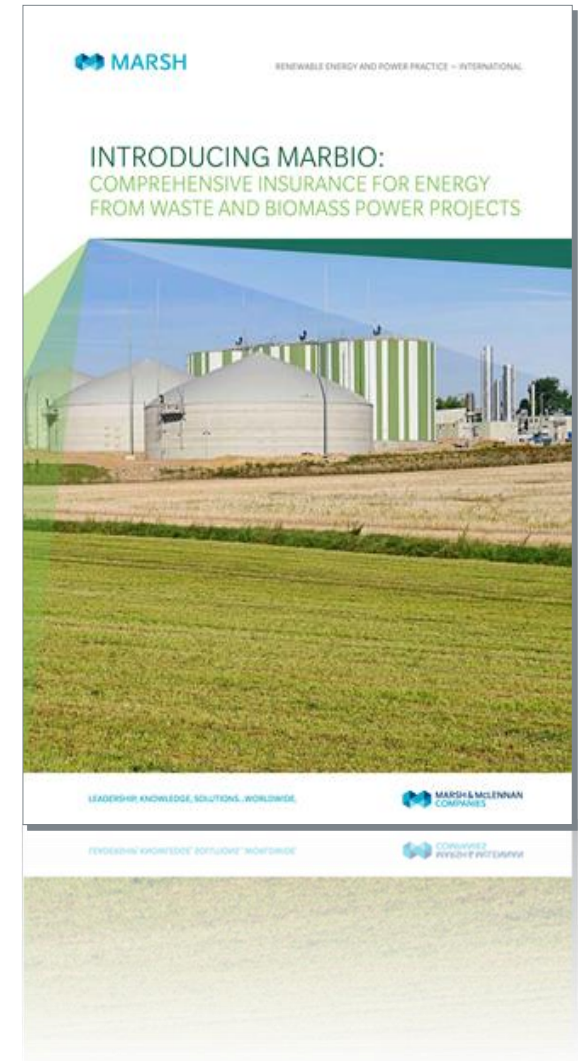
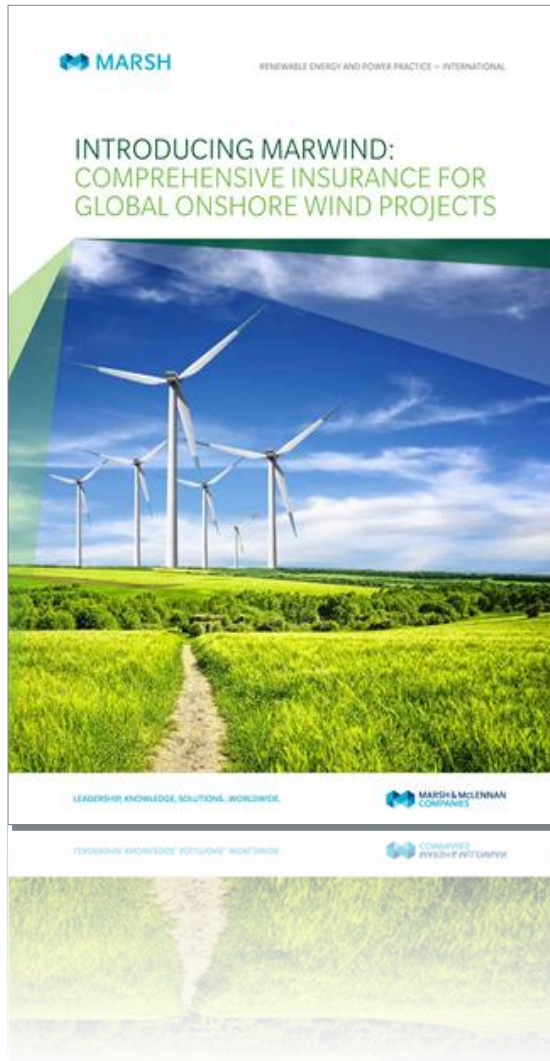
- MAR Model Wording
- Base wording tailored by Project Team for your Project
- Broadest in market scope
- Market and Lender approved
- Contractual Risk Management
- Organic Project Premium modelling
- Unique and Marsh London working together



