John Q. Doyle
President and Chief Executive Officer
Marsh Inc.
1166 6th Avenue
New York, NY 10036

27 June 2019

Re: Insurance support to Van Phong 1

Dear Mr. Doyle:

We understand Marsh is providing advice on insurance to Sumitomo Corporation, the sponsor of Van Phong 1, a proposed coal-fired power station in Vietnam. Although the project's lenders have signed a debt package, reports indicate that the project has not yet reached financial close.[1]

Van Phong 1 is exposed to a range of major environmental and social impacts that warrant the withdrawal of Marsh from this project. These issues include:

- undermining the Paris climate agreement;
- excessive localised air pollution, leading to increased health risks and premature deaths in the surrounding area;
- inconsistent in air pollution emission data in the Environmental and Social Impact Assessment (ESIA) for the project; and,
- forced resettlements and a lack of compensation provided to affected communities; there is an ongoing legal action on these issues.

Given the issues with Van Phong 1, we urge you to advise your client not to proceed with this project and withdraw your own involvement. We also reiterate the statements in our letter dated May 14, 2019, seeking that you cease brokering insurance for all new coal power projects.

Van Phong 1's ESIA is flawed and its air pollutant emissions are unacceptably high

We note a significant inconsistency in air pollutant emission data reported in the 2017 ESIA, attached as an Appendix to this letter. The technical parameters of the plant and reported flue gas concentrations will yield approximately 80% higher SO2 and NOx emission rates, and close to 150% higher dust emissions rates than those stated in the

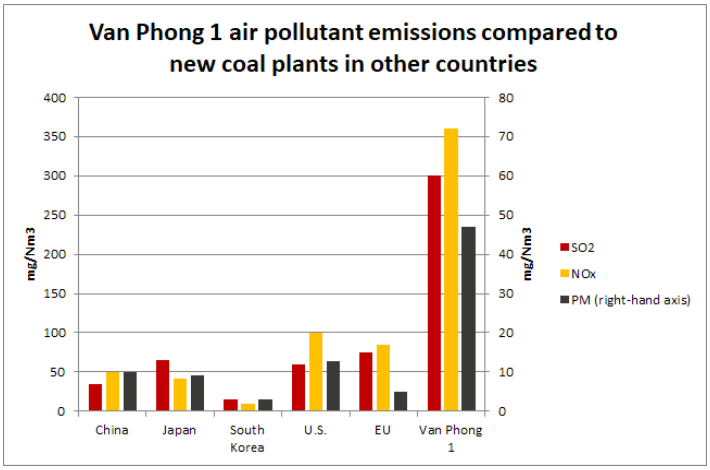
[1] Mia Tahara-Stubbs, *IJGlobal,* 'Financing emerges on Vietnam coal-fired IPP" (12 June 2019).

ESIA. This constitutes a very serious error in the ESIA, potentially rendering the air quality impact analysis invalid.

The Greenpeace Global Air Pollution Unit's report on Van Phong 1's projected health impacts, based on the project's 2017 ESIA found:

- The project's emissions would cause elevated levels of PM2.5 and nitrogen oxide. It would expose an estimated 10,000 people to concentrations of sulfur dioxide, exceeding limits set by the World Health Organisation. These pollutants increase risk of diseases such as stroke, lung cancer, heart and respiratory illness in the region surrounding Van Phong 1, resulting in approximately **1,900 premature deaths over the plant's 30-year operating life.**
- About **15kg of mercury per year** is projected to be deposited on land surrounding Van Phong 1. With 37% of the projected deposits falling on cropland, there is a significant risk of methylmercury absorption in rice crops - a staple food in Vietnam.

The lack of acceptable minimum standards in other countries are no excuse for allowing polluting projects like Van Phong 1 to proceed. As noted in the graph below, Van Phong 1 would produce air pollutants at rates significantly higher than the average new coal fired power stations elsewhere. Dumping polluting technology on Vietnam creates significant legal and reputational risk for Marsh and companies it advises.



Forcible relocation and lack of compensation

Reviews of the 2017 ESIA indicate that residents affected by the project were not consulted; consultation only took place with the local authority. One of the lenders, the Japan Bank for International Cooperation (JBIC), has admitted that it did not obtain or review a resettlement action plan. Sumitomo itself has not obtained this plan or other relevant plans about livelihood restoration.

The Associated Foreign Press recently reported on 99-year-old Grandma Ca, whose home was demolished by Vietnamese authorities to make way for Van Phong 1. Because the new land offered to her family is not suitable for farming, Grandma Ca refuses to leave. Grandma Ca has filed a lawsuit in the district court regarding her family's forced relocation.

