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Sales and Buyers Cover Reliable Warranty Insurance

Cover Information
Green Tech Solutions
Munich Re



1. The Sales & Buyers Cover

- Key Facts
- Benefits for Clients (Buyers)
- Market Comparison
- Loss Event
- Submission of Sales Contracts Information

2. Leveraging Insurance in the Sales Process

3. Q&A

Munich Re (Group)

- World's largest reinsurer
- Founded in 1880
- Group result 2018: €2.3bn
- Balance sheet total 2018: €270.1bn
- Approx. 43,000 employees

Rating

| | | |
|----------|-------------------|--------|
| A.M Best | A+ (Superior) | stable |
| Fitch | AA (Very Strong) | stable |
| Moody's | Aa3 (Excellent) | stable |
| S&P | AA- (Very Strong) | stable |



Key Facts: Sales & Buyers Cover

Flexible

Adjusted to client's needs

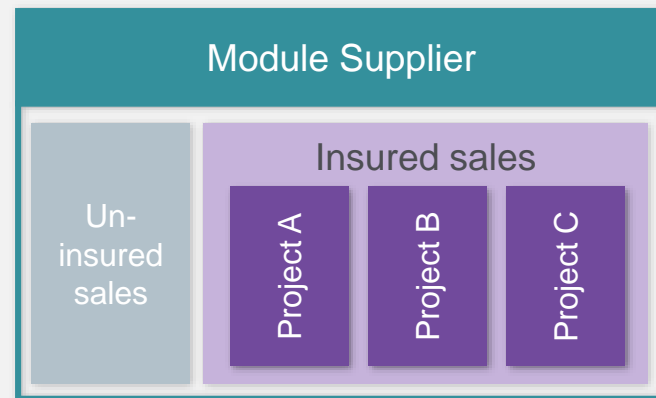
Effective

Planning safety for clients and project investors

Reliable

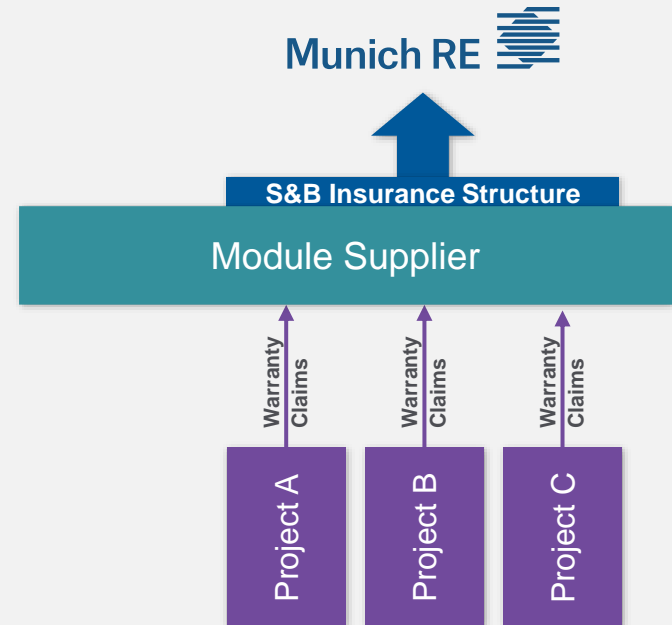
No first-come-first-serve situations or eroding of limits

| | |
|-----------------------|--|
| Policy Period | Modules sold during 01.06.2019–31.05.2020 |
| Indemnity Period | 10 years for Product Warranty 25 years for Performance Warranty |
| Policy Limit | 8% of Sum Insured |
| Deductible | USD 200k or 5% of SI per project |
| Waiting Period | Sales Cover 2 years Buyers Cover 0 years |
| Quota-Share Retention | 20% |



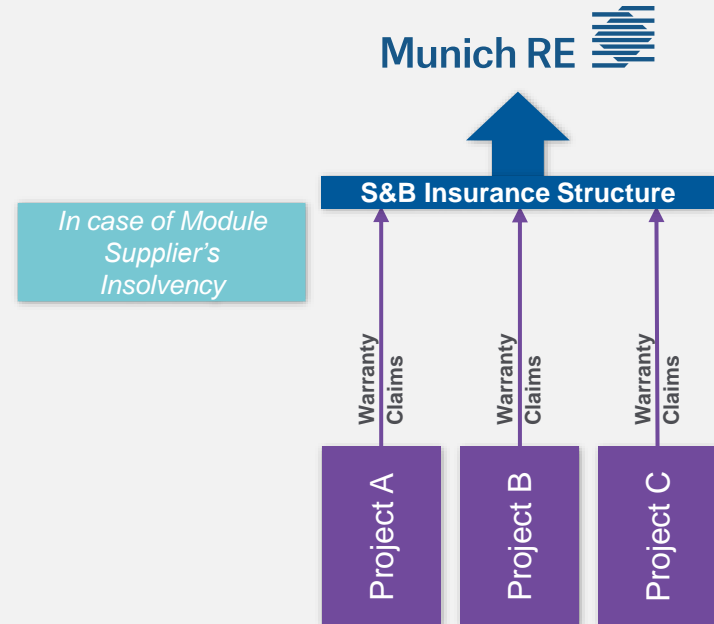
How is the Module Supplier insured?

