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PLN's 'Green Ambition' Hangs in the Balance

What the Company Should Do To Be Taken Seriously by Investors

Executive Summary

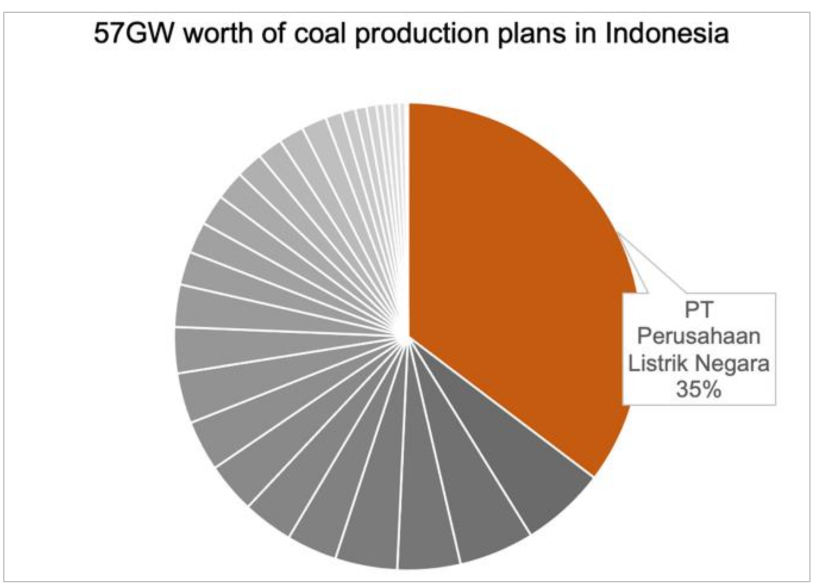
In November 2020, state-owned electricity company PT Perusahaan Listrik Negara (PLN) announced its commitment to provide clean and sustainable energy for Indonesia in line with government policy, and published its Statement of Intent on Sustainable Financing Framework.

The release of the framework is the first public acknowledgement that PLN is preparing to issue a debut "green and/or sustainable financing" instrument as early as January 2021.

This is a step in the right direction for PLN. However, the company will need to work hard to build credibility given its track record as a major carbon emitter that continues to add coal-fired power capacity at a determined pace.

The company's renewable energy plans lag its regional and global peers and therefore, to build a bridge to high quality ESG (environmental, social, and corporate governance) investors, PLN's management team must prepare itself for a much higher level of scrutiny than it previously faced from the fixed income market.

Figure 1: PLN Takes the Majority Share of New Coal Plans



Source: Global Coal Exist List, Nov. 2020.

Based on IEEFA research, ESG investors are reluctant to fund issuers that lack transparency and that continue to be fossil fuel focused. This will be an obvious challenge for PLN in light of the fact that the company still has at least 20 gigawatts (GW) of coal projects in the pipeline.

PLN also has no meaningful experience of disclosing or reporting to investors on ESG-linked performance metrics. This has the potential to create risk for those who invest in good faith but find that PLN does not yet have the capacity to meet expectations in the sustainable finance market.

PLN Must Step Up To Meet Its 'Green Ambition'

To successfully launch a high-quality green or sustainable bond, PLN's management team should be prepared to address the following issues to fund the company's 'green ambition'.

1. **The requirement for specific credible plans with policy commitments**

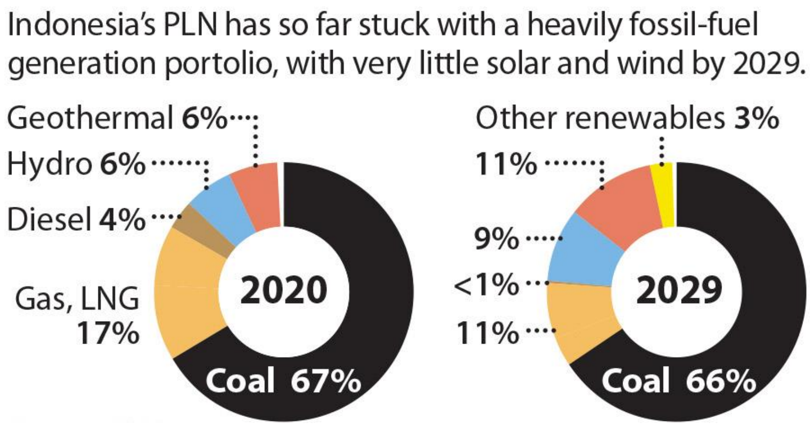
   ESG bond investors typically look deeper than the financing framework and risk-return paradigm. They analyze the details of a company's overall vision and actions on- and off-paper to ensure coherence with the realities of the issuer's broader financial and strategic positioning. This is the case even when proceeds are promised to be used for green assets.

