To Mr. Akira Kondoh, Governor of Japan Bank for International Cooperation
To Mr. Tadashi Maeda, CEO, Executive Managing Director

July 27th 2017

Based on the points laid out below, Friends of the Earth US, Friends of the Earth Mozambique/Justiçia Ambiental, and Friends of the Earth Japan recommends that the Japan Bank for International Cooperation refuse to finance the floating liquefied natural gas (FLNG) or onshore LNG projects in Cabo Delgado Province, in northern Mozambique.

Methane emissions will result in irreversible climate change: These projects have the potential to result in a huge release of greenhouse gas emissions, especially methane, not just over the next few years, but for decades to come.[1] The assessment underestimates the impact of the methane that will be released by using a global warming potential for methane of 25, based on the outdated 2007 Intergovernmental Panel on Climate Change (IPCC).[2] According to the most recent report from the IPCC, methane is a greenhouse gas that is 87 times as potent as carbon dioxide over a 20 year timeframe.[3] Additionally, the assessment greatly underestimates the amount of methane that the project will emit, finding that the project will release a total of only 1.814 tons per year and will not emit a significant amount of fugitive methane.[4] Unfortunately, this assessment is not alone in underestimating the methane from a project. Methane emissions are a major problem for the oil and gas sector; some estimates put methane leakage from oil and gas production at 17 percent.[5] Studies have found that regulators are not properly estimating these emissions from natural gas fields.[6] Natural gas's release of methane led to a Cornell University review of the scientific research that found conventional natural gas has a greater climate impact than coal.[7]

Local communities worse off: Beyond the project itself, these projects will require a huge investment, which would be better spent on social programs and renewable energy development. This investment is in a country where the overall literacy rate is 47 percent and a mere 28 percent for females.[8] Because of most of the local people have no formal education and are illiterate, very few, if any, of the jobs that this project will create will go to local communities. Meanwhile their income from natural resources will be destroyed. Therefore, the 350 low skill jobs that the project expects to provide will not be sufficient to offset the lost income. Most likely, members of the local communities will not even get many of those 350 jobs as the companies have preferred to hire foreigners or Mozambicans from cities, according to the local communities.[9] Not only will the LNG project not provide local jobs, but it will also remove the sources of income that local communities depend on – subsistence agriculture and fishing. In addition, local communities will lose any income they currently get from tourism, which has supported 273,000 jobs directly and 718,000 jobs indirectly, or 2.4 and 6.4 percent respectively of total employment.[10] The

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[1] Consultec – Consultores Associados, Lda., *Environmental Impact Assessment Process for the Floating Liquefied Natural Gas Project: Environmental Impact Study Final Report*, 46-47 (2015) [hereinafter "Consultec"].
[2] Consultec, *supra* note 1 at 18.
[3] INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: MITIGATION OF CLIMATE CHANGE (2014), http://mitigation2014.org/report/publication/.
[4] Consultec, *supra* note 1 at 18-19.
[5] Oliver Schneising et al., *Remote Sensing of Fugitive Methane Emissions from Oil and Gas Production in North American Tight Geologic Formations*, 2 EARTH'S FUTURE 548 (2014), http://onlinelibrary.wiley.com/doi/10.1002/2014EF000265/pdf.
[6] Tegan N. Lavoie, et al., *Assessing the Methane Emissions from Natural Gas-Fired Power Plants and Oil Refineries*, 51ENVTL. SCI. & TECH. 3373 (2017), http://pubs.acs.org/doi/abs/10.1021/acs.est.6b0553 (measuring methane emissions from natural gas power plants to be 21 to 120 times higher than the facility reported).
[7] Robert W. Howarth, *A Bridge to Nowhere: Methane Emissions and the Greenhouse Gas Footprint of Natural Gas*, ENERGY SCI. & ENG'G (2014), http://www.eeb.cornell.edu/howarth/publications/Howarth_2014_ESE_methane_emissions.pdf.
[8] USAID, Mozambique: Education, https://www.usaid.gov/mozambique/education.
[9] Kate DeAngelis, *Report from the Field: Perspectives and Experiences of Mozambican Communities and Civil Society on Liquefied Natural Gas Exploitation* (2016), http://webiva-downton.s3.amazonaws.com/877/8e/a/9041/1/2016.09.14_Mozambique_LNG_Trip_Report.pdf.
[10] World Travel and Tourism Council. *Travel & Tourism: Economic Impact 2014 Mozambique*, p. 1 (2014), http://www.wttc.org/-/media/files/reports/economic%20impact%20research/country%20reports/mozambique2014.pdf.

project will greatly hinder those economic impacts by driving tourists away through high levels of noise, vessel traffic, and pollution, as well as the destruction of the pristine local reef.

No improvement to energy access for local communities: The Mozambique LNG project does not even pretend to help Mozambique and its people economically benefit from its resources. About 80 percent of the country lacks access to electricity; the closest city of Palma has an electricity rate of 0.6 percent.[11] Despite this incredibly low electricity rate, the project does not attempt to improve that figure. The LNG will be brought to other countries, likely markets in Asia.[12] Natural gas does not even make sense to improve energy access in Mozambique because about two thirds of the population lives in rural areas far from the centralized grid, which the use of natural gas required. Furthermore, Mozambique lacks the pipeline infrastructure that would be needed to transport natural gas from the very north to the rest of the country. Small solar systems would make the most sense in a country like Mozambique, which is flush with solar resources.