- Flexible insurance cover for registered sales
 - Make sure to register international sales with Munich Re in order to get full protection
- Competitive advantage for the Module Supplier
 - Use insurance to highlight quality and bankability of modules
- International reputation and marketing
 - You can make use of Munich Re's support



How are the clients protected?

- Investment protection for the clients (Buyers)
- Long-term planning safety for clients and project investors
- Manufacturer is backed-up by strong and international insurer



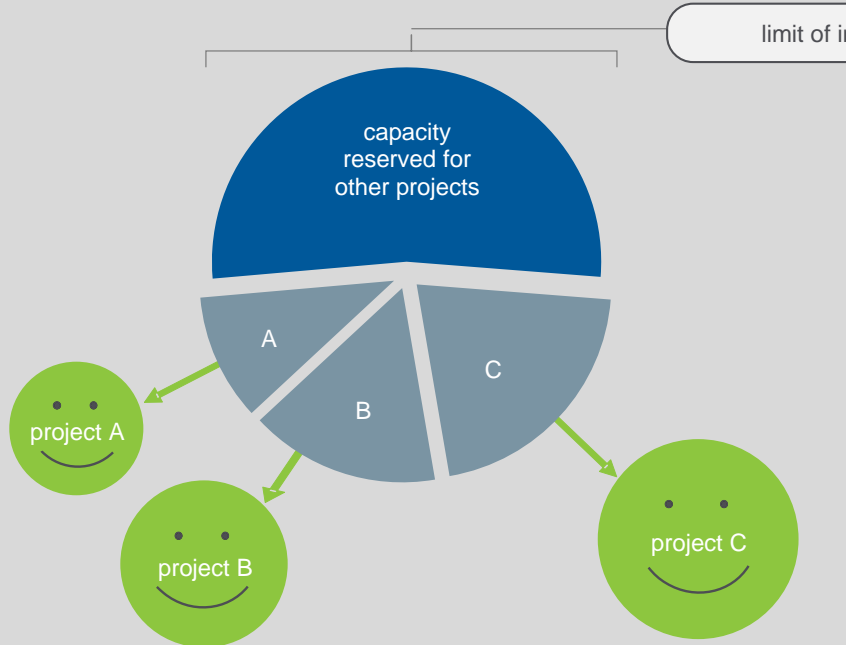
Features of the PV Sales & Buyers Cover

- ✓ Mirrors supplier's warranty including Product and Power Output Warranty
- ✓ Significant risk transfer: high and extendable insurance protection over 25 years
- ✓ In the event of insolvency: Reliable indemnification for the buyers by clearly assigned Sublimits
- ✓ Individualized Buyer's Declaration Letter issued by Munich Re

