



VIET ECOLOGY FOUNDATION

Harmonizing the Web of Life

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Sunrise over the Heart of the Kingdom of Cambodia

October 30, 2023

The Honorable Dr. Hun Manet
Prime Minister
Kingdom of Cambodia

Subject: Energy Security and Independence for Cambodia

Dear Dr. Prime Minister,

I like to bring to your attention a plan for Cambodia energy security and independence.

I am a professional engineer in the US and Chairman of the Viet Ecology Foundation, a California-based international NGO. I am a keen observer of the energy and food security for the Mekong River region, and I strongly believe that peaceful cooperation and friendship among Mekong countries is the road map to prosperity for all Mekong people.

I have been studying Cambodia's national energy plan with intense interest as Cambodia seeks to lower electricity costs, achieve better sustainability, and create long-term energy security for Cambodia. I found your recent statement that: "*some countries have increased the price of electricity, but Cambodia will manage not to increase the price, as well as strive to make prices more reasonable*" [1]. You have reached the hearts of the Cambodian people with your statement and gave me encouragement to write you this letter.

In 2019, I noticed the high cost of electricity and the relatively high import dependency in Cambodia. I had done research and found the Asian Development Bank estimated that figures for the Cambodia solar energy potential is only 10 GW, and of course, they were wrong, simply because they did not see the solar potential over the Tonle Sap Lake. Having past engineering experience in energy projects, I conducted research and published a technical paper on the Feasibility Study for a Floating Solar project on Tonle Sap Lake. [2]

The question is whether it is feasible. The answer is 'yes!' and my feasibility analysis proves that a 25-year program for a 28 GW floating solar project with 4-hour battery storage at the cost of US\$31 billion will meet Cambodia's projected energy needs to 2045. That means Cambodia will not need to build any new hydropower dam on the Mekong and be concerned with their impacts.

The Levelized Cost of Electricity with this project is less than \$0.05 per kWh. You may think the project scale is outrageous, but by phasing it out over 25 years, we are talking about 1 GW @ ~\$1Billion each phase. That is huge but no longer an impossible undertaking since the Philippines already built a 1.8 GW inland solar energy project. According to a Cleantechica report, their



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Department of Energy has awarded a total of 237 solar energy contracts with an aggregate capacity of 1,282 MW and potential capacity of 21,452 MW. The agency is targeting to achieve 35% of renewable energy in the country's energy mix by 2030. [3]

The great solar potential of the Great Lake should be thoroughly investigated. I urge that you assign the cabinet the task of looking into this highly feasible energy project, one that requires practically no impact on land, no population to resettle and no pollution to be emitted. Most importantly, it is renewable clean energy 100% domestically produced to reduce the tariff from \$0.18 per kWh to less than \$0.10. As a result, Cambodia will have the lowest energy tariff in Southeast Asia. Cambodia needs you as their Champion to let the sun shine brightly on the Great Lake and light up the Hearts of the Cambodian people.

Respectfully yours,

Long P. Pham, P.E.
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References:

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<https://www.khmertimeskh.com/501383092/pm-vows-to-curb-rising-electricity-prices-despite-the-global-crisis/>

[2] Long P. Pham, P.E., Feasibility Analysis of a Tonle Sap Floating Solar Project.
https://www.researchgate.net/publication/337240703_Feasibility_Analysis_of_a_Tonle_Sap_Floating_Solar_Project

[3] Cleantecnica, Philippines' Largest Inland Lake To Host Large-Scale Floating Solar Projects Producing Up To 1,800MW
<https://cleantecnica.com/2023/09/01/philippines-largest-inland-lake-to-host-large-scale-floating-solar-projects-producing-up-to-1800mw/>



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