



Your partner for water, energy and environment

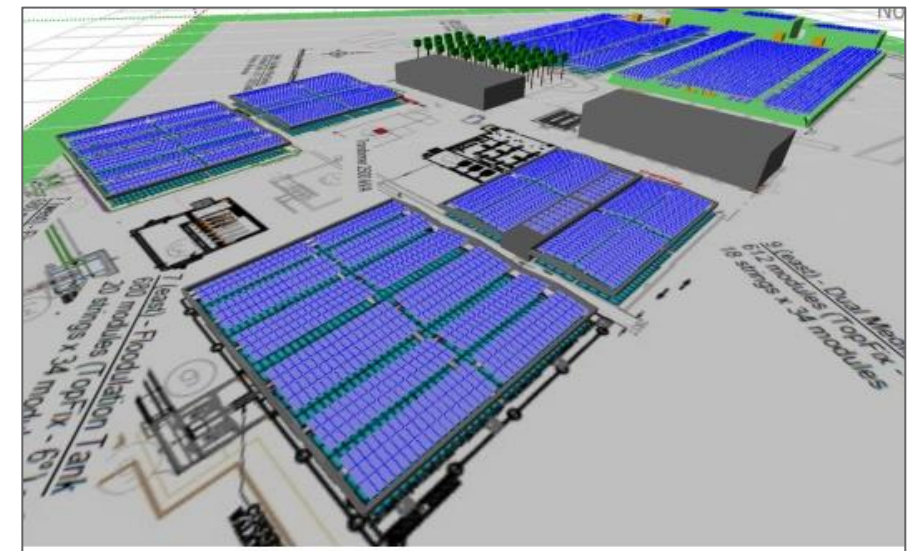
Praktische Erfahrungen mit den Investitionsgarantien des Bundes
Beispiel Photovoltaikanlage Wasserwerk Duong River, Hanoi, Vietnam

AGENDA

1. KEY FACTS OF THE INVESTMENT OBJECT
2. INVESTMENT CHALLENGES TO BE COVERED
3. CHOSEN INVESTMENT STRUCTURE
4. SUMMARY

1. KEY FACTS OF THE INVESTMENT OBJECT

- AquaOne Water JSC, a leading player in the environmental sector, realized between 2016-2019 Phase 1 of the Duong River Surface Water Treatment Plant Project
- The Plant has an actual capacity of 350,000 m³/d (equivalent drinking water demand 2 Mio. inhabitants) to supply the city of Hanoi with clean drinking water
- Phase 1b with a capacity of 200,000 m³/day of the plant was built by us as Aone Deutschland AG between 2018-2019
- As an option we offered to realize a solar power plant focuses on generating electric energy for self-consumption at sustainably lower costs than current and future EVN rates on basis of a DBFOO* Model
- The solar power plant has a total capacity of 2,7 MW_{peak} and can cover around 25% of the actual yearly energy demand of the Water Treatment Plant



2. INVESTMENT CHALLENGES TO BE COVERED

Long-term operational availability

Challenges

- Design on basis of German Standards
- Use of German Technology proven in practice
- Installation and Warranty by international experienced contractors
- Supervision and operation by international experts



Consequence

Higher specific investment costs per kW peak in comparison to a pure local solution

2. INVESTMENT CHALLENGES TO BE COVERED

Debt Capital conditions

Challenges

- Internal Rate of Return of a solar project is limited (between 9-12 % depending on solar radiation)
- Local debt rate in Vietnam is around 7-9% not fixable in the long term
- Higher specific Investment costs per kW peak in comparison to a pure local solution to secure long-term operational availability



Consequence

Long-Term fixable Debt Capital according to German conditions is needed to be economic

2. INVESTMENT CHALLENGES TO BE COVERED

Stable long-term orientated PPA

Challenges

- Focus on a Roof-Top Solar Plant with direct PPA due to
 - ❖ Production near at the consumer
 - ❖ Acts grids relieving and avoids any blackouts
 - ❖ Can be designed on the base load demand from the customer (up 100% self-consumption)
 - ❖ Avoids complicated regulatory processes for classical state PPA

In the central province of Ninh Thuan, one of the solar power hotspots in the country, **nine of 15 operating solar projects are running at just 30-60 percent of their maximum capacity,** according to the province's Department of Industry and Trade.

The reason for this is that Vietnam's transmission lines are not capable of loading a surge in output from renewable plants. As many as 91 solar farms began operating in the country last year after the government offered an attractive incentive tariff rate, causing some transmission lines to operate at up to 360 percent of their safe capacity limit.