Environmental impacts underestimated: This project will have a huge impact on the local environment. The assessment incorrectly finds that most of the impacts will be have either a "low" or "medium" impact with mitigation measures. The zone where the projects are located encompasses an area that provides a home to a large number of flora and fauna species, as well as special ecosystems. Roughly 60 percent of eastern Africa's remaining mangrove forests are in Mozambique, providing excellent habitat and tremendous ecosystem services.[13] Northern Mozambique's coral reefs are also largely intact and are some of the most species-diverse coral reefs in the region, particularly in the Quirimbas Archipelago of Cabo Delgado Province. The area's particularly productive sea grass beds also provide nursery grounds and foraging habitat for fish and turtles.[14] The project area particularly has a wide diversity of animals, including a number of species that are considered imperiled by the IUCN.[15]

Financial risk posed by the secret debt: The Mozambican government secretly guaranteed over $2 billion worth of loans and bonds with hopes of repayment pinned to exploitation of the gas reserves, putting Mozambique's economy at risk.[16] The Parliamentary Commission investigating the debt has found the government's guarantee to be unconstitutional.[17] Following these revelations, the country's debt now stands at 86 percent of GDP, which, according to the International Monetary Fund (IMF), puts the country's finances at high risk.[18] Multilateral organizations, credit agencies, and national governments have taken immediate steps to cut off lending and warned of the country's poor investment prospects.[19]

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[11] The World Bank, Access to Electricity (% of Population), http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS/countries/MZ-ZF-XM?display=graph (latest data is from 2012); Consultec, *supra* note 1, at 188, 254.
[12] Oleg Vukmanovic & Jacob Gronholt-Pedersen, *Exclusive: Asian Buyers Line up for Mozambican LNG with New Deals*, REUTERS, Oct. 30, 2014, http://www.reuters.com/article/us-mozambique-lng-anadarko-petrol-exclus-idUSKBN0IJ1V320141031.
[13] M. Samoilys at al., *Resilience of Coastal Systems and Their Human Partners in the Western Indian Ocean.* Nairobi, Kenya: IUCN ESARO, WIOMSA, CORDIO and UNEP Nairobi Convention (2015).
[14] *Id.*
[15] IUCN, The IUCN Red List of Threatened Species, http://www.iucnredlist.org/ (last visited May 9, 2017).
[16] Joshua Franklin & Wendell Roelf, *Swiss and UK Watchdogs Quiz Credit Suisse over Mozambique Debt*, REUTERS, Jun. 7, 2016, http://uk.reuters.com/article/uk-mozambique-debt-credit-suisse-gp-idUKKCN0YT1ES; Matt Wirz, Julie Wernau, & Matina Stevis, *Behind Credit Suisse's Soured Mozambique Deals*, WALL STREET J., Aug. 11, 2016, http://www.wsj.com/articles/behind-credit-suisses-soured-mozambique-deals-1467214300; Carlos Castel-Branco & Fernanda Massarongo, *Mozambique's Secret Debt: The Impact on the Structure of the Debt and the Economic Consequences*, IDEIAS, Jun. 16, 2016, http://www.iese.ac.mz/wp-content/uploads/2016/07/IESE_IDeIAS86e.pdf.
[17] Joseph Hanlon, Mozambique Fell Prey to the Promise of Fabulous Wealth – Now It Can't Pay Nurses, THE GUARDIAN, Jan. 27, 2017, https://www.theguardian.com/global-development/2017/jan/27/mozambique-fabulous-wealth-gas-reserves-pay-nurses-debt-crisis.
[18] Matt Wirz, *IMF Calls for Audit of Mozambique's Undisclosed Debt*, WALL STREET J., Jun. 24, 2016, http://www.wsj.com/articles/imf-calls-for-audit-of-mozambiques-undisclosed-debt-1466800795.
[19] Julie Wernau & Matt Wirz, *World Bank Is Suspending Direct Financial Aid to Mozambique*, WALL STREET J., Apr. 27, 2016, http://www.wsj.com/articles/world-bank-is-suspending-direct-financial-aid-to-mozambique-1461775025; Ed Stoddard, *United States Reviews Aid to Mozambique over Hidden Debt*, REUTERS, May 11, 2016, http://af.reuters.com/article/topNews/idAFKCN0Y20LJ; Joshua Franklin & Wendell Roelf, *Swiss and UK Watchdogs Quiz Credit Suisse over Mozambique Debt*, REUTERS, Jun. 7, 2016, http://uk.reuters.com/article/uk-mozambique-debt-credit-suisse-gp-idUKKCN0YT1ES; Moody's Investor Service, *Moody's Downgrades Mozambique Sovereign Ratings to Caa3, Changes Outlook to Negative*, Jul. 8, 2016, https://www.moodys.com/research/Moodys-downgrades-Mozambique-sovereign-ratings-to-

Meanwhile, civil unrest is further destabilizing the country, causing more than 10,000 refugees to flee to neighboring Malawi.[20] Public financiers like KEXIM should learn from the mistakes of international players that helped encourage the hidden debt and the country's risky lending practices.

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[20] Leo Dobbs, *Malawi to Reopen Former Camp, as Mozambique Refugee Numbers Grow*, U.N. HIGH COMM'R FOR REFUGEES, Mar. 15, 2016, http://www.unhcr.org/en-us/news/briefing/2016/3/56e7ed8c6/malawi-reopen-former-camp-mozambique-refugee-numbers-grow.html.