

1. Introduction Evergy Engineering

Engineering and consulting company with pure focus on renewable energies

- Founded in 2003 in Munich.
- Privately owned and managed by the founders and partners.
- Specialized in technical consultancy services for Solar, Wind and Hydro.
- More than 30 engineers, including 3 Italian engineers, 3 French engineers and 5 Indian engineers, plus 12 freelancers.
- Office with two further employees in Madrid (Spain) as well as one office in Bologna (Italy) and one office in New Delhi (India).

1. Introduction Evergy Engineering II

Broad experience in PV and Wind energy projects

- PV:
 - More than 750 PV-Plants with more than 8.7 GWp in total and investments of up to EUR 200 Million in single projects.

- Wind:
 - More than 400 Wind projects with approx. 7.2 GW capacity in total with investments of up to EUR 330 Million in single projects.

- Key Markets:
 - Germany
 - Western and Eastern Europe (Spain, Portugal, Italy, UK, France, Romania, Czech Republic, Poland, Bulgaria)
 - Asia (India, Japan, Nepal, Bangladesh)
 - UAE
 - North Africa (Egypt, Morocco, Tunisia)

- Offices in Munich, Madrid, Bologna and New Delhi



2. General Services – Key Qualifications



Technical Consultancy on any technical aspect at any stage of the project



Development / Planning

- E.g. preparing permitting and execution planning
- Organizing tender processes (e.g. for constructions and O&M services)
- Structuring concepts, negotiation of contracts for the operation and maintenance

Construction

- Expert opinions on technical/economic issues (e.g. grid connection)
- Technical controlling and reporting on construction progress
- Technical inspections for acceptance and follow-up of defects, PAC tests, etc.

Transaction (Sales / Financing)

- Technical Due Diligence including a project evaluation and a comprehensive risk analysis for project sponsors (investor, lender)
- Support in contractual aspects (technical)
- Review, due diligence and preparation of solar resource and energy yield assessments (own and meta-studies)

Operation

- Technical controlling and reporting
- Operational data analysis
- Technical inspections onsite
- Power plant performance testing (EPC / Supplier warranties)

3. Technical Due Diligence PV



Technical Due Diligence includes the following aspects in particular

**Production /
Energy Yield**

Construction

Permit

Grid Connection



**Technical Concept
Design Review**

Plant Components

Contractual Review

Site Visit

Operation

See also annex for details

4. Clients

Some of our references include

- Banking/Lenders:
 - KfW Entwicklungsbank, Frankfurt
 - KfW IPEX, Frankfurt
 - Deutsche Bank, Frankfurt
 - World Bank
 - ...

- Equity:
 - Allianz Specialized Investments
 - Allianz Global Investors Europe GmbH
 - O2 Power, New Delhi
 - GE Energy Financial Services, CT, USA
 - ...

- Project developers and manufacturers:
 - Shell Wind Energy BV, Den Haag
 - Module manufactures, for example Hareon, ReneSolar, etc.
 - ...

5. New Trends in Solar PV



Evergy has been involved from the early beginnings of new trends in Solar PV

- Energy Storage Systems
- Bifacial Modules
- Floating PV
- Agri PV

5. Floating PV

References Floating PV

Projects

- Queen Elizabeth II Reservoir	6.3 MWp
- Sekdoorn	14.5 MWp
- Plegt Vos	15.7 MWp
- Van der Weil	13.5 MWp
- Bomhofspas	27.3 MWp
- Tynaarlo I and II	15.1 MWp
- Beilen	15.8 MWp
- Uivermertjes	19.8 MWp
- Kaptai Dam	unspecified yet
Total capacity	128 MWp

EPC

- BayWa r.e.
- Lightsource

5. Battery Energy Storage Systems (BESS)

References BESS

Projects

- Gaultney	6.3 MW / 8 MWh
- Alt Daber	2 MW / 1.6 MWh
- Vlagtwedde 2	30 MW / 20 MWh
- Kyon (Elsteraue)	13.8 MW / 16 MWh
- Kyon (Bad Döben)	13.8 MW / 16 MWh

Operational Strategies

- Short Term Operating Reserve
- Frequency Response (Primary Control Reserve, FCR - 15min or 30 min)
- Intra Day Market (ID, Arbitrage)
- Avoided Network Charges (vNNE)

Mostly a combination of all strategies are applied for a system

Pricing normally determined via bids (large portion of management and knowledge involved)

End of presentation



Thank you for your attention.