   The Statement of Intent reveals that PLN has not implemented its past renewable energy project investments as planned, and therefore has limited track record of successful implementation. If the Statement of Intent is only a preliminary framework, the company would need to provide specifics on what it will do, this time, that makes its sustainable financing plans different from the past.

   An example would be to commit to projects that are credible with relatively low implementation risk and that will commence as soon as PLN secures financing.

   If follow-through on a project fails, redress such as a penalty cost as part of the terms of the bond could also prove the utility company's commitment to delivering on stated transformation goals.

Figure 2: PLN's Electric Generation Capacity Plan



Source: PLN.

The company's renewables commitment must also exclude large-scale hydropower projects, which currently make up a significant portion of PLN's electricity generation capacity plan. Large-scale hydropower is contentious due to the documented negative impacts on communities and ecosystems. As such, investing in large hydropower projects may not offer a compelling pathway for investors more focused on supporting a conventional mix of renewable energy from solar and wind.

In addition, providing a roadmap for phasing out fossil fuel energy sources, and ideally abandoning the coal projects in the pipeline and indefinitely, would demonstrate PLN's seriousness in transforming into a sustainable utility business.

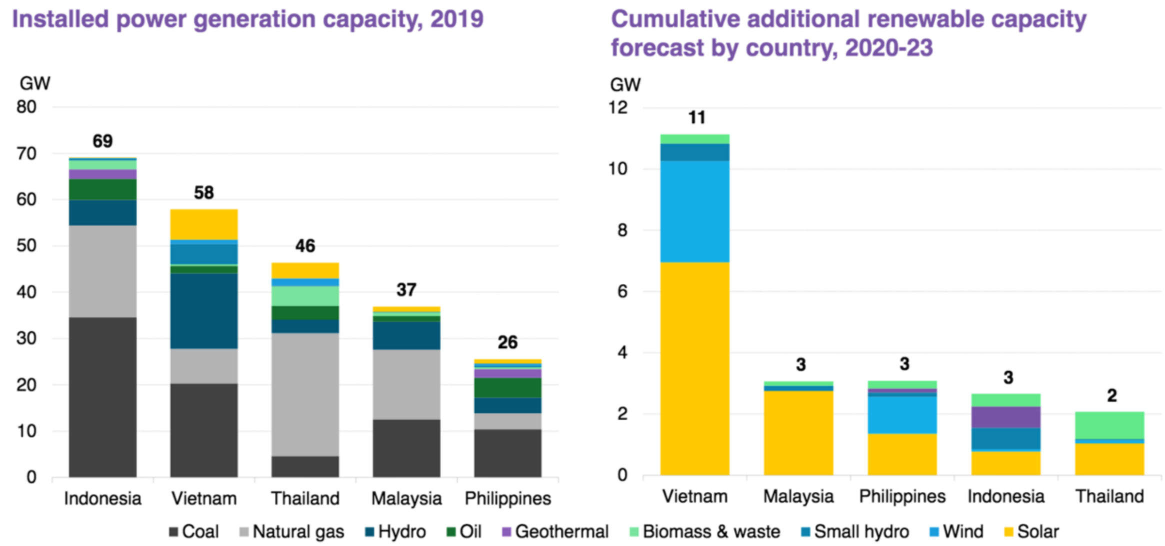
Providing a credible implementation plan is likely to be challenging for PLN. However, to quote Indonesia's Finance Minister Sri Mulyani Indrawati, "Developing renewables is always very challenging, but it is not impossible".

2. **The understanding that PLN's performance will be examined, and any comparison with regional peers will not favor PLN based on its renewables track record**

   A surge in green bond issuance from emerging markets and the region is expected in 2021 as issuers raise funds to meet climate pledges. Green investors can therefore afford to be selective and uncompromising. This could work against PLN as investors will be motivated to look for the best combination of pricing and ESG credentials.

   PLN needs to be aware of how the company looks in comparison to neighboring competitors that have a more credible history in implementing renewable projects. For example, in Vietnam, renewables already comprise 25% of the national energy mix and a further 11GW is anticipated by 2023. Indonesia compares unfavorably, with renewables comprising 6% and only a further 3GW is anticipated by 2023.

