



The Effects of COVID-19 on the Project Finance Market

Rabobank Project Finance

August 27th, 2020



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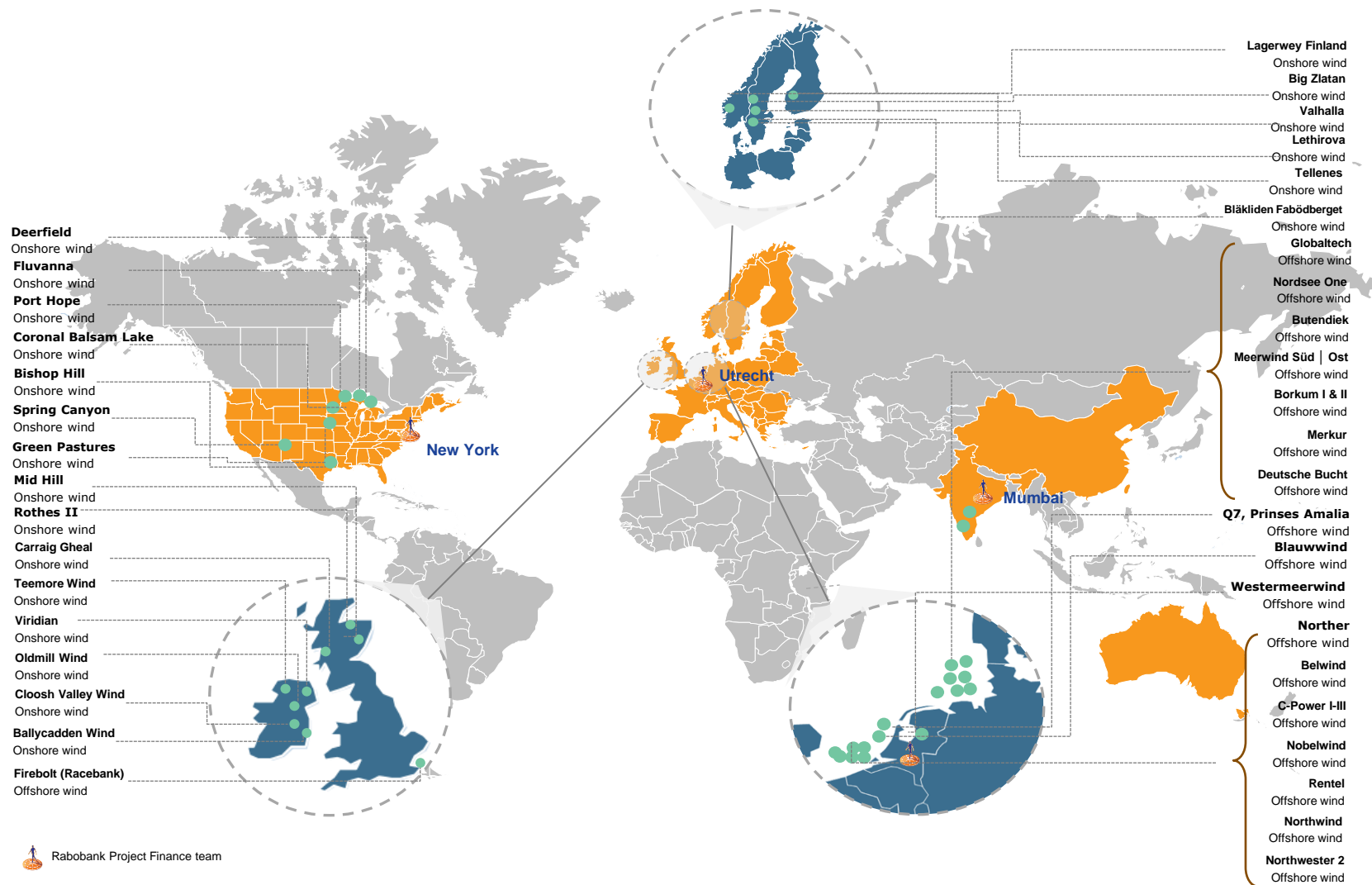
Rabobank is leading in the Bloomberg league tables