**Your Competitive Advantage? We think so.**

# Innovative Solutions from Marsh

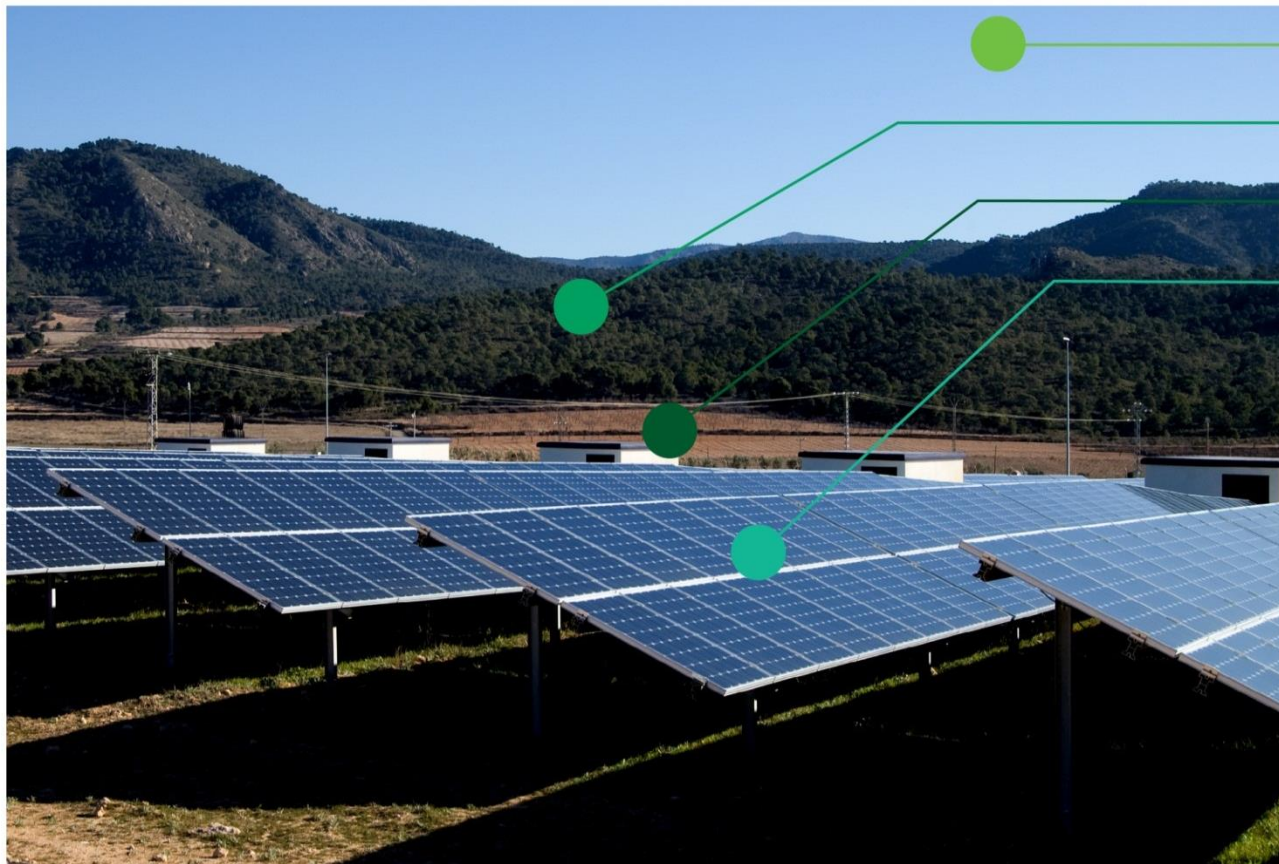
## MAR Product Suite: Seamless cross-class wordings





# Solar PV

## Typical Project risks



### Lack of Sunlight

Revenue Loss / Hedging Options

### Natural Perils

Storm, Flood, Earthquake, Ice, Landslip / Subsidence, Hail

### Business Interruption Risks

Critical Items (e.g. Sub-stations), Grid Connection

### Faulty Inverters

Design / Manufacturing Issues

### Liabilities

Third Parties, Employees, Contractors, Environmental

### Physical Damage Risks

### Professional Design Risks and Others

### Regulatory Risk

(e.g. Change in Tariff Support Regime)

### Terrorism and Political Risks

### Theft

(e.g. PV Panels from Temporary Construction Storage Area)