 The **PV Sales and Buyers Cover** by Munich Re ensures **bankable** PV modules

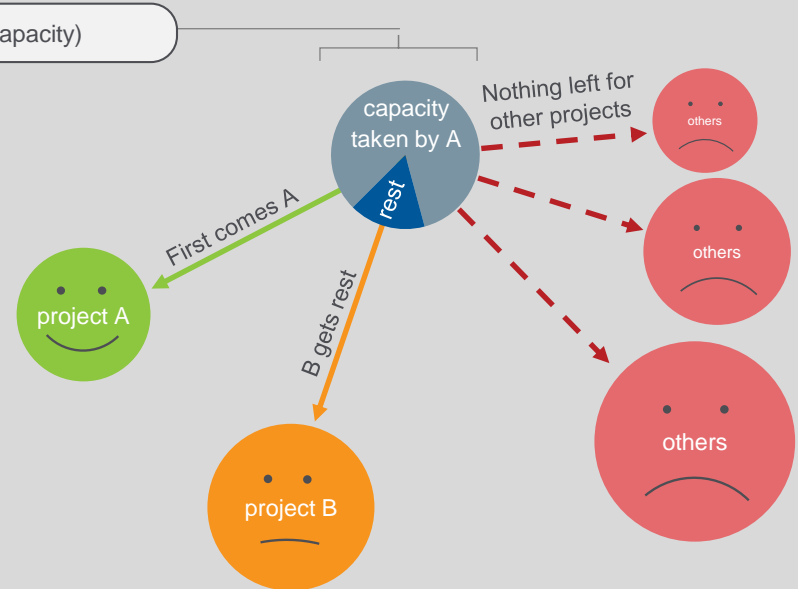
| | Munich Re's PV Sales & Buyers Cover | Other market solutions |
|--|--|---|
| <p>Local support and claims handling A global network of local offices and insurance partners is essential for your support and efficient claims handling</p> | International presence | No global presence |
| <p>Financial rating Partners with strong capital base strengthen your balance sheet</p> | AA- rating (S&P) | Unclear insurance carrier structure |
| <p>Limits The Limit (in % of a system's module value) is the maximum payout of the insurance. Meaningful protection starts at 5%</p> | 5%-10% | 1%-2% |
| <p>Assignability For warranty coverage following a manufacturer's insolvency, limits should be clearly assigned to each project</p> | Reserved budgets (dedicated Limits) are clearly assigned to each project | Limit are shared in a portfolio: "First come, first served" payout |
| <p>Period of Coverage Coverage with one reinsurance partner for the whole duration ensures accountability</p> | True 25 year cover with one seamless Limit | Low Limit is split up and reduced after year 10 |
| <p>Deductible The deductible is born by the project and must be smaller than the project size</p> | Deductible significantly lower than minimum project size | Deductible is allowed to exceed the project size |
| <p>Rate-on-Line Rate-on-Line = Premium / Limit. The "price per protection"</p> | Low, < 10% | Extremely high, >30% Can even be >100% in later years!!! |
| <p>Munich Re Top-Up Cover or Option Cover Some projects require higher limits or additional customized cover</p> | Qualified | Not qualified |

High limit of insurance with dedicated portion for each project



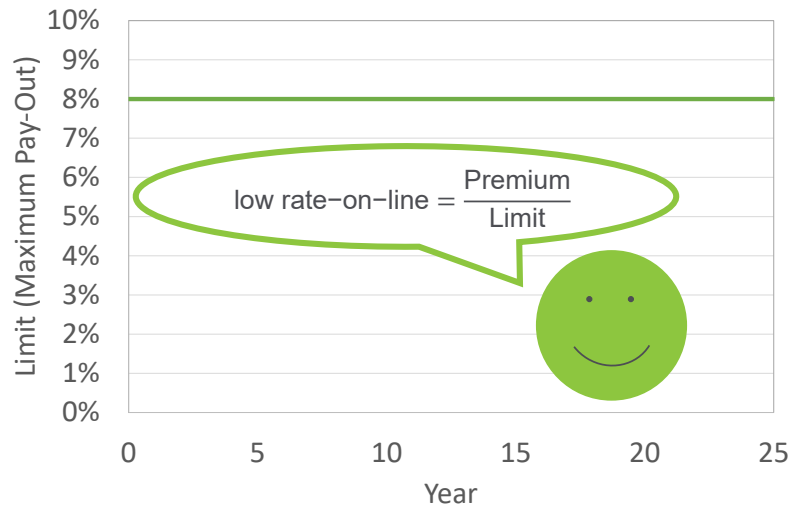
Meaningful risk-transfer for project owners gives improved bankability

Low limit of insurance accessible on a „first come, first serve“ basis



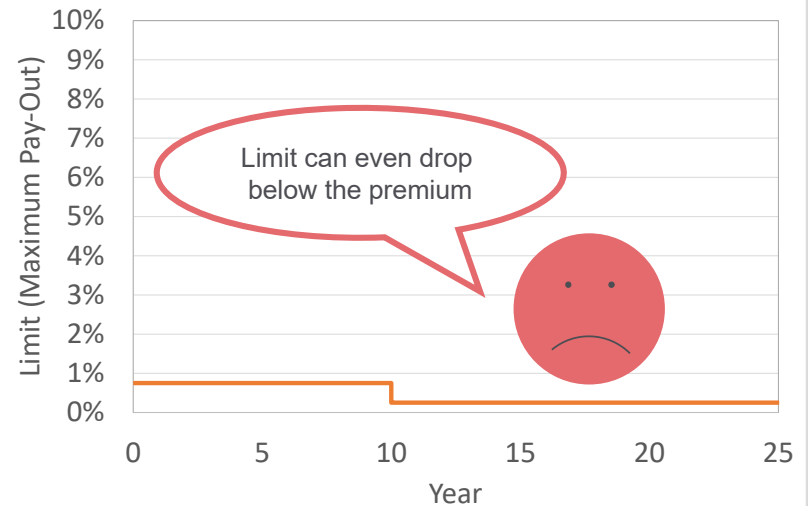
No real risk-transfer for project owners