Asset Finance - Lead Arrangers

RANK	LEAD ARRANGER	COUNT	CREDIT (\$M)	TABLE SHARE (%)	1Q 2020 SHARE (%)	TABLE SHARE CHANGE (%)
1	Rabobank	20	1,553.1	7.57	3.73	3.84
2	BNP Paribas	19	1,235.5	6.02	5.79	0.23
3	Mizuho	19	1,165.3	5.68	7.62	-1.94
4	Banco Santander	20	1,106.4	5.40	4.86	0.53
5	SMBC	23	1,102.1	5.37	7.71	-2.34
6	Mitsubishi UFJ	21	947.4	4.62	5.87	-1.25
7	Societe Generale	15	628.8	3.07	2.76	0.31
8	HSBC Holdings	10	459.3	2.24	4.02	-1.78
9	Credit Agricole Group	13	421.9	2.06	2.25	-0.19
10	Natixis	7	418.2	2.04	1.05	0.98
11	CoBank ACB	11	396.4	1.93	2.72	-0.79
12	UK Government Investments	7	388.8	1.90	2.87	-0.97
13	Korea Development Bank	3	347.8	1.70	2.43	-0.73
14	KeyCorp	9	311.5	1.52	2.05	-0.53
15	Banco de Sabadell	7	307.2	1.50	0.43	1.07
16	United States International Development Finance Corp	2	290.5	1.42	0.47	0.95
17	NORD/LB	8	274.1	1.34	1.68	-0.35
18	DNB	5	273.3	1.33	0.00	1.33
19	UniCredit	1	270.8	1.32	0.00	1.32
20	Stichting Administratiekantoor ContinuïteitN AMRO Bank	5	266.2	1.30	0.83	0.47

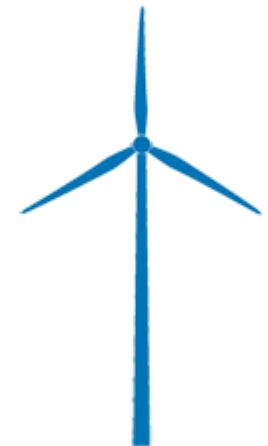
Selection from Rabobank's portfolio in global renewable projects



Presentation Overview – COVID-19's effects on Project Finance



- Effects on activity
- Construction and O&M Effects
 - Turbine manufacturers
 - Impact on O&M
 - Delays in construction processes
 - Impact on financiers
- Effects on financing
 - Reduction of electricity demand
 - Impact on Dutch electricity prices
 - Effects on PPA market and pricing



Activity

- Primary response: huge volatility and funding costs / margins
- Secondary response: the big decline in activity stayed out, possibly explained by:
 - the long development period preceding the financing process,
 - the validity of (governmental) permits and licenses,
 - also Rabobank experiences continued large deal-volumes, in most notably France, the Netherlands, UK, and the Nordics.
- Differences across countries: primarily due to offtake arrangements:
 - Without subsidies: effects are much larger, potentially leading to deferral of development;
 - With subsidies: lower risk on development, safeguarding an active market.



Construction and O&M Effects



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Construction & O&M (1/2)

- Turbine manufacturers
 - Historically: wind turbine manufacturers have experienced (financially) challenging times.
 - Solution: prudent financial solutions, e.g.:
 - additional bank guarantees,;
 - amendments to the payment schedule; or
 - increased equity contributions.
 - NB: Also Rabobank has financed on this basis in the (recent) past; current situation is no exception.
 - Key take-away: push for more extensive analysis on the turbine supplier by the project already.

- Impact on O&M
 - Historically: O&M agreements with turbine manufacturers.
 - O&M is becoming a commodity rather than a specialized service, increasing disconnect between turbine manufactures and O&M counterparties.
 - Market development: O&M specialized companies, reducing long-term risk on a turbine manufacturer.



Construction & O&M (2/2)

- Delays in construction processes
 - Issuance of force majeure notices due to global economic slowdown.
 - Actual delays are relatively limited and caused by the slowdown in production and transportation of parts.
 - Close monitoring shows such developments are no major roadblock.

- Impact on financiers
 - Financing costs are affected due to:
 - Volatile money markets;
 - Increased uncertainty.;
 - DSRF drawings or restructuring solutions (mainly operational assets).