### Transportation Logistics

Construction Phase O & M Activities

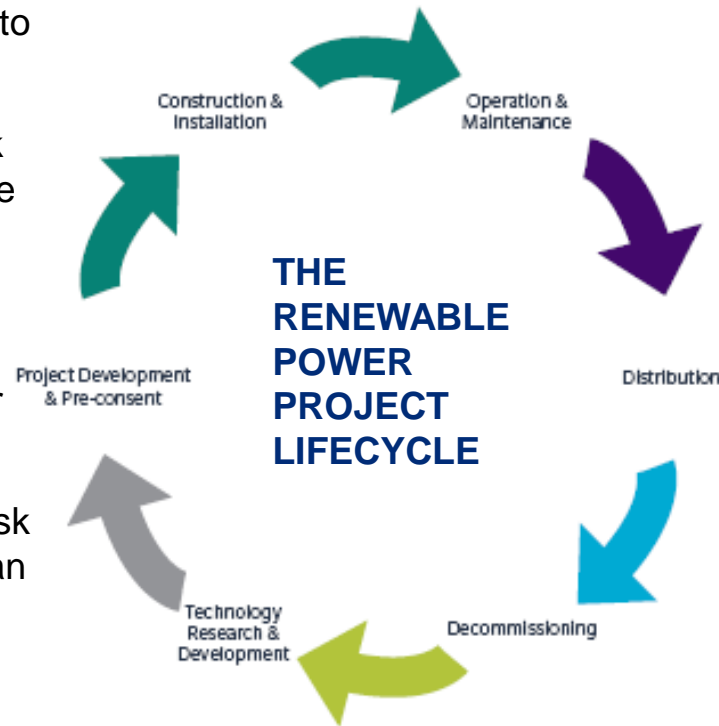
### Warranty Coverages

Period / breadth of cover? Financial Strength of provider?

# Understanding and mitigating project lifecycle risk

## Interfacing with project financiers and advisers and the role of Marsh

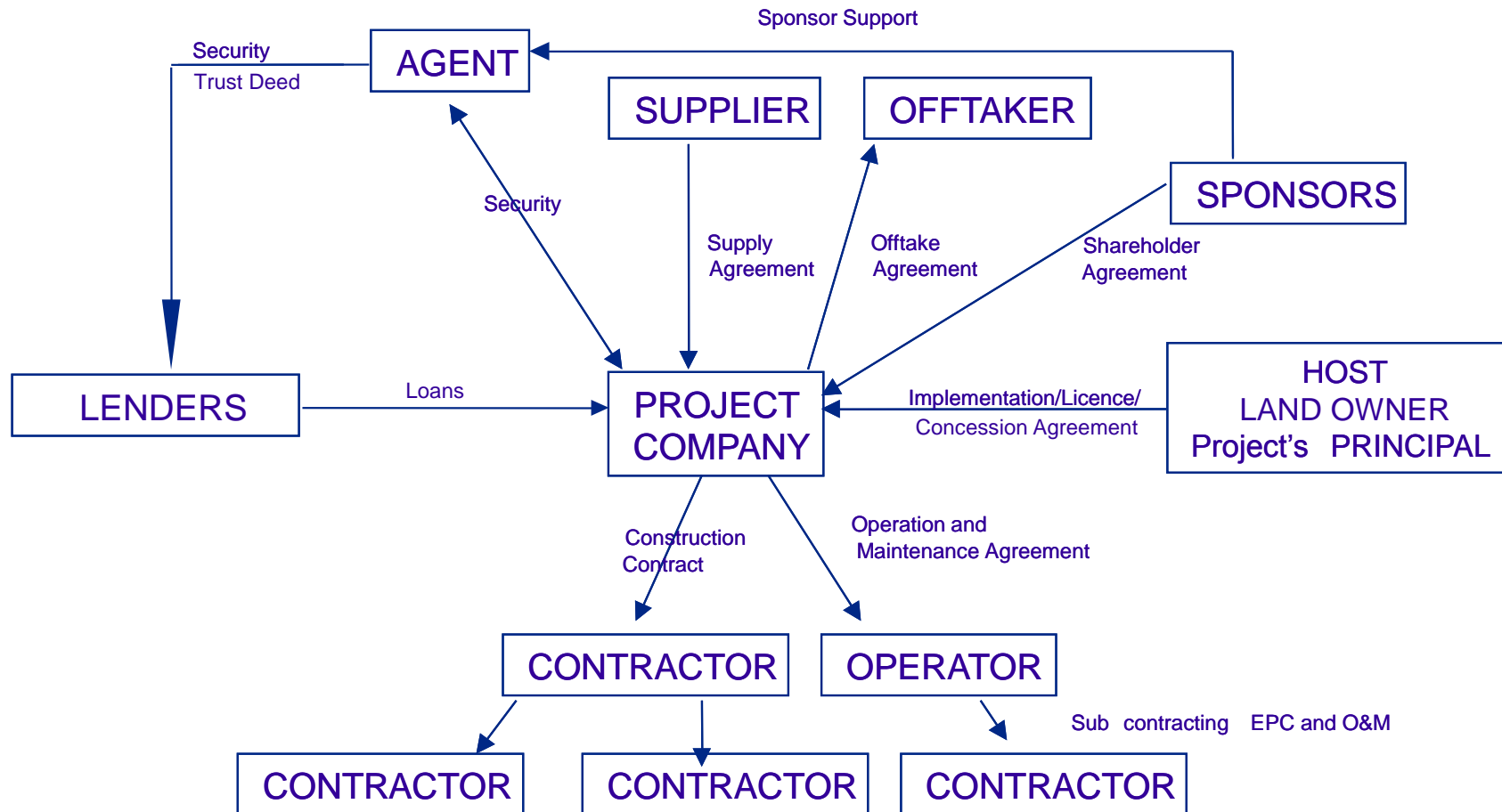
- Lifecycle risk: the changing risk profile as a project passes through planning, design, construction and into operation
- Opportunity to manage risk efficiently **decreases** as the project lifecycle advances
- Inherent risks are challenging with far reaching consequences for **every** stakeholder
- Divergent approaches to risk allocation and mitigation can delay completion
- Projects undertaken on a partnership basis often complex, large and long-term undertakings
- Structured finance is increasingly common



