Hydrokinetic Energy Bill of 2017

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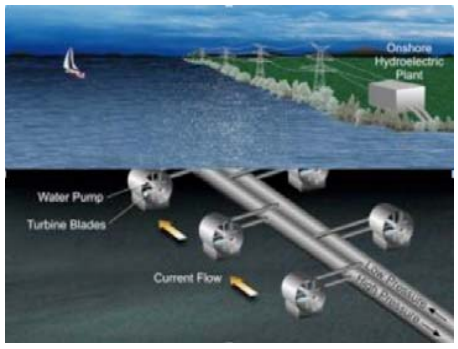
THE PROBLEM

The United States is currently the world's largest consumer of energy and will continue with growing infrastructure and population. Our current renewable energy systems need to grow and advance to accommodate this growth. Hydrokinetic energy can be the next big renewable energy provider not only for the United States, but also for every coastline country in the world. Currently, 67% of the United States is powered by fossil fuels and hydropower only contributes 6%. Hydrokinetic energy is being held back because of lacking research, funding, and development. The U.S. Department of Energy currently has a sector called the "Energy Efficiency & Renewable Energy Office" that conducts research and development with clean power technologies ranging from solar and wind power, to vehicle and building technologies. The budget for the U.S. Department of Energy is close to $3 billion, and $702 million is tied up in the Energy Efficiency & Renewable Energy Office. Overall, there are 15 different programs and offices the EERE control and fund including solar, wind, geothermal, and water. The average budget as of 2016 and 2017 is $702 million, but only .03% of that is attributed to the Water Power Program. Realistically only about $21 million is going to funding for developments on dams and ocean technologies, which isn't enough.



THE PROJECT

Hydrokinetic energy harnesses wave or river energy by using technology that rests either on top of the ocean or underwater. The main goals of the program include: producing and providing the next generation of water-power technologies, jump-starting private sectors of hydrokinetic energy that are crucial to the country's economic growth, developing energy security for the future, and creating international competitiveness between the markets of new technologies. The new bill would add $40 million to the already existing "water power" budget to get new facilities and programs developed for the future of hydrokinetic energy.

Hydrokinetic Energy Bill of 2017

Number: _____
Bill Introduced by: _____
Bill Author: ____**Aidan Overgaard**_____
Assigned to Committee: _____
Time Approved by Committee: _____
Chairperson: _____

Title: A BILL RECOMMENDING TO THE CONGRESS OF THE UNITED STATES THAT WILL EXPAND THE FUNDING OF THE CURRENT WATER POWER PROGRAM IN EFFORTS TO ENCOURAGE RESEARCH, DEVELOPMENT, AND APPLICATION OF HYDROKINETIC ENERGY.

Whereas, Hydrokinetic energy is a new form of renewable energy that captures the power from river or ocean currents and waves; and

Whereas, Research has concluded that Hydrokinetic energy has the potential to become the largest source of renewable energy in the United States.

Whereas, We still lack the technology and testing to tap into this bountiful energy source; and

Whereas, With new technology and implementation, the United States could power millions of household with clean energy.

SECTION 1 BE IT THEREFORE RESOLVED THAT THE CONGRESS OF THE UNITED STATES
Expand the funding of the Wave Research Program under the Department of Energy for further research and development of Hydrokinetic Energy. In the year funding begins, a new testing facility will be constructed to collect data, address technical risks, and accelerate the growth of commercialized wave energy technology. Results will be reported to the Department of Energy and the Office of Energy Efficiency and Renewable Energy.

SECTION 2
This act will go into effect January 1, 2018, and will be administered by the Office of Energy Efficiency and Renewable Energy.

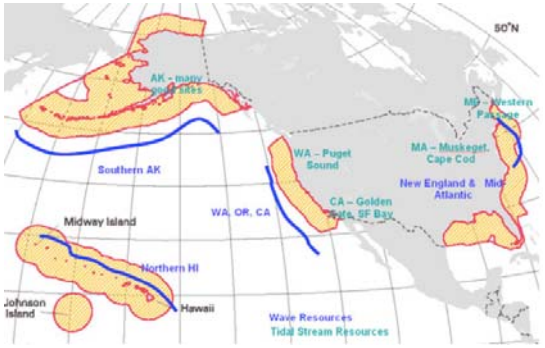
SECTION 3
This act will be enforced through the Office of Energy Efficiency and Renewable Energy and the Department of the Interior, and Energy. Failure to comply will result in the cessation of all federal monies to every program under the Office of Energy Efficiency and Renewable Energy until such time as the district complies with the provisions of this act.

SECTION 4
Forty million dollars will be authorized to assist the Water Powers Program with the construction of a testing facility. Reconstructing the Office of Energy Efficiency and Renewable Energy's 2018 budget plan of $702 million will provide funding. This would take a small pay cut from the other 14 programs to help grow the Water Powers Program.

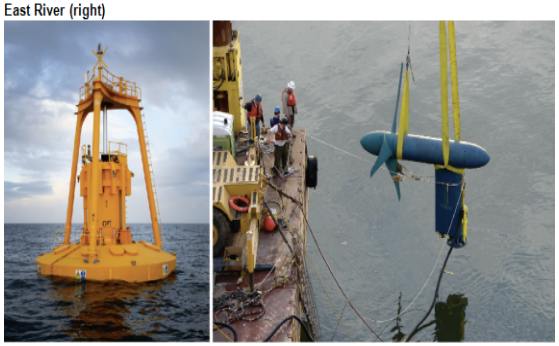
Action Taken: _____
Time: _____ **Signature of the Clerk:** _____

OUTCOME

This bill is dedicated to establishing a new testing facility in hopes of collecting data, addressing risks, and accelerating the growth of technology. Outcomes of a new policy would be the introduction of technology to water sources and producing up to 5-10% of the United States energy consumption by 2050. Hydrokinetic energy has the potential to power up to 23 million United States coastline homes. This outcome will not be possible if the bill cannot gain traction and become enacted by the beginning of 2018.



Ocean wave power buoy off the Oregon coast (left); underwater turbine in New York City's East River (right)



SUSTAINABILITY

This bills covers all three system approaches: Managed, Built and Social. The policy development and the path to law is what makes up the Managed system. This system will need Congressmen and other politicians support to pass in different committees in hopes of reaching the Congressional floor and eventually to the desk of the President. The Built system will need underwater site-landscaping planning and advanced design principles. Engineers and architects will be needed to design and plan underwater systems to capture and transfer energy into a grid system. The Social system will deal with different coastal and river communities coming into contact with newer technologies. Underwater turbines could affect fishing in some communities, but have cheaper energy offered to them in return. The sooner the United States can adopt new bills for the funding of new renewable energy sources, the quicker the country as a whole can begin to become more sustainable and wean off of fossil fuels.

This project allowed me to combine my studies of Policy and Sustainability by researching new and possible renewable energy systems. I was able to broaden my knowledge on the subject and I hope students will take something from this project by understanding that there is more renewable energy to tap into other than Solar and Wind.

This poster was prepared in partial fulfillment of SUST 4103 Sustainability Capstone