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# WHITE PAPER PROPOSAL



# THE EVERGREEN BORDER ENERGY INITIATIVE

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The Evergreen Border Energy Initiative is seen as a potential bipartisan infrastructure initiative that would address not only the concerns of the disparate interests of the homeland security and green power proponents, but also as a joint United States/Mexico infrastructure project that would benefit everyday people on both sides of the border. Once completed, the Evergreen Border Energy Initiative will be the largest renewable energy infrastructure project ever completed on the planet, providing green power and or water access to millions of people and thousands of businesses in the Southwest. Equally important, as a true public/private partnership between the Advanced Warning Systems consortium (AWS), which includes some of the largest leaders in the construction, solar power, water and security industries, and the government of the United States (with continuous consultation with the government of Mexico), this entire project will be paid exclusively with private funds. This will ensure, with total certainty, that the taxpayers of the United States will never be asked to carry the burden of completing such an immense, yet necessary, project.

#### Main Benefits under the Evergreen Border Energy Initiative

- Self-Financed totally. AWS will not need any government funding to complete this project
- The largest renewable energy project in US history, supplying up to 25% of US energy consumption
- The largest clean water infrastructure project in US history
- The ability to provide the US government and border states with cutting edge technology to assist in monitoring the entire length of the border in real time
- Tens of thousands of jobs, many of them permanent
- DACA provides a solution within the job creation point noted above
- Shared benefits with Mexico, providing cross border energy and clean water to our neighbor
- Greatly supports the President's initiative and focus on agriculture, farming and ranching, adding huge amounts of currently inaccessible tracks of land to that program.

Tens of thousands of good paying jobs will be created over the 7-10 year build out, with thousands of full time jobs remaining upon completion. Desalinized water running the full length of the border, between western Arizona through New Mexico through the western Gulf side of Texas, will bring much needed water for agricultural production without causing major disruption to indigenous species. And once completed, the Evergreen Border Energy Initiative shall be capable of supplying an equivalent of 25% of the electricity needs of the entire United States with solar power. And while the Evergreen Border Energy Initiative will be US-based, the people of Mexico will be invited not only to share in the benefits of the project, but also to develop similar infrastructure projects on their side, while tying in to our cross-country transmission lines and water pipeline where applicable. It is the intent of the partners in the Evergreen Border Energy Initiative to try and benefit as many people as possible in reaching our goals, for both financial reasons by expanding out our client base, but also environmental and altruistic ones as we believe our model truly makes our world a better place. This can make the United States a leader in renewable energy projects.

As to the economics, they are extraordinary, but not just in terms of standard ROI. First, because of the scale of the project, it makes renewable energy less expensive, as well as more predictable in output and pricing, than typical carbon-based energy sources. Because the initial infrastructure will cross the full length of the Arizona to Texas border, the scalability of the solar output is incredible. The transmission lines run in the initial construction will be able to support a minimum of 10 gigs of power with room for ten times more capacity. In fact, in order to plan for future expansion, additional pipes will be installed during the original construction to allow for additional lines to be run at minimal costs. Outside of the solar capacity of the border structure itself, dozens of large scale solar farms will be built along the route where it makes strategic sense. Each will be able to simply tie in to the main horizontal transmission lines, yet can remain independent for safety reasons. Additional farms will be added whenever demand increases.

As a tax base, the project benefits all local municipalities where power flows or is generated adding another revenue source. Water access will allow for greater agriculture development in the drier stretches of the southwest, creating jobs but also improving local economies in the form of sales taxes. In addition, local landowners will benefit as our business model is based, when possible, on long term land leasing with easements in exchange for a royalty paid on energy production. These fees can run in to the millions of dollars annually. Everyone involved, from the power and water users, to the municipalities and states, will benefit directly. But adding all of that green energy will truly benefit everyone. And again, this will not require any government financial capital commitment. In fact, since all of the energy needs of the border security will be provided as part of the project, it will save the government tens of millions of dollars annually. But, no need to worry about the sustainability of our company; the project generates enough revenue to make our investors, bond holders, management and workforce financially stable and profitable.

Now the question most often asked by both sides of the argument is why we need to consider the other side of the argument. The proponents of border security see security as paramount and in many cases, lack any interest in adding the green power and water initiatives. Similarly, the proponents of green power and greater access to clean water have their own set of beliefs. Why, they ask, potentially taint such a huge green initiative by attaching it in any way with a border security plan. We at AWS have heard these concerns and understand these opinions and the heartfelt reasons behind them. However, it is our opinion that the only possible way this initiative gets built is by combining these two seemingly disparate interests, as strange it may seem at first.

