

June 2018
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Head of Investment
Management- Hydropower

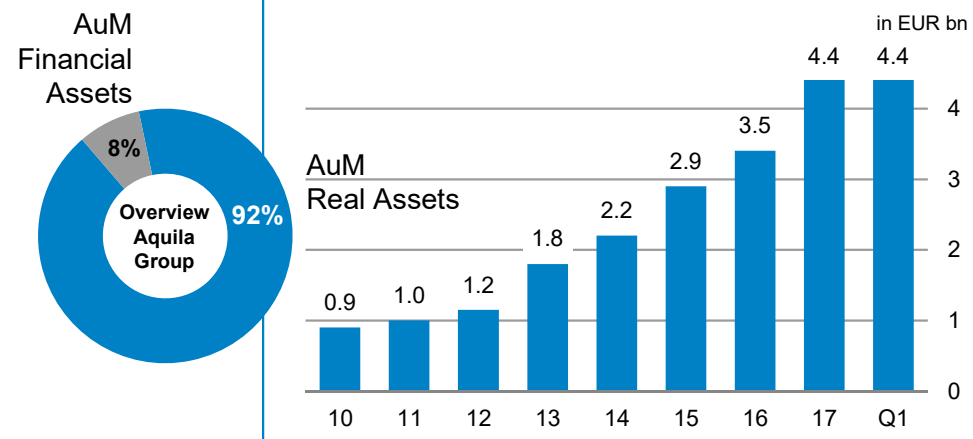


Focused on alternative investments since 2001



17 years experience in alternative investment solutions and close proximity to our assets and our investors

- EUR 6.2bn AuM¹/AuA²
- Independently owned and operated
- Fully regulated with BaFin, CSSF, registered with FINMA and the FCA
- More than 200 employees located in ten investment centres in Europe and Asia



As at 31.03.2018

¹ EUR 4.5bn Assets under management (AuM) based on net asset value (NAV); enterprise value for Real Asset funds respectively.

² EUR 1.7bn Assets under administration (AuA) of the AIFM Alceda include funds managed by Aquila Capital.

Aquila Capital has been investing in real assets since 2006

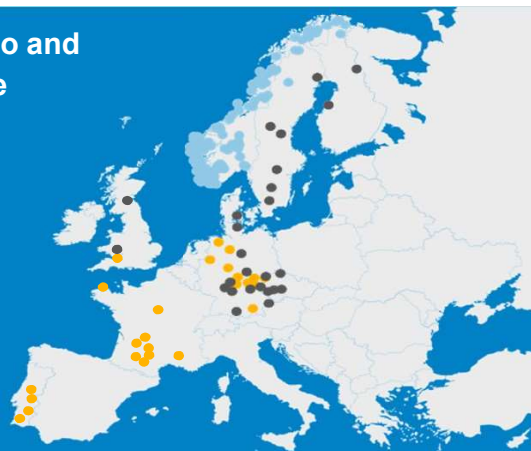
100%
actively managed real asset
investments

3,000 MW
total transaction volume

EUR 4.2bn
transaction volume

Investment portfolio and
locations in Europe

- Hydropower
- Onshore Wind
- Photovoltaic



Large & diverse
portfolio



Largest small hydro portfolio in Europe

Europe's fourth largest PV portfolio in 2016

371 individual renewable **energy plants**

36 energy infrastructure specialists with diverse and complementary backgrounds, bringing together a unique combination of capabilities and experiences to originate, execute and manage transactions

Valhalla is third largest wind farm in Europe at 357 MW

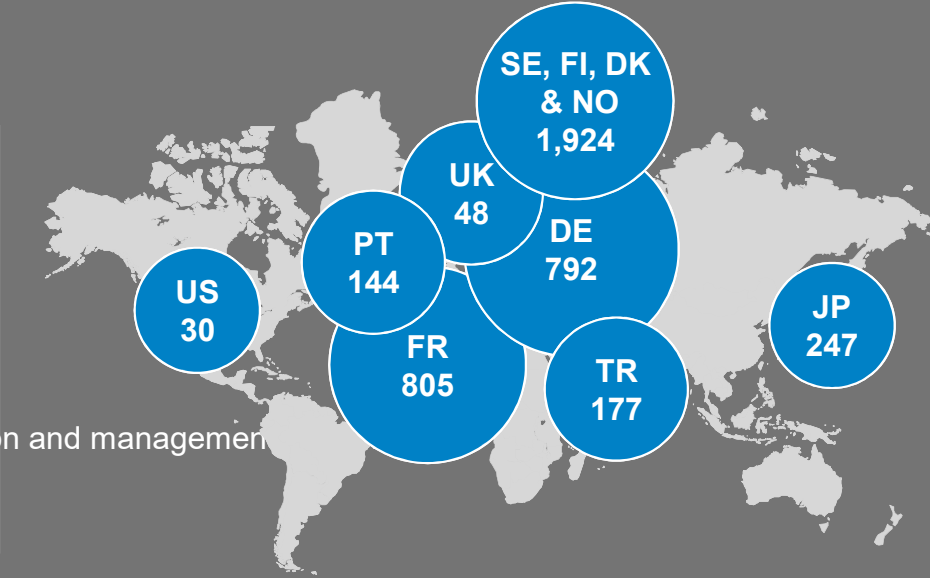
Nearly **4% revenue** of Europe's top Tier turbine manufacturers