High – and constant – insurance limit for the whole 25 year period



True “25 year cover” with high limit of insurance

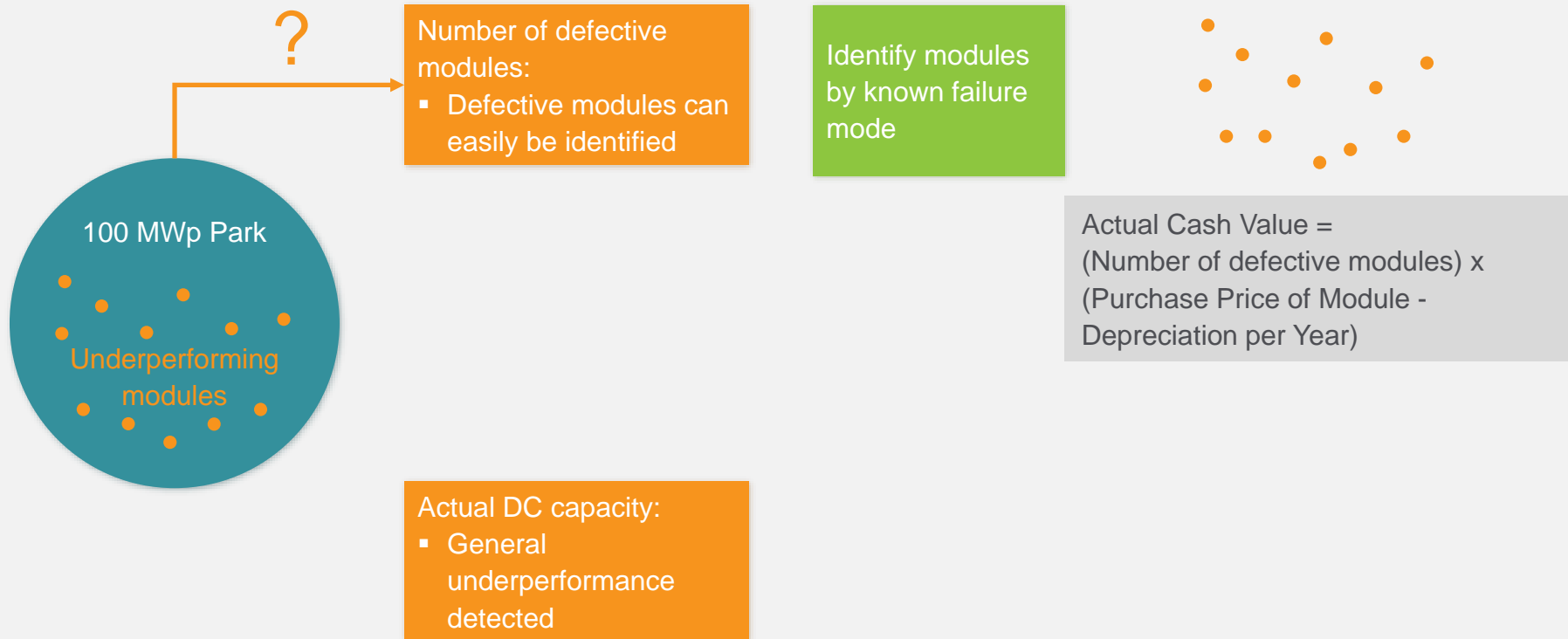
Low insurance limit of insurance with reduction after 10 years



A 10 year cover is (misleadingly) called “25 year cover”