Frankly stated, as a private enterprise, it would be practically impossible for any private consortium to get the land rights, access to salt water sources for desalinization, access to power grids, the ability to run thousands of miles of electrical transmission lines underground, tie in with hundreds of water lines, as well as permission to dig below hundreds of state, local and federal roads to name just a few of the challenges. Perhaps even more daunting and as scary as that list already appears, is the challenge of facing thousands, and we do mean thousands, of local, state and federal regulations that are often written to protect the local residents of those jurisdictions. However, those regulations often conflict with similar laws written by their neighbors. Such an endeavor would be unforgiving for any business interest, especially one as large yet beneficial as ours. In our opinion, it is only as a part of the border security initiative that the green power and clean water elements can succeed. However, we believe it is equally true for the proponents that solely address the security concerns.

Already thousands of plaintiffs are lining up to frustrate the continuation of any form of border structures, even if they were minimal in their construction. Landowners will fight any eminent domain cases brought by the US government. Environmentalists believe it is in the best interests of the health of the world to fight everything, from protecting the native breeding ground of the Texas horned frog, to the feeding grounds of the Arizona rattlesnake. They have proven to be very formidable opponents and will likely continue to be such. Additionally, the human rights advocates will continue their fight for the rights of parties looking to cross the US/Mexico border for everything from economic opportunities to refugee concerns. This will certainly have a major effect on the pace of any construction in the best-case scenario (ironically for both sides). In addition, the current argument about the status of DACA recipients has only increased the temperature, and urgency, on this matter. The solution is one that very few people these days will not want to discuss in mixed proponent gatherings.

Compromise. Yes, that daunting word that has become so difficult to even imagine happening in today's political climate. We get it. We understand the difficulty of what we are proposing, both in theory and practice. However, before you discard the idea out of hand, we ask you to at least look at the Evergreen Border Energy Initiative with an open mind and open heart. Below you will find just a short list of the incredible benefits to the proponents of ALL sides of the discussion. True, it will never be everything each side wants, especially if you take in to account the compromises (there's that word again!) each side will need to agree in order to attain their own individual interests a reality. But, it is only by working together, taking in to account everyone's concerns, that will make this project such a great success.

Thank you for your consideration. We hope to have you join our team. Together we can change the world and make the USA a model of innovation.

Benefits of AWS Evergreen Border Energy Initiative in more detail:

- 1. Multi-use Solar structures to provide the US Government with an advanced protective structure on the border between US and Mexico.
- 2. AWS solar structures will contain both physical obstruction to illegal border crossing and the use of active (cameras, infra-red scanning) and passive (motion detection, underground motion sensors) to allow Border Patrol real time data to assist in enforcement
- 3. AWS solar structures for green power production, will be built on a concrete base with barb wire topping the structure providing additional protection for possible intrusion. And importantly, the AWS design was submitted for patent protection before any discussions of a solar structure became a topic of conversation among politicians. We've been working on this for a long time!
- 4. Solar panels used for AWS solar structures will be mounted to both allow for tracking of sun movement to maximize production as well as to allow easy replacement as solar panel technology improves.
- 5. Each solar panel will have both independent and integrated power transmission lines to allow for efficient energy collection while providing easy repairs if panels are damaged by nature or vandalism.



## Rendering of the solar panel wall structure



- 6. Water pipeline to be built on the US side within 500 feet of the North face of the AWS border solar structures. The water pipeline will be a combination of above ground and underground depending on geography, land congestion and agricultural needs.
- 7. Desalinization plants will be built on both the Texas Gulf and the Western ends of the water pipeline providing water clean enough for agricultural use as well as being able to supply existing water purification plants for conversion in to potable water.

- 8. Expected location for desalination plants will be in the Galveston region of Texas in the Gulf of Mexico, and Yuma, Arizona (where a desalination plant exists but is not in use) in the West, but final location will be decided in cooperation of the States involved.
- 9. North of the water pipeline will be a large number of solar farms which, once completed, will be the largest renewable energy project on the planet.
- 10. The farms, ranches, indigenous communities, towns and cities will all tie in to the transmission lines and pipeline along the Evergreen Border Power Initiative.

Water pipeline rendering showing the underground and above ground structure.



