

# SB-65

A proposal to build a bridge with the capability to harness tidal energy and provide affordable housing across the Knik Arm.

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## IN THE SENATE OF THE AMERICAN LEGION BOYS NATION

Mr. Eule of Alaska introduced the following bill;

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## A BILL

A proposal to build a bridge with the capability to harness tidal energy and provide affordable housing across the Knik Arm.

*Be it enacted by The American Legion Boys Nation Senate assembled,*

### **SECTION 1. SHORT TITLE.**

This Act may be cited as the "Alaska Tidal Power Harnessing Bridge with Affordable Housing Commitment Act".

### **SECTION 2. CREATING HYDROELECTRIC POWER FROM A BRIDGE ACROSS THE KNIK ARM**

Herby creating this bridge will promote a lasting renewable energy source, new jobs, access to affordable housing across the Knik Arm, development of Port Mackenzie, significant reduction in commute time, a reduction in road erosion, and a reduction in exhaust emissions and fossil fuel usage.

(1) Tidal turbines are able to convert 80% of the energy collected from tidal waves into electricity

which is far more efficient than the current wind, solar, coal, or oil energy production in the U.S. only yielding 23%-45% efficiency.

(2) The tidal power produced by the Knik Arm bridge would provide up to 18 gigawatt hours of clean renewable energy to power 6 million homes, while reducing 46.8 million metric tons of carbon dioxide annually. This energy potential will provide more than 20 times the amount of energy used by all the road connected communities of Alaska.

(3) Development of such bridge is necessary to promote further city growth and reduce the landlocked issue of Anchorage. The average housing cost in Anchorage is \$400k, while the average housing cost outside of Anchorage is \$150k. Currently the population growth of Anchorage in the last 10 years has decreased by 2% due to housing expenses while the population of Matsu Valley across the way has increased by 21.7%. Which is the second fastest growing area in Alaska.

(4) Construction of the bridge will reduce road erosion from the only highway in the Mat-Su Valley area and other local communities, thus saving roughly 2 to 3 million dollars from yearly road reconstruction. The commute time from the Knik Arm to Anchorage will be reduced from 1 hour and 20 minutes to just 20 minutes with the Knik Arm bridge. The distance would be reduced from 82 miles to just 6 miles.

(5) The construction project of the bridge will provide many jobs for the local population. Resulting in 1500 construction jobs and up to 14000 residential and commercial jobs at Knik Arm. Leading to the development of a new city at Point Mackenzie. The bridge would also support many existing jobs at Port Makenzie and many mining jobs in the interior.

(6) The Knik Arm bridge will not harm current shipping routes since it will be Northwest of Anchorage where the bay is too shallow for large cargo ships to be commuting and the bridge will be tall enough to allow smaller vessels through. Wildlife such as beluga wales will not be harmed by such turbines or the bridge since there will be cages installed around the turbine. Salmon migration will not be harmed by this bridge due to open water ways in between the columns.

### **SECTION 3. FUNDING PROCEDURES**

Herby the funding for this construction will be provided by the Alaskan Permanent Fund Corporation which is reserve revenues used to invest in stocks, bonds, infrastructure, real estate, and private entities. The corporation was established by the constitutional amendment in 1976 based on the natural revenue from oil and gas production in recognition of the inevitable depletion of the oil resource.

(1) The Alaskan permanent fund houses \$76B dollars reserved of unused oil and gas revenue.

(2) With the problem of depleting oil production and its decreasing revenue, we now have a renewable source of energy from the tidal power bridge.

(3) The cost to construct the Knik Arm bridge would by estimated to be \$800 million and about 1.75 miles in length. The cost to purchase, ship, and install each Tidal powered turbine is \$4.7 million. Tidal turbines have a life of 25-30 years and require matainence every 5 years. Capital costs for tidal energy is the most expensive, however it is the 7 times less than Solar operational costs. It is also the second most efficient when compared to hydroelectric power.

#### **SECTION 4. INTERNATIONAL INFRASTRUCTUR INVESTMENT**

This bill will direct the Department of Transportation to connect the interstate highway in Alaska to the United States

#### **SECTION 5. TERMINATION**

Herby this bridge construction project should begin by 2034.