Direct Power Purchase Agreement should be agreed between Vietnamese-Vietnamese companies



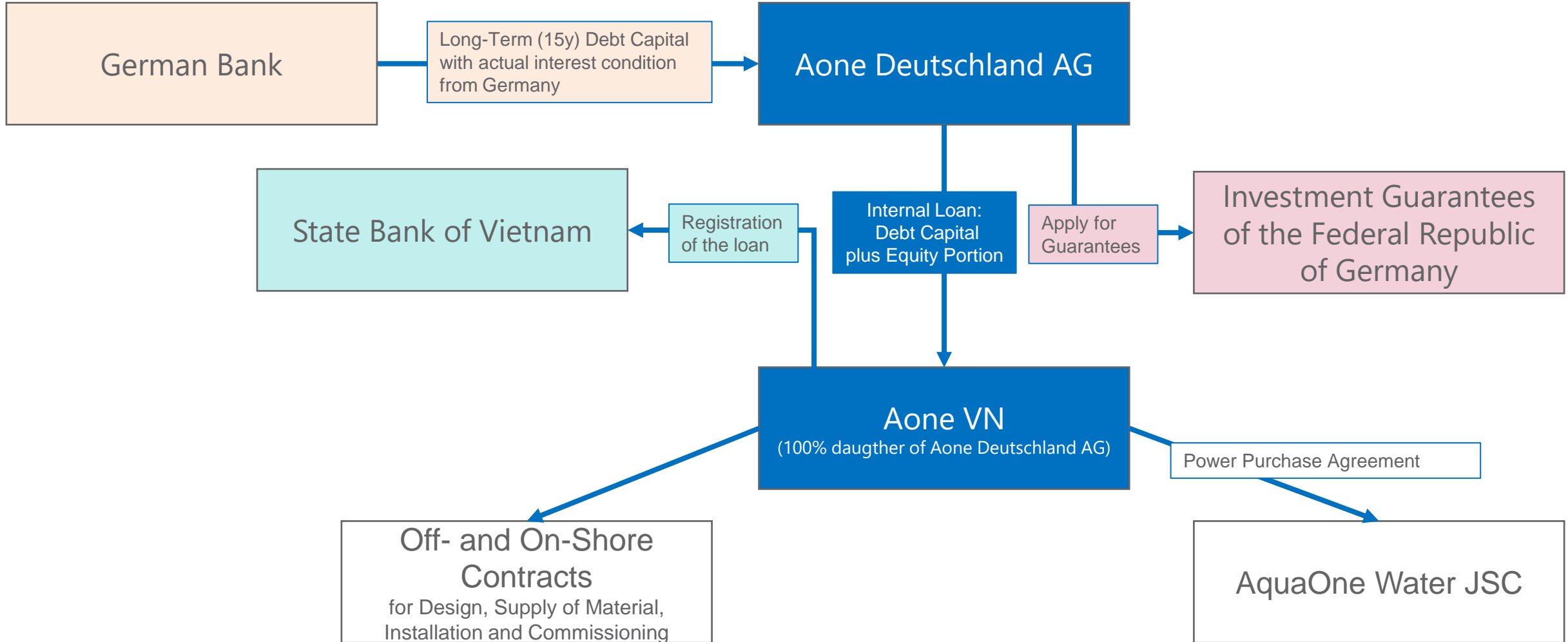
2. INVESTMENT CHALLENGES TO BE COVERED

Summary

Find a finance structure that our local company Aone VN

- can sign a direct PPA
 - gets a long-term fixable Debt Capital according to German conditions
- to realize a Roof-Top Solar Plant according to German design and quality Standards.

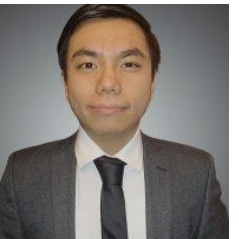
3. CHOSEN INVESTMENT STRUCTURE



4. SUMMARY

- ❖ Investment Guarantees of the Federal Republic of Germany as the central element to satisfy the securities issues of involved parties in our Investment
- ❖ Easy Application Process
- ❖ With PWC a counter part which support the applicant at eye level
- ❖ Quite unknown instrument in daily business (we just heard from another company about this)

CONTACT



Contact

ALEXANDER REDEKER
CEO Aone Deutschland AG

M +49 172 7599 226

E alexander.redeker@aone-deutschland.de



Offices

-  Leipzig, Germany (Head Office)
Gustav-Adolf-St. 12, Leipzig 41015, DE
-  Ho Chi Minh City
Deutsche Haus, 33 Le Duan Str., HCMC, VN
-  Hanoi
No. 24 Lane 6, Trinh Cong Son Str., Hanoi, VN

www.aone-deutschland.de

COMPANY FACT SHEET



TILIA GROUP an experienced German based environmental service provider

- Wide range of expertise in environmental sector acting as Co-Investor, Consultant or Operator for our clients
- For more than 10 years in the market with an expected group revenue over 40 Mio. Euro in 2019
- Over 150 engineers and senior advisors working world wide
- Active with their subsidiaries TILIA, DECON International, Aone Deutschland AG and Deutsche Wasser International in more than 20 countries with more than 500 reference projects



Our Partners

- Municipalities and cities
- Utilities in the energy, water, wastewater, waste or transportation sector
- Industrial enterprises
- Development organizations



Aone Deutschland AG with the focus in Vietnam Market

- Started in Vietnam in 2015 within a DeveloPPP with the German GIZ to optimize operational performance of wastewater utilities
- Provided training courses for Vietnam Water Supply and Sewerage Association
- 2018 Finance, Design, Build and Operate a 1 MW roof-top photovoltaic plant on a water treatment plan in the Mekong Delta
- 2019 Design, Build and Operate a water treatment plant in Hanoi with design capacity of 200,000 m3/day