Additional Benefits for American and Mexican Relations

- 1. Mexico can help pay for the Evergreen Border Power Initiative, but only because of its economic benefits to Mexico.
- 2. Mexico has higher electricity rates than the US and the solar farms can also provide cheaper power to the Mexican side of the border.
- 3. Mexico can tie in to the transmission lines on the US side and bring additional renewable energy production in to its existing power distribution network.
- 4. Mexico will pay a marginally higher per kilowatt hour fee than the US side, but both will be less than existing per kilowatt fees. Plus, from a much greener source.
- 5. Water is an even larger problem for Mexico, as they share the water in the Rio Grande with the US and the parties have had difficulty agreeing on the distribution of the water to farms on either side of the water body. The Evergreen water pipeline alleviates this concern completely.
- 6. Again, the Mexican government will pay a marginally higher per liter fee than the US side, but both will be lower than existing per liter fees.
- 7. This will allow Mexico to increase its agricultural businesses, already a main driver in the Mexican economy.
- 8. Telecommunications will be a tremendous benefit to the Mexican border population.

Eminent Domain Concerns

- 1. While not a complete solution, the AWS business model should significantly decrease the amount of Eminent Domain lawsuits needed by the US Government to acquire the land needed to complete a contiguous pathway the full length of the US/Mexican border.
- 2. AWS will use, when possible, a land lease/easement model to acquire the rights to the land for the water pipeline and solar farms.
- 3. Under this model, the landowner will lease the use of the land needed to AWS in exchange for a continuous revenue share of the power provided by solar panels on their property.
- 4. Thus, landowners will still sell the minimal amount of land needed to build the along the actual border, but all other uses shall be paid for with a continuous revenue stream paid by AWS.
- 5. Landowners will have a voice in the amount of energy production on their land, and therefore the number of solar panels on each farm.

## DACA and Immigration Control

- 1. The AWS plan would provide an additional manner in which presently determined DACA recipients could qualify for permanent status. By creating a program that mimics those for US military service for foreign individuals as well as that of the Peace Corp type program, DACA recipients could accelerate their permanent status by working alongside the Evergreen initiative over an agreed upon period of time. Despite being a border based project, jobs will be created throughout the US, allowing for direct or remote opportunities to be employed by the program. Such involvement could, with political support from both sides of the issue, be an additional factor that benefits DACA recipients. Outside of the obvious construction and engineering opportunities will be environmental monitoring, energy sales, agriculture, technology development, accounting and other roles. Additional training could be supplied to support such a venture as well.
- 2. Easy access points along the border to apply for and obtain guest worker permits for people hired by US base agricultural concerns for seasonal work.

#### Fiber Optic Pipeline

- 1. Multiple fiber optic and telecommunication pipelines will be run along the border for current use as well as leaving some empty for future needs.
- 2. High speed fiber optic cables can be run initially to increase access to high speed data networks, especially in rural parts of the Southwest US which have traditionally been ignored.
- 3. And since excavation for the water pipeline will require the digging anyway to complete, either below ground in congested areas or above ground in open areas needing underground support beams, the additional cost of the additional pipelines will be marginal compared to the project as a whole. This allows for future revenue sources for the project with minimal cap ex expenditures.

Telecom

- 1. Additional pipelines will be installed along the full path of the project to allow for their usage for increased telecom and high-speed internet access in a region of the US which has been underserved to date based on low population concentrations.
- 2. Similar to the transmissions lines, this new full length fiber optic hub will allow for sections of the US that are North of the project to tie in to increase their capacity as well.

### **Environmental Benefits**

- 1. Renewable Energy replaces dirtier sources
- 2. Scalable can expand upon demand without major capital expenditures
- 3. Nature preserves with water access will be developed at multiple points along the border to provide native species a safe place to live and/or feed so as to minimize the disruption to their habitat

#### Agriculture

- 1. With continuous water supply, there can be an increase in domestic agriculture production.
- 2. This production can also increase types of produce farmed as local water capacity often determines the farmer's choice (i.e., water intensive products like almonds are not grown in Texas).
- 3. Greater local production leads to lower costs as transportation needs are greatly decreased as well as fresher products to market.
- 4. Increase in production leads to additional agriculture related job opportunities.

#### Unlimited Charging Stations

- 1. The main reason for the limits of using electric vehicles is the lack of charging stations throughout the US.
- 2. The AWS project can increase the amount tremendously by providing direct access to clean power along the border route.
- 3. This will also allow for a transition of heavy farm and construction equipment from diesel based consumption to battery based clean energy. The low cost continuous access to green power will make recharging the heavy machinery easy.