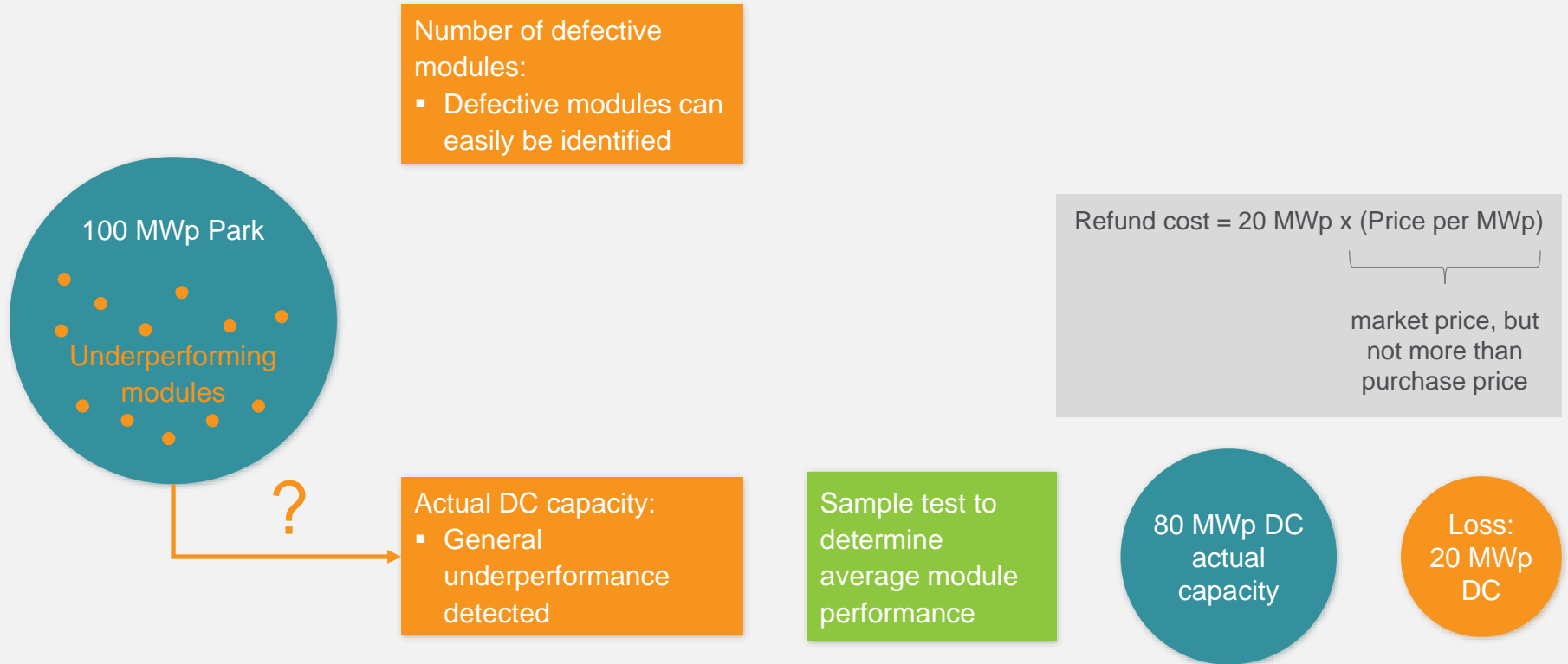
What happens in case of a Loss?

Two possible ways to indemnify (examples)



What happens in case of a Loss?

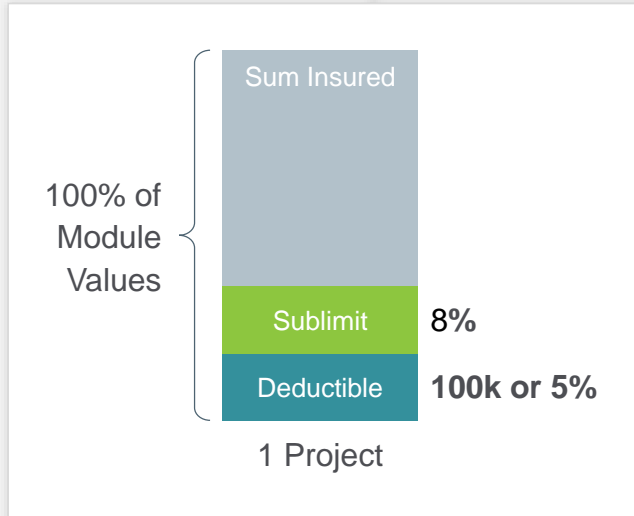
Two possible ways to indemnify (examples)



How does the insurance structure look like?

- Indemnification = (Loss – Deductible)
- In aggregate not higher than the Limit

S&B Insurance Structure

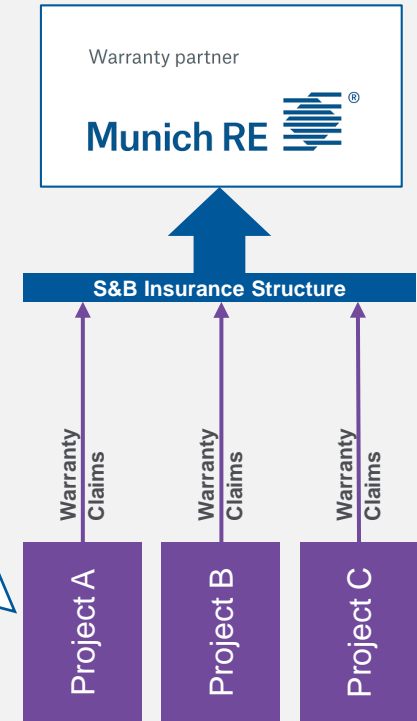
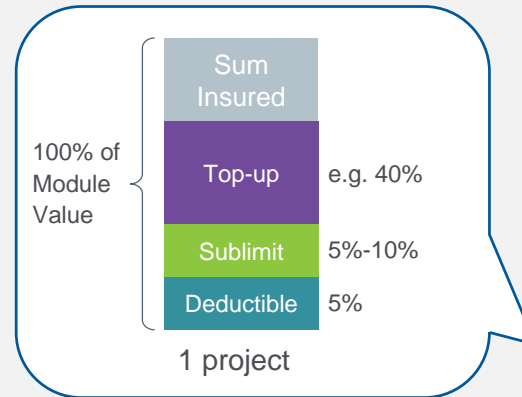


How can a customer extend their protection?