- Marsh can facilitate clients in the timely implementation of an effective risk management strategy and in understanding the magnitude of risk as it relates to the project size and complexity
- Marsh's Renewable Energy and Power and Practice works closely with colleagues in our Infrastructure and Private Equity and Mergers & Acquisition Practices to understand the challenges and risk profile of all stakeholders throughout the project
- Marsh can assist in reviewing and offer guidance on project agreements, and advise on contractual risk allocation and insurance



# Contractual Risk Allocation



# Lenders Requirements

The background of the slide is composed of three distinct horizontal bands of color. The top band is a dark navy blue. The middle band is a medium teal color, separated from the top band by a thin white line. The bottom band is a light sky blue, separated from the middle band by another thin white line. The text 'Lenders Requirements' is positioned in the upper left area of the dark navy blue band.

## Lenders' Insurance Requirements

- Lenders want to protect and guarantee their investment
- Generally engage with an International Lenders Insurance Advisor to provide independent diligence on the proposed solutions, how they conform with provisions of financing agreements (tendency for legal parties to get involved).
- Will relieve themselves of as much risk as possible
- Conservative view that does not take into consideration
  - What coverage is available in the current insurance market
  - What is economically viable (*but is this the owner's perspective?*)
- Have onerous contractual expectations which may clash with insurers' interests

## The Lenders' Wish List of Insurance Clauses

*the list is not exhaustive*

- Naming of Finance Parties
- Insurance validity
- No changes without Lenders' consent
- Loss payee clauses
- Set-off of outstanding premium
- Non-vitiation
- Primary of cover
- Role of Security Agent / Liability of premium payment
- Notices of cancellation, suspension, invalidation
- Cut through / Direct payment / Assignment clauses
- Adequacy of information

## Lessons Learned ?

- Get an insurance advisor appointed in the early stages
  - There are substantial project advantages to appointing the same insurance advisor as transactional broker.
- Consider insurances as part of the financial planning, don't leave until the project is underway
- Owner Controlled Insurance Programme is always preferred by Lenders as the most robust and bankable insurance solution.
- Insurance Advisor has to have good local understanding/representation supported by International solution.





# APPENDICES

# Marsh in Pakistan

## Correspondent office in Karachi

- Legal name: Unique Insurance Brokers (Pvt.) Limited
- Address: Oceanic House, 1st Floor, 6-E, Street 11, Phase V Ext, DHA, Karachi, Pakistan
- Phone: 92-21 35244 153/ 4
- Fax: 92-21 35350 430
- Country Head: Asad ur Rehman Khan
- E-mail: asad.khan@oceanic-group.com
  
- Number of offices: 1
- Number of employees: 25
- Web: [www.unique.com.pk](http://www.unique.com.pk)

Source: Marsh Emerging Markets Factbook 2011



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