Figure 3: Neighboring Markets Appear More Determined To Transition



Source: BloombergNEF, Ministry of Energy and Mineral Resources, Indonesia, Institute of Energy, Vietnam, Thailand's Ministry of Energy and Department of Alternative Energy Development and Efficiency, Philippines' Department of Energy Note: Estimated for 2019 since official statistics are not available yet.

Source: BloombergNEF

The risk for PLN is that unless the company addresses its issue with renewables credibility to avoid any accusations of greenwashing, it runs the risk of being regarded as unsuitable for portfolios that have a green/sustainable mandate. This was the case for Korea Electric Power Co. which issued green bonds while investing in more coal-fired power plants in Indonesia and Vietnam, and State Bank of India which also issued green bonds and just recently contemplated financing Adani Group's Carmichael coal project in Australia.

3. The need for enhanced transparency, internal capacity, safeguards and use of proceeds to boost PLN's credibility

The Statement of Intent outlines an improved internal process, policies and capacity to meet best practice in environmental and social safeguards. On its face, this appears to be an ambitious step forward for PLN.

What's not apparent is whether there will be sufficient relevant expertise to help PLN rise above business-as-usual practices. The key will be whether the company places climate or environmental science experts, with recognized qualifications, experience and authority on the company's Sustainability Financing Task Force, or within its Corporate Planning Directorate and Project Originating Units to provide much-needed guidance on identifying and implementing eligible projects.

Details on what steps will be taken to evaluate the projects will also be important given the lack of specifics in the Statement of Intent. For example, PLN may want to specify what type of feasibility and environmental studies will be conducted and how the project tendering and procurement process would work.

In addition, to address questions about PLN's governance track record, the company should add safeguards to processes around project selection and management of proceeds that involve oversight by external parties such as the Ministry of Finance.

As PLN is building its credibility on renewables, ideally the proceeds from green/sustainable financing should only be used for new green projects. Using proceeds from its first green/sustainable finance instrument to refinance existing projects would inhibit the company's renewables growth.

The Statement of Intent states that PLN has adopted the green, social and sustainability bond principles of the International Capital Markets Association (ICMA) when preparing its Sustainable Financing Framework. This is a valid reference as far as it goes, but IEEFA has yet to see an expert report on the company's compliance against those principles. As a result, PLN should be prepared to fill this information gap.

4. The undertaking of post-issuance reporting which can make or break an issuer's reputation

PLN is not known as a seasoned reporter as it is privately held by the government and has operated with limited public disclosure requirements or scrutiny from investors specifically concerned with sustainability issues. The Statement of Intent indicates a likelihood that the company will raise more funds in future years to fulfil its green aspirations. ESG investors are attracted to issuers that are high quality reporters. Consequently, in preparation for the implementation of its sustainable financing framework, it is in PLN's interest to meet the expectations of ESG investors on post-issuance reporting, and not only at-issuance.

Outlined below is a non-exhaustive list of what ESG investors value most in a high standard post-issuance report:

- Project level information that is comprehensive and comparable year-on-year, particularly in relation to the use of proceeds and the impact of projects, which should include absolute emissions avoided

- Disclosure of the methodology for impact assessment that is transparent, clear and consistent

- An annual independent 'green audit' report on the post-issuance report, including an outline of the experts' work, rather than a limited-scope assurance report. The scope of work ideally comprises, but should not be limited to, verifying the amounts of reported allocated and unallocated proceeds in accordance with the framework, evaluating the effectiveness of the design and execution of processes around project selection and the use and management of proceeds, and confirming the existence of eligible green assets and the accuracy of the impact or performance measures.

Research by the Climate Bonds Initiative (CBI) supports IEEFA's findings and includes a list of good reporters and the reasons why they're established post-issuance reporters.

PLN has an opportunity to lift the country's position in global capital markets as investors and leading companies reliant on global supply chains are looking to invest in and source from low carbon economies. Despite PLN's new ambitions, any gaps in the state-owned company's overall strategy and implementation plan, if left unresolved, could give reputation-sensitive investors a reason to favor green bonds from more seasoned ESG-aware issuers.