- For most of projects, 5%-10% independent limit is sufficient to meet their financing needs.
- Some project owners might need higher limits to enhance the bankability of the project or their future transfer value.

Qualified for Top-Up Cover

- Buyers of Insured Modules have the possibility to place a **Top-Up Cover** directly with Munich Re.
- In addition, Buyers of Insured Modules can qualify to add:
 - Costs for Installation, Transportation, etc
 - Loss of Revenue





Marketing

- **Warranty Partner List** on Munich Re webpage
- **Insurance Label for Marketing:** “Warranty Partner Munich Re” Label can be used (separate Agreement must be signed)
- **Press Release:** When business cooperation is established, Munich Re can support and jointly publish online press releases on well-known photovoltaic websites and magazines

For all marketing activities: Please contact Munich Re



Munich Re Warranty Partner

On a quarterly basis Munich Re issues a Warranty Partner List with photovoltaic module manufacturers that meet the following criteria:

- The Warranty Partner has passed Munich Re's technical audit and quality review.
- The Warranty Partner has bought insurance capacity for at least 100 MW which is reinsured by Munich Re.
- The Warranty Partner is entitled under that insurance to register Buyers of large scale PV projects for a warranty back-stop with exclusively allocated insurance capacity. Registered Buyers are granted third-party beneficiary status in case of insolvency of the manufacturer.

PV module manufacturers meeting Munich Re's Warranty Partner criteria:

Aiduo PV
Adani Solar
Beyondsun
Econess Energy
HT-SAAE
IREX
Jinergy
Leng Solar
Risen Energy
Suntech Power
VSun Energy

Munich Re recommends that Buyers request a Beneficiary Declaration Letter issued by Munich Re to confirm and verify that their PV modules have been registered. (Such a request should be made to the Warranty Partner).

Disclaimer

Not all Buyers of PV modules from the Warranty Partners listed above are eligible or have been reported to Munich Re as registered Buyers. Unless and until a Buyer has been declared to Munich Re and registered, no reinsurance coverage from Munich Re is afforded.

Warranty partner

Munich RE 

PV Warranty Partner List

www.munichre.com/PVWarrantyPartner


- The list, **does not** look at “bankability” in the past, production capacity, or shipments.
- The list helps potential PV module buyers to find suppliers, with PV warranty insurance.
- In addition to the benefit of insured warranty claims in the future, the listed suppliers
 - must annually pass the Munich Re due diligence process, and
 - have received material insurance capacity in the past, and
 - have a good track-record regarding insurance losses.

→ www.munichre.com/PVWarrantyPartner

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Lines of business

- Captive Solutions
- Casualty
- Cyber Solutions
- Energy
- Engineering
- Property
- Special Enterprise Risks
 - Green Tech Solutions
 - Bioenergy
 - LED technology
 - Photovoltaics (PV)
 - Munich Re Warranty Partner**
 - Wind Power
 - Electrical Energy Storage Systems
 - New Risk Solutions



Publications

- » Munich Re PV Warranty Insurance Buyers (PDF, 185 KB)

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Leveraging Insurance in the Sales Process



Sales Meetings


- **Reinsurance Coverage Declaration** by Munich Re for the manufacturer
- **Presentation** “Information for Beneficiaries” for the Sales Force in sales meetings
- **Munich Re Flyers**




Reliable warranty insurance:
A key metric of bankable PV modules

Information for Beneficiaries

Green Tech Solutions
Munich Re

NOT IF, BUT HOW Munich RE 





Reliable PV warranty insurance
A key feature of bankable PV modules


The Warranty Risk of Solar:
The photovoltaic (PV) module market is undergoing pronounced consolidation. Developers and investors are concerned that PV manufacturers may become insolvent, affecting performance and product warranties over their entire lifetimes. This would drive up operating costs and decrease return on investment. Munich Re's PV Warranty Insurance is an established market standard.

Munich Re's PV Warranty Insurance gives you:
- Long-term coverage
- High insurance limit
- Retain the capital
- Mitigate risk, avoid potential claims
- Increase return on investment

Our PV Warranty Insurance is designed to increase confidence in the long-term performance and financial attractiveness of PV projects. The solution is designed to protect and attract manufacturers' product and ability to pay accessions payments during the period of 20 years up to 30 years for glass-glass modules. In the event of the manufacturer's insolvency, the policy is immediately transferred to you at a required lower amount, but your warranty claims remain covered. Receive all manufacturer's facts and download the cover for a Buyer's Declaration letter from Munich Re. This insurance enables you to take control of the Warranty Risk of Solar – and the return acts as your seal of approval.