¹ Active since August 2010; Source: Aquila Capital, as at 31.03.2018

Strong origination capabilities results in consistent investment flow

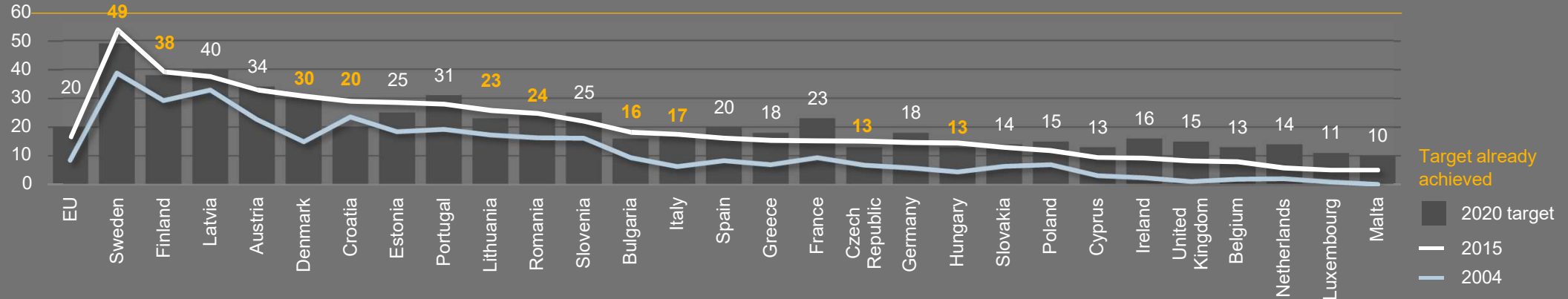
Investment opportunities	First screening	Internal due diligence	External due diligence	Acquired
Onshore wind	580+	80+	28+	20
Solar-energy	910+	130+	28+	22
Hydro-power	520+	70+	33+	23

Country-specific track record of renewable energy assets in EUR m



As at 31.03.2018.

Share of renewable energy 2004 vs. 2015, Target 2020 (in %) – Europe meeting RES goals towards 2050 roadmap



European nations have adopted the transition to a low carbon society as evidenced by their achievement of 2020 goals

Transformation of energy sector

- Guided by the long-term vision of a low-carbon and resource-efficient European economy by 2050, the EU has embarked on a major transformation. The energy sector is at the heart of the EU transformation to a low-carbon and resource-efficient economy.
- Renewables installed capacity has grown since the 2009 decision to cut greenhouse gas emissions by at least 80% by 2050.
- EU leaders view renewable energy as a critical component to the energy transition due to its impact on (i) social & economic development, (ii) access to energy, (iii) energy security, and (iv) climate change mitigation.¹
- Commitment of EU member states is real: majority of EU nations are on track to meet 2020 targets.

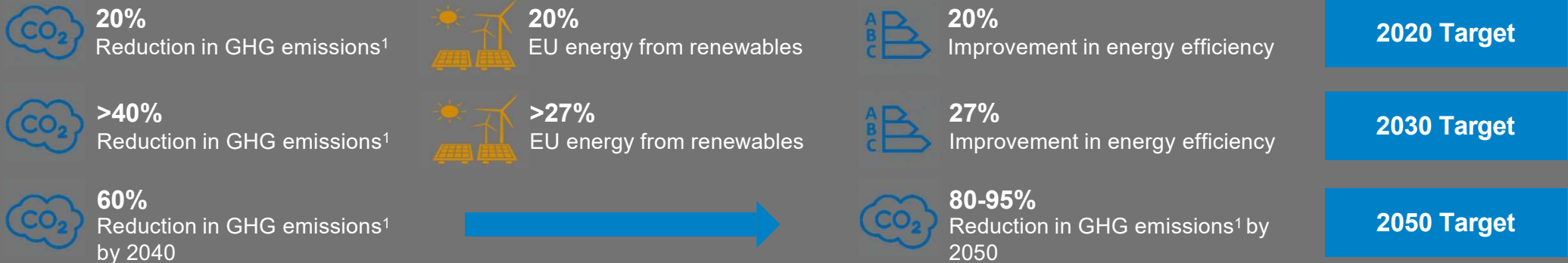
Opportunities in energy storage and transportation

- Existing energy infrastructure has been designed for conventional energy sources and needs to change significantly to support the current and planned renewable energy installed capacity.
- Renewable energy generates intermittent electricity and often takes place far from consumers, creating a need for better storage and distribution of energy.
- European nations spurred investment in the renewable energy industry by providing feed-in tariffs or green certificates until the point where the technology was cost competitive.
- The investment areas of storage and distribution have gone through technological changes, cost reduction and market liberalization, giving access to previously unavailable investment opportunities.