Financing Effects



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Financing: Reduction of electricity demand

- Worldwide electricity demand reduced due to slowing economic activity; expected to linger for the coming 4 – 5 years (figure 1).
- Effects potentially amplified due to a country's specific power merit order, e.g. Norway (figure 2), leading to:
 - Reduced debt sizing;
 - Increased equity stakes;
 - Lower equity IRRs;
 - Slowdown in renewable expansion.

Figure 1: Reduction in electricity demand

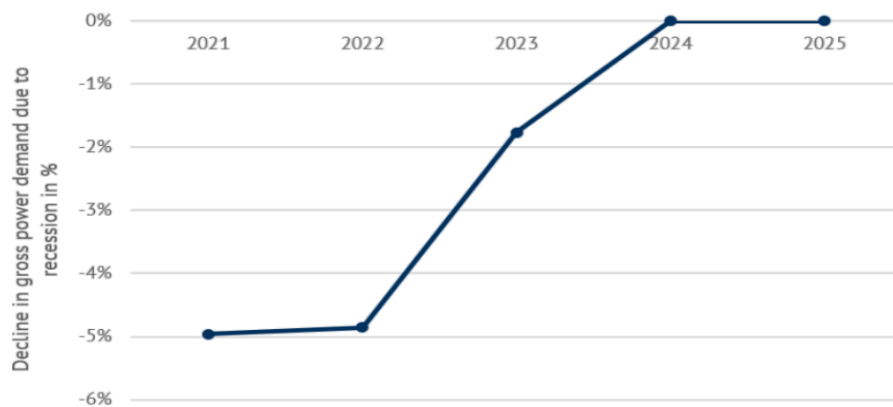
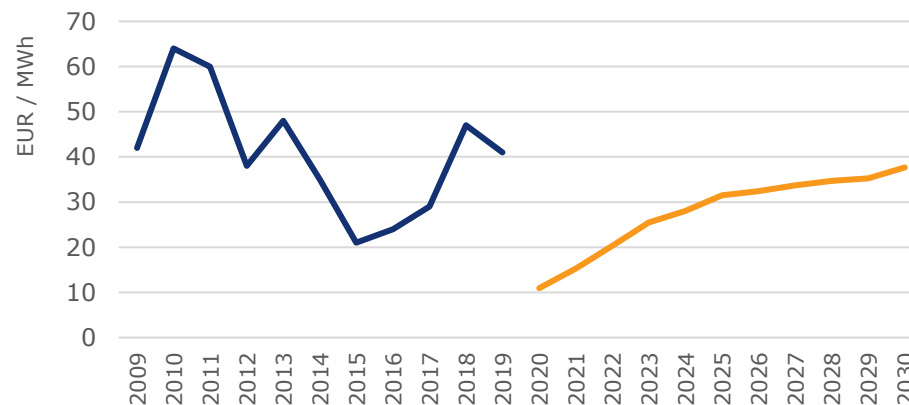


Figure 2: Norway electricity price development



NB: Lower electricity prices during 2015 – 2016 due to heavy rainfall and Norway's large hydro asset base

Financing: Impact on Dutch electricity prices

- Dutch electricity prices were also affected by the global decline in demand (figure 1).
- Recovery is anticipated to take 4-5 years – in line with the global slowdown in electricity demand (figure 2).
- Reduced effect on Dutch renewable energy market due to the SDE subsidy regime.
 - NB: Some older projects with higher SDE floors (~EUR 35 – 45 / MWh) might experience reductions in revenues.
- Once SDE subsidies become obsolete, Dutch impact will be similar to e.g. Norway.