#### California

- 1. The State of California has an open invitation to join Arizona, Texas and New Mexico in our initiative. However, there are certain circumstances that have led us to leave them out of this initiative for the time being, including and because:
  - a. California already has a barrier on the US/Mexico border for most of the width of the state, certainly mitigating that need.
  - b. The population along the border, especially in the west, limits the availability of land for our project
  - c. The regulatory process in California is considered to be the most difficult to navigate.
  - d. California, even during the recent drought, refused to consider the permitting on any new water desalinization plants that took water from the Pacific Ocean.

2. However, the design of the Evergreen Border Energy Initiative will be such as to allow for expansion in to California, either directly by building there, or indirectly by supplying the state with green energy and/or water if they show interest.

#### Conclusion

Projects like the Evergreen Border Energy Initiative are very challenging to say the least. The engineering, design, and construction alone makes this initiative one of the difficult endeavors taken on by a US consortium in the last fifty years. But when we add to that the current political climate, both domestic and international, the challenge increases exponentially. While some, if not most, of those looking at us from the outside believe the challenges are so great it is not worth attempting, the truth is quite the opposite. The difficulty, and the need to accomplish this worthwhile pursuit by working together, can bring us back to a time where reaching such an important goal was enough to spark bipartisan solutions. Think back to our history lessons of the 1950's and President Eisenhower and a very divided Congress sparked the type of large scale infrastructure development that we are discussing today. And while some may argue that these programs did not solve the problems quickly, no one can argue the positive effect to the millions that uses such things as the Interstate Highway System or our National Parks, nor the benefit to the hundreds of thousands of workers that were employed building these projects. In fact, the building of the Interstate Highway System is a valid example of what we are trying to do here today.

The biggest issue facing the usage of green energy is not the ability to generate it. In fact, the biggest impediment is the lack of capacity to transfer it from where it is generated to where it is needed. No one has invested the necessary capital to carry the green power generated to where it can be used. When first designated, the Interstate Highways took advantage of major North/South and East/West highways, some of which had existed in some form for many decades. But what they didn't have in many cases was seamless interconnectivity. Populations were concentrated on the East and West coasts and in dozens of large populations hubs in between. The Interstate Highway System allowed for easier travel between these hubs, which spurred the expansion of development in both the suburbs and newer, smaller population hubs outside of the traditional areas. People took advantage of the ease of travel. Power transfer is basically the same thing. By making it easier for power to "travel", it can move seamlessly from less populated generation points to more populated usage points. The Evergreen Border Energy Initiative is in essence the first power superhighway in the US. And once built, similar to Interstate 95, Interstate 70 or the many other interstate highways, the ease of tying in to our transmission lines will make it easier for any number of present and future North/South power "highways" to bring that power North.

In effect, this is one of our main goals. In order to spur the necessary investment in to green energy production, we need to create a platform that lowers the capital costs, not only of production but also for transmission. The same can be said to some extent for water distribution. And that is why the opportunity being presented to all of us today is so precious. Once completed, we will have created a green power and water pipeline that stretches over 50% of the width of the US. And it is with complete understanding of the differences of opinion on having any border structures that we have tried to create an initiative that takes in to account the differing opinions to provide each side with enough issues they support to try to address their concerns about the things they do not.

Once even partially completed, the Evergreen Border Energy Initiative will provide green power, water and security to the Southwest US, as well as Mexico if it wishes to join us. Our project is not designed to "punish" anyone. Quite the opposite. It is meant to show a way that competing interests can align to create something all of us can be proud of. And because this is project is funded without public money, we are not asking the taxpayer to carry the burden of past large-scale infrastructure development. We just want the public to benefit from it when we are done!

We thank you for your consideration of the Evergreen Border Energy Initiative. Our team stands by to help answer your questions. We hope you join us on this journey to greater security, greater access to clean water, and greater development of green energy here in the US.

For More Information, please contact Mr. Lynnwood Farr, CEO of Advanced Warning Systems

Advanced Warning Systems, LLC P.O. Box 768 Lake Havasu City, AZ 86405 844-778-7070 – Toll Free 928-680-8623 – Direct 011-4179-230-2104 – Cell Phone Mr. Lynnwood Farr ceo@advancedwarningsystems.net www.advancedwarningsystems.net