Source: Renewable Energy in the Context of Sustainable Development – intergovernmental panel on climate change

Strong momentum for new energy infrastructure investment

The roadmap to 2050 requires significant capital and creates an investment opportunity in three key sectors.



European nations still have a long way to go to achieve 2050 goals and it will take storage & transportation as well as generation assets

Generation assets

- Attractiveness of renewable energy generation: Ongoing momentum for renewables buildout combined with steady drop in capital costs
- Future investment in wind, solar PV and hydropower will be more dependent on the attractiveness of deals and price hedging strategies
- The increase in decentralized renewable energy generation will add new requirements for the grid and open up opportunities for energy storage

Energy storage

- Necessary complement to intermittent renewable energy
- Balances the frequency and provide capacity reserve for the grid
- Price decreases for batteries and increases in available scale for battery-based storage solutions make energy storage now a viable asset class for institutional investors

Energy transportation

- Country interconnectors essential to harmonization of power markets
- Smart grids will replace electricity grids in order to cope with challenges imposed by the Energy Transition
- Europe will experience a decentralization of its energy transportation and retrofitting of district heating with renewable power

Source: : Illustration from Gaswindandsun.eu, ¹ Greenhouse Gas Emissions

Asset

Co-location photovoltaic and battery storage



Region

Hokkaido prefecture of Japan

Annual Production

40 GWh

Capacity

38.4 MWp

Support Scheme

FiT of JPY 40 per kWh



Reasons for the Investment

- Very good site conditions (high irradiation) with flat land with little to no shading. Limited civil works required
- High level of support from the local community
- Strong technological partners:



Origination

- Aquila Capital and its Japanese partner secured a development project pipeline from a local developer
- Aquila Capital worked with its development partner and technical advisor to select an appropriate battery meeting technical specifications of the grid

Feature of the Investment

- Battery storage system required to fulfil strict grid-connection rules (i.e. to smooth the feed of electricity into the grid)
- The project has a fixed FiT of JPY 40 per kWh for a period of 20 years (one of the highest worldwide)

Transaction / Investment conditions

Acquisition date	July 2015
Stake	10% ¹
Equity investment²	EUR 31.2m (JPY ³ 3.82bn)
TIV^{2,4}	EUR 135.2m (JPY ³ 16.57bn)
Leverage⁵	76.9% ⁵

General asset background information

COD⁵	Q3 2018
Technology	Inverter: Fuji Electric Panels: Jinko Solar Battery storage system: LG Chemical
Status	Under construction (till COD ⁵ Q3 2018)

¹100% stake at acquisition; 90% stake sold in 2017 ²On transaction level ³EURJPY = 122.5; ⁴ TIV = total investment volume; ⁵ As at COD (commercial operation date)

Case Study Merger Småkraft + NGK

Asset

Hydropower plants



Region

Norway

Annual Production

~ 1 TWh

Capacity

334 MW

Support Scheme

n/a



Reasons for the Investment

- Integration of both companies (Småkraft and NGK) into one operational organisation leads to significant economies of scale and ensures stable returns in a low price environment
- The merged company is Norway's largest small-scale hydropower platform and has potential to grow further without an increase in headcount, leading to continuous reduction of fixed cost per Gwh
- Framework agreements with NGK-U, Tinfos and SK-U as well as opportunities in the open market enabled production to grow more than 40% over the past years and offers further future growth potential

Origination

- Aquila Capital acquired NGK in 2014 through a bidding process and Småkraft in 2015 through an off-market offer.

Feature of the Investment

- The merged company benefits from synergy effects, which will enhance negotiation- and procurement with respect to services (insurance, spare parts, etc)
- Up to 50% PPA, 50% Nord Pool Energy Exchange

Transaction / Investment conditions

Merger date	September 2017
Stake	100%
Equity investment	EUR 304.1m (NOK ¹ 2,947.3m)
TIV²	EUR 309.8m (NOK ¹ 3,002.8m)
Leverage³	~ 44% ⁴

General asset background information

Acquisition Date	November 2014
Technology	Andritz Hydro, ABB, Leroy Somer
Status	100 operational small-scale hydropower plants

¹ Exchange rate from Commerzbank as of 30.03.2018 (EUR/NOK 9,6913); ² TIV = total investment volume; ³ on project level; ⁴ As at Q1 2018



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