Figure 4: Screenshots of Actual Post-Issuance Reports: Use of Proceeds and Impact

(Links of Actual Reports Provided Below)

No.	Issue	Project name	Project category	Project description	Project value, EURm	Green bond funds allocated, EURm	Green bond funds utilized, EURm	Planned energy generation (GWh per year)	2019 actual energy generation (GWh per year [2])	Projected reduction of CO_2 emissions (tons per year)	2019 actual reduction of CO_2 emissions (tons per year[2])
2	2017 (all funds allocated and utilized until 31 05 2019)	Refinancing of wind power parks in Estonia (Tulleenergia) and Lithuania (Eurakras)	Renewable energy projects	At the beginning of 2016, Ignitis Group acquired wind power parks in Estonia (operated by Tulleenergia OU; 6 turbines) and Lithuania, Jurbarkas district (operated by UAB Eurakras; 8 turbines) with the overall capacity of 42 MW. The acquisition of the wind power parks was financed using borrowings from commercial banks. To optimize the financing structure of projects the company refinanced borrowings using funds raised by green bonds.	66.6	66.6	66.6	136	140	91,937	92,650
5.	2017 (all funds allocated and utilized until 31 05 2019)	Acquisition of a 25% shareholding in the wind power park in Jurbarkas, Lithuania (Eurakras)	Renewable energy projects	Seeking to implement its strategy, which focuses on energy production using renewable energy sources, Ignitis Group made a decision to acquire a 25% minority shareholding in the wind power park in Jurbarkas operated by Eurakras UAB. A 100 % shareholding held in the wind power park allows to manage the park more efficiently. The wind power park consists of 8 wind turbines with the capacity of 3 MW each. One euro invested over the course of the project's useful lifecycle reduces CO_2 emissions by 0.02 kg CO_2/EUR. 106.05 kWh/EUR of electricity will be produced over the useful lifecycle.	4.3	4.3	4.3	Indicators for the full project are provided above in row No. 2[4]			
7.	2018 (all funds allocated and utilized until 31 05 2019)	Acquisition of wind power parks in Lithuania (Vėjo Vatas and Vėjo Gūsis)	Renewable energy projects	Implementing it's strategy to invest in renewable energy production, Ignitis Group acquired Vėjo Vatas UAB and Vėjo Gūsis UAB (three wind farms in total). Vėjo Vatas operates one wind farm of 14.9 MW (7 turbines) in Tauragė district. Vėjo Gūsis operates two wind farms with the capacity of 10 MW and 9.1 MW (11 turbines in total) in Kretinga and Tauragė district. Over a project's useful life one invested EUR reduces CO_2 emissions by 0.02 kg CO_2 / EUR. Over a project's useful life 106.05 kWh / EUR will be produced.	21.8	21.8	21.8	86	91	36,954	39,364
9.	2018 (all funds allocated until 31 05 2019, EUR 2.3 million utilized until 31 05 2019, remaining part planned to be utilized until the end of Q2 of 2021)	Small residential and industrial solar PV projects	Renewable energy projects	The implementation activities on the basis of ESCO and PPA business models were suggested to clients by UAB Ignitis. The focus is on reducing the usage of energy resources and increasing the efficiency of consumption and the development of solar photovoltaic projects. 10,788 kWp of solar photovoltaic installations for business and public sector customers is planned to be installed. The above-mentioned combined solar photovoltaic installations, taking into account the depreciation of photovoltaic modules, would generate on average about 12.65 GWh of electricity per year. According to the guarantees of the manufacturers of the solar photovoltaic installations, after 25 years the operational capacity of the solar photovoltaic installations will be at least 80% of the nominal capacity. For more information follow www.ignitis.lt	9.9	9.9	2.3	12.65[5]	2.07	5,455	895

Source: Ignitis Group Green Bond Investor Letter 2019 (extract).

Figure 5: Screenshots of Actual Post-Issuance Reports: Use of Proceeds and Impact

GREEN BOND 1 ISSUED 2017

Table 2: Allocation of Green Bond proceeds and green project impact to refinancing eligible onshore wind farm green projects for Green Bond 1.

Type of eligible green project	Eligible green project	Total actual capex spend (£m) **	Capacity fully operational (MW) */ Qualifying capacity (MW) **	Date fully operational	Allocation of Green Bond 1 proceeds (£m)	Qualifying output (GWh) (1) (2)	Qualifying carbon saved (tCO_2e) (1) (2)
Onshore wind farm	Strathy North	102.9	67/67	Nov 15	102.9	121.3	30,992
Onshore wind farm	Tievenameenta	42.9	34/34	Feb 17	41.5	93.8	23,980
Onshore wind farm	Slieve Divena 2 (3)	NIL	NIL	Jun 17	NIL	NIL	NIL
Onshore wind farm	Comhlach Gaoithe Teoranta (Galway Wind Park)	85.6	66/66	Jun 17	81.9	199.9	51,091
Onshore wind farm	Dunmaglass	88.9	94/47	Aug 17	88.9	121.3	30,997
Onshore wind farm	Clyde Extension (part of Clyde Windfarm (Scotland) Limited)	100.3	173/87	Sep 17	100.1	657.5	168,049
Onshore wind farm	Bhlaraidh	117.1	110/110	Oct 17	106.6	200.7	51,307
Total	**Onshore wind farm project contribution**	**537.7**	**544/411**		**521.9**	**1,394.5**	**356,416**
HDVC Transmission connection (4)	Caithness-Moray transmission link (5)	1,020.0	1,200/1,200	Jan 19	26.5	-	-
Total contribution	**Onshore wind farms and Caithness-Moray transmission link**	**1,557.7**	**1,744/1,611**		**548.4**	**1,394.5**	**356,416**