Munich Re 

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Munich Re
Reinsurance Coverage Declaration

Reinsurance Coverage Declaration

We herewith confirm that Munich Re is reinsuring the Sales and Buyers Insurance Policy which was issued by Primary Insurer to:

xxx ("Client")
Address:

The Sales and Buyers Insurance Policy is a Back-Stop for Client's Limited Warranty and protects both the manufacturer and its sales (Buyers) of photovoltaic modules, and which have been registered to be included under this insurance during the Policy Period of January 1 - December 31, xxx. The terms and conditions have been agreed upon, which include:

- Insurance limit dedicated exclusively to each PV project / Buyer (no "first-come-first-serve")
- Insurance Program insures Client's Limited Warranty, including Product Defect and Performance Output.
- High insurance limit for 26 years, which does not decrease in later years and is non-cancelable (coverage periods even if Client becomes insolvent)
- Client's customers, whose panels have been registered with Munich Re, will enjoy an irrevocable and insurance-backed warranty which provides their party beneficiary status to this insurance in case of insolvency or bankruptcy.
- Deductible does not erode the insurance limit
- PV projects are qualified for additional Munich Re insurance (Top-Up Cover / Option Client)
- Immediate coverage (no waiting period)
- A.M Best A+ rated reinsurer

We recommend that Buyers request a Beneficiary Declaration Letter issued by Munich Re to confirm and verify that their panels have been registered with Munich Re (through a request to Client).

Munich Reinsurance Corp
Name: _____ Name: _____

Disclaimer: Please note that this document is for reference only and the policy is only binding and active if the full premium has been paid and the Policy has been listed under Munich Re's (20) Business Suite www.munichre.com. This is not an offer. The specific rights and obligations of all parties are contained in the full Photovoltaic Sales Policy and the Photovoltaic Buyer Policy. Please note that the Policy is only binding and active if the full premium has been paid. If you would like to view the complete terms and conditions of the Photovoltaic Buyer's Policy, please contact Primary Insurer.


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Leveraging Insurance in the Sales Process



Declaration of Beneficiaries

- **Declare** each Beneficiary as soon as possible to Munich Re **with the Excel Sheet**
- **Declaration of Beneficiary** can then be issued by Munich Re for the buyers as proof of insurance
- **Insurance Information** can be issued to the buyers by the manufacturer with a template provided by Munich Re. The Insurance Information Letter has detailed information of the insurance policy

Munich RE 

31 January 2019

Declaration of Beneficiary
for
XYZ Sales & Buyers Policy 2018
(Policy No.: xyz)

In reference to the Photovoltaic Sales Policy and the Photovoltaic Buyer Policy for xyz (XYZ) with the Policy Period 1.1.2018-31.12.2019 issued by Great Lakes Insurance plc (GLISE), and reinsured by Munich Reinsurance Company (Munich Re), we herewith confirm that Munich Re has been notified of the following Sales Contracts (seller's) by GLISE:

These Sales Contracts are considered one Insured Sales Contract under the relevant Photovoltaic Sales Policy and the Photovoltaic Buyer Policy. The Buyer of the Insured Sales Contract is therefore Beneficiary under the relevant Photovoltaic Buyer Policy.

| | |
|-----------------------------|---------------|
| Module supplier | xyz |
| Name of Buyer (Beneficiary) | Example Buyer |

| Number of Sales Contract | Size of Sales Contract (in MWp) |
|--------------------------|---------------------------------|
| ABC-1 | 0.50 |
| ABC-2 | 0.50 |
| ABC-3 | 0.50 |
| ABC-4 | 0.50 |
| Total (in MW) | 2.00 |

Disclaimer: This is not a legal document, and does not contain all of the terms and conditions of the Policy which may potentially limit (or exclude) coverage. The specific rights, and obligations of all parties are contained in the full Photovoltaic Sales Policy and the Photovoltaic Buyer Policy. Please note that the Policy is only binding and active if the full premium has been paid. If you would like to have the complete terms and conditions of the Photovoltaic Buyer's Policy, please contact the module supplier to receive an Insurance Letter.

Munich Reinsurance Company

Munich RE 

INSURANCE INFORMATION

Please be advised that the Photovoltaic Modules are XYZ purchased during the period of 01.01.2018 - 31.12.2019 are insured under an insurance policy ("Policy") purchased by Manufacturer ("Manufacturer") from Insurance Company ("Primary Insurer"), and reinsured by Munich Reinsurance Company ("Munich Re"). XYZ is a beneficiary of the Policy, and not a party to the Policy.