We are concerned about the safety of Grandma Ca and her family and call on the lenders and companies involved in Van Phong 1 to ensure they remain unharmed.

Marsh's role in Van Phong 1 is contrary to its commitments and the goals of the Paris Climate agreement

Marsh has publicly committed to conduct business "in a responsible way at all times" and recognises its "responsibility to do business in a way that protects and improves the state of the environment for future generations."

By supporting coal power and Van Phong 1, Marsh is undermining its commitment to communities, sustainability and the goals of the Paris Climate agreement. The Executive Director of the International Energy Agency has stated that to ensure global temperature increases are limited to 2ºC, let alone the 1.5º recommended by the Intergovernmental Panel on Climate Change, "We have no room to build anything that emits CO2."

Vietnam has every potential to meet its energy needs without the need for new coal power stations. GreenID, a Vietnamese policy organization, produced an interim scenario in October 2017 sees the percentage of renewable energy in Vietnam's electricity generation mix rise to 30% by 2020, rendering coal plants such as Van Phong 1 unnecessary. Research group Carbon Tracker has published a report on the high risk of coal power plants becoming stranded assets in Vietnam, as building new solar PV and onshore wind could be cheaper than operating existing coal plants as early as 2022.

Given compelling evidence of environmental, health, and human rights violations detailed in this letter, we urge you to advise your client not to proceed with Van Phong 1. We also reiterate the statements in our letter dated May 14, 2019, seeking that you stop brokering insurance for all new coal power.

We look forward to hearing from you within three weeks of the receipt of this letter. We are contactable by email at julien@marketforces.org.au.

Sincerely,

Market Forces
Unfriend Coal

Appendix 1: Description of ESIA Inconsistency[2]

The key technical parameters given in the EIA for the plant are 1) combined power generating capacity of 1320MW and 2) heat rate of 282g/kWh, or 2.30kWhthermal/kWhelectric. This implies combined boiler thermal capacity of approximately 2.30*1320=3030MWthermal (it is not clear whether capacity and heat rate are given in net or gross terms which adds uncertainty but does not affect the conclusion).

Plausible values for specific flue gas volume for thermal hard coals range between 340-380Nm3/GJ3. The IFC default value4 is 350Nm3/GJ, while the value calculated using formulas Given et al (1986)5, EN12952-15 and ISO 1928-2009 based on design coal properties given in the EIA is 359Nm3/GJ. This implies flue gas flow of 3030MW * 359Nm3/GJ = 1088Nm3/s. Given SO2 concentration in flue gas of 300mg/Nm3 given in the EIA, the emission rate for SO2 should be approximately 1088Nm3/s * 300mg/Nm3 = 330g/s. Yet the emission rate given in the EIA is 178g/s. We find a similar discrepancy for NOx and an even larger discrepancy for dust emissions.

Parameter	Value	Unit	Basis
Thermal capacity	3030	MW	EIA
Fuel higher heating value	5978	kcal/kg	Calculated from coal composition in EIA, based on Given (1986)
Fuel lower heating value	5653	kcal/kg	Calculated from coal composition in EIA, based on ISO 1928-2009
Fuel specific flue gas volume	6.059	Nm3/kg	Calculated from coal composition in EIA, based on EN12952-15
Fuel specific flue gas volume	359	Nm3/GJ	Calculated from above
Flue gas flow	**1087.8**	**Nm3/s**	Calculated from above

Parameter	SO2	NOx	Dust	Unit
Flue gas concentration	300	360	47	mg/Nm3
Flue gas flow		1087.8		Nm3/s
Emission rate, calculated	326.3	391.6	23.3-34.5[6]	g/s
Emission rate, reported	178.2	207.6	13.6	g/s
Discrepancy	83%	89%	71-154%	

[2] Calculated by Mr. Lauri Myllyvirta, Lead Analyst, Greenpeace Global Air Pollution Unit.
[3] Calculated for all bituminous and subbituminous coal samples in USGS World Coal Quality Database v1.1, using formula EN12952-15.
[4] Thermal Power: Guidelines for New Plants.
https://www.ifc.org/wps/wcm/connect/3ca3ef004885553eb614f66a6515bb18/thermnew_PPAH.pdf?MOD=AJPERES
[5] https://www.sciencedirect.com/science/article/pii/0016236186900803
[6] Depending on how much of total dust is assumed to be PM10. High end of the range corresponds to the common practice to assume all dust is smaller than 10 microns, for the sake of conservativeness; low end corresponds to U.S. EPA AP-42 default emission factors for coal boilers with ESPs, which have a PM10 to total dust ratio of 67.5%.