Figure 1: Sharp electricity-price decline due to COVID-19

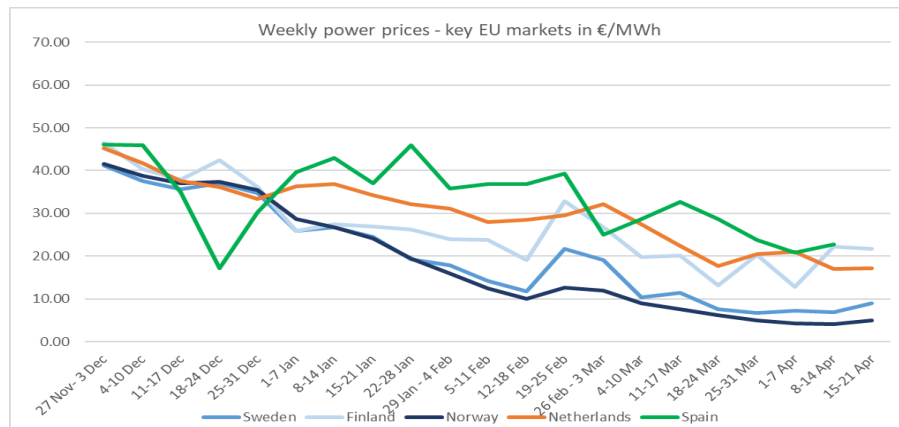
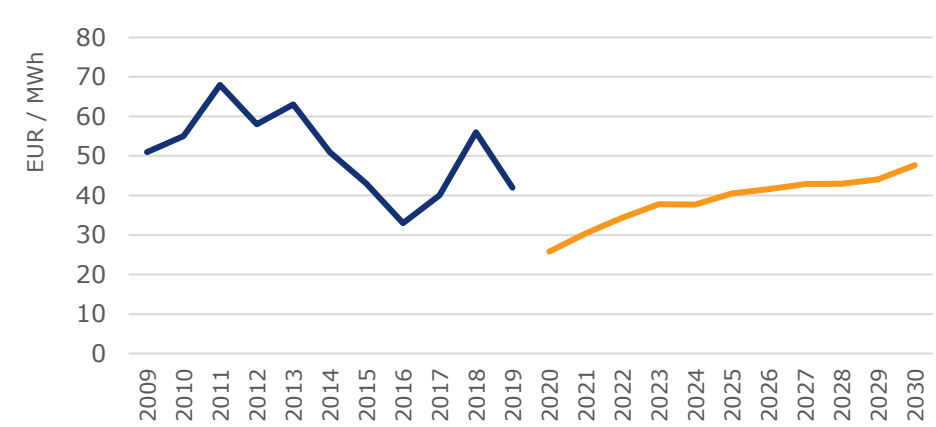


Figure 2: Dutch electricity price development





Financing: Effects on PPA market and pricing

- Decline of PPA demand in line with electricity market, market shift in favour of PPA off-takers, evidenced by lower fixed-prices under corporate PPAs.
- The recent 44% annual growth underpins the recent shift towards this hedging instrument.
- Expectations:
 - Growth in the PPA market, but with lower fixed prices, ~EUR 3 – 6 / MWh;
 - This price decline will be partially offset in 4 – 5 years;
 - Prices level out at EUR 1 – 2 / MWh below current levels.
- Decline in corporate PPA demand is evidenced below;
 - To abide by the 2030 renewable energy targets, 198 TWh out of the total 338 TWh (~100GW of installed capacity) of green power needs to be sold under corporate PPAs, versus a best-case supply of 176 TWh, leading to a 11% deficit. This underpins the corporate PPA off-takers strong market position and continues to put downward pressure on PPA prices.

Figure 1: Growth in corporate PPA market

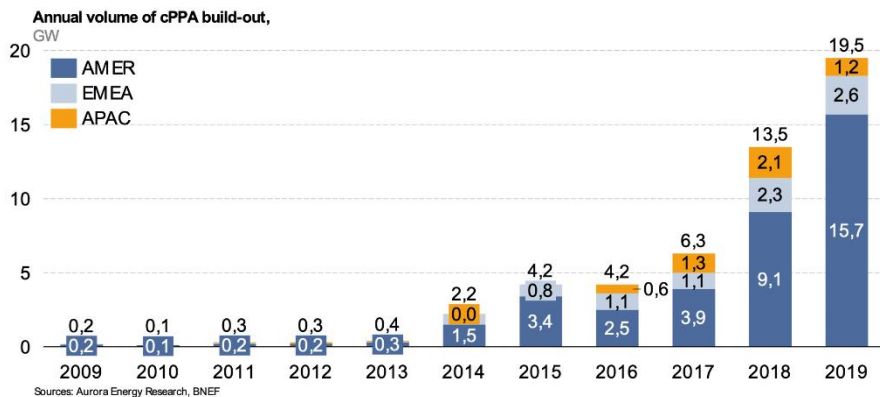


Figure 2: Corporate PPA deficit (in TWh)