THIS IS NOT A LEGAL DOCUMENT: This does not contain all of the terms and conditions of the Policy. This document is merely an overview of the main benefits of the insurance available to XYZ as Manufacturer's Insured and is unable to compare with the complete conditions of the Policy ("Policy"). Therefore, we would like to provide you with certain relevant information contained in the Policy as follows:

COVERAGE:

1. In case the Actual Munich Re Beneficiary is below the maximum percentage of covered power rated contained in the Warranty (defined as "Warranty") for each Manufacturing unit (MWp) (defined as "Warranty Unit"), the Insured will pay a Loss under the Policy directly to XYZ or the most high Manufacturing Insured unit subject for other names and conditions as set forth under the Policy.
2. In case the Photovoltaic Modules are defective due to the reasons set forth in Clause 10 of the Warranty (the conditions are defined under the Policy), the Insured will pay a Loss under the Policy (except to XYZ) in the event that Manufacturer is not bound or subject to other warranty conditions as set forth under the Policy.

A Benefit is occurring several times within a period of more than 24h per year, or (falling out of affected Insured Sales Contracts, or (falling out of the same Insured Sales Contracts) shall be considered as single Benefits under the Policy.

LIMIT OF COVERAGE:

50% of the Sales Price of all Photovoltaic Modules in XYZ's Insured Sales Contract.

EXCLUDED CONDITIONS:

- It shall be a condition applicable to all Insured Sales Contracts that the XYZ comply with the following requirements:
- Material of Loss:** The Insured must not be greater than 5% of the Sales Price of all Photovoltaic Modules in the respective Insured Sales Contract as of 30.09.2018.
- Mitigation:** XYZ will pay for all possible ground and prepare the Photovoltaic Modules during and after a Benefit and take necessary and effective steps.
- Notification of Benefit:** XYZ attempts to notify the insurer of any Benefit, or any matter that may reasonably be expected to give rise to a Loss.
- Claim Settlement:** XYZ shall deliver a Claim Notice in the form attached hereto to the Insurer, signed by XYZ and witnessed by a notary, or an expert or reasonably practicable NOTARIAL PUBLIC OFFICER, the XYZ are aware aware of a Benefit or after XYZ becomes aware of any Loss or any Benefit or matter that could reasonably be expected to give rise to a Loss.
- Insolvency/Claim Settlement:** Any Claim Notice submitted by XYZ shall include proof of insolvency of the Insurer.
- Retention of Claim Settlement:** If XYZ has submitted a claim to the Insurer, then XYZ shall not

XYZ may receive a copy of the full policy which lists details of terms and conditions, please contact reinsurance@munichre.com to request a copy of the complete policy.

THIS DOCUMENT IS NOT A LEGAL DOCUMENT AND IS NOT BINDING. Certain applicable laws are set forth in the back of this document by XYZ. Conditions may vary from time to time.

How are Buyers (Beneficiaries) referred to Munich Re?

- The easiest way to submit projects to Munich Re is with the supplied excel sheet
- Sales Contracts smaller than 2 MWp can be aggregated under one administrator/buyer

| Name of Buyer (Beneficiary) | Module supplier (insured's name) | Unique Name/Number of Sales Contract | Size of Sales Contract in nominal DC capacity (Must not be smaller than 2 MW per Buyer) | Product type number (State if several are used) | Name of Solar Park and Location | Price per Wp (in USD) | Amount (Pcs) State per product type if several are used (please use separate rows then) | Total value of PV modules (in USD) | Warranty start date | Serial Numbers of sales contract |
|-----------------------------|----------------------------------|--------------------------------------|---|---|-------------------------------------|-----------------------|--|------------------------------------|---------------------|--|
| Buyer A | | AB | 4,000,000 | PV-Module-AB | several small sized projects in XXX | 0.x | xx | 3,000,000 | 01/08/2018 | (Please submit separate excel sheet w with all serial number per sales contract) |
| Buyer B | | CD01 | 20,000,000 | PV-Module-AB | Project XYZ, phase 1 | 0.x | xx | 8,000,000 | 01/08/2018 | (Please submit separate excel sheet w with all serial number per sales contract) |
| Buyer B | | CD01 | 20,000,000 | PV-Module-DC | Project XYZ, phase 2 | 0.x | xx | 8,000,000 | 01/10/2018 | (Please submit separate excel sheet w with all serial number per sales contract) |



Representation

- Munich Re is actively supporting clients at various conference all over the world to answer any insurance related questions from Buyers, investors or banks
- Supporting our clients on trade fairs: Intersolar Europe, Solar Power International (SPI), SNEC, and others (Vietnam, Thailand, Indonesia, South America, ...)
- Munich Re has offices around the world with Green Tech Solution contact persons in in San Francisco, Mumbai, Hong Kong, Japan, London



Hong Kong



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Thank you for your attention!

Cover Information

Green Tech Solutions
Munich Re