*Capacity fully operational reflects the total capacity of the project in MW.
**Reported actual capex and qualifying capacity reflect SSE's 50.1% ownership in Clyde Windfarm (Scotland) Limited and Dunmaglass wind farms as at 31 March 2020.
(1) Reported output and carbon saved reflects SSE's 50.1% ownership in Dunmaglass and Clyde Windfarm (Scotland) Limited wind farms to 31 March 2020.
(2) Green Bond 1 output (GWh) and carbon saved (tCO_2e) for reporting period 1 April 2019 to 31 March 2020.
(3) Slieve Divena 2 Wind Farm was sold in March 2020, proceeds from Green Bond 1 have been reallocated to the Caithness-Moray transmission link.
(4) For this transmission link, the actual electricity transmitted is controlled by National Grid Electricity System Operator.
(5) Caithness-Moray transmission link features in all three Green Bonds (1, 2 and 3) so the total capex spend for this project is included in tables 2, 3 and 4. The green impact of Caithness-Moray refers to the 1,200MW of capacity that transmits power from the north of Scotland across the UK. The project has already facilitated the connection of 985MW of renewable generation to connect to the national grid. This includes the Beatrice offshore wind farm (588MW capacity on completion) and Dorenell onshore wind farm (177MW capacity on completion). The project supports the additional connection of onshore renewable generation on the mainland as well as the Scottish Islands of the Western Isles, Orkney and Shetland.

GREEN BOND 2 ISSUED 2018

Table 3: Allocation of Green Bond proceeds and green project impact to refinancing eligible green projects for Green Bond 2.

Type of eligible green project	Eligible green project	Total actual capex spend (£m) **	Capacity fully operational (MW) */ Qualifying capacity (MW) **	Date fully operational	Allocation Green Bond 2 proceeds (£m)	Overall output (GWh)/ Qualifying output (GWh) (1) (2)	Qualifying carbon saved (tCO_2e) (1) (2)
Onshore wind farm	Leanamore	30.8	18/18	Feb 18	30.8	61.1	15,624
Onshore wind farm	Stronelairg	147.6	228/114	Dec 18	147.6	280.2	71,616
Total	**Onshore wind farm project contribution**	**178.4**	**246/132**		**178.4**	**341.3**	**87,240**
HDVC Transmission connection (3)	Caithness-Moray transmission link (4)	1,020.0	1,200/1,200	Jan 19	413.0	-	-
Total contribution	**Onshore wind farms and Caithness-Moray transmission link**	**1,198.4**	**1,446/1,332**		**591.4**	**341.3**	**87,240**

*Capacity fully operational reflects the total capacity of the project in MW.
**Reported actual capex and qualifying capacity reflect SSE's 50.1% ownership in Stronelairg wind farm as at 31 March 2020.
(1) Reported output and carbon saved reflects SSE's 50.1% ownership in Stronelairg wind farm.
(2) Green Bond 2 output (GWh) and carbon saved (tCO_2e) for reporting period 1 September 2019 to 31 March 2020.
(3) For this transmission link, the actual electricity transmitted is controlled by National Grid Electricity System Operator.
(4) Caithness-Moray transmission link features in all three Green Bonds (1, 2 and 3) so the total capex spend for this project is included in tables 2, 3 and 4. The green impact of Caithness-Moray refers to the 1,200MW of capacity that transmits power from the north of Scotland across the UK. The project has already facilitated the connection of 985MW of renewable generation to connect to the national grid. This includes the Beatrice offshore wind farm (588MW capacity on completion) and Dorenell onshore wind farm (177MW capacity on completion). The project supports the additional connection of onshore renewable generation on the mainland as well as the Scottish Islands of the Western Isles, Orkney and Shetland.

Source: SSE's third annual Green Bond Report March 2020 (extract).

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. www.ieefa.org

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