



Sustainability for the Texas Permanent University Fund (PUF)



“Achieving sustainable assets for the PUF is the only way to save long-term funding for the two major Texas state universities.”

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Introduction

This is both an environmental and a financial issue.

This document includes:

- **The Background, History and Positive Impact of the Texas PUF**
- **The Danger, Harm and Legal Concerns About PUF fossil fuel assets**
- **The Financial Driving Forces for Sustainable PUF Assets**
- **Descriptions of How Sustainable PUF Assets can be Achieved**
- **Why Sustainable PUF Assets Are a Better Idea**
- **Texas Leadership Needs**



Texas PUF History and Description

- **First created in 1876, by the Texas Constitution.**
- **Set aside many acres of West Texas lands to provide financial income for higher education.**
- **The University of Texas System and the Texas A&M University System were the two institutions identified to benefit from the fund.**
- **Assets include oil, gas and other minerals such as sulphur, water royalties and grazing leases, which generate income. (1) (3)**
- **The PUF is an endowment, the Available University Fund (AUF) is the annual distribution to the two University Systems, usually 4-5%.**
- **In 2020, the PUF is composed of 2.1 million acres of land in 19 west Texas counties, plus \$24 billion dollars in mineral-related assets and fiduciary investments. (2)**
- **Bonds are allowed to be sold, some of which can benefit capital investment in other Texas Universities.**



Texas PUF Positive Impact

- **Income from the PUF only covers a portion of the costs to operate the two major universities. (1)**
- **This income helps keep tuition costs at a reasonable level.**
- **The Texas PUF is the financial foundation that has allowed the University of Texas System and the Texas A&M University System to prosper and grow into world-class universities.**
- **This benefits Texas citizens, the nation, and the world.**
- **Protecting and nurturing the assets and annual income stream is vital to the continuation of quality higher education for Texas. (1)**



The Issue is the Oil and Gas (Fossil Fuel)

- For over 100 years, oil and gas have provided the energy for the state and national economy to grow.
- The production and refining of oil and gas has provided millions of jobs and economic benefit.
- Beginning in year 2000 (and earlier), we know that the carbon from the burning of fossil fuels is harming the atmosphere, creating global warming. (4)
- Already, global temperatures have risen several degrees F, with a 5-9 deg F rise predicted across the 21st Century (dangerous, deadly, heat).



Carbon to Atmosphere from Fossil Fuels is Destroying the Environment of the Planet Earth (4)

- Many experts have predicted global warming is responsible for:
 - Melting of the polar ice caps, ocean water rise, rendering some areas of the world uninhabitable.
 - Increasing droughts, crop failures.
 - Increasing wildfires
 - Increasing major storms and major storm intensity.
 - Acceleration of the spread of dangerous viruses.
- This predictions are now obviously coming true.



Global Warming is a Threat to the Financial Health of Texas and America

- Texas citizens (and other Americans) are spending billions of dollars recovering from the increasing number and intensity of disasters.
- The 2020 pandemic alone will cost the United States over 16 trillion dollars in economic loss (5), and possibly cost Texas over 400 billion dollars.
- The benefit from fossil fuels is an illusion, because the economic losses now far exceed the original benefit.
- **How can Texas citizens and businesses (and A&M former students everywhere) continue paying taxes and donating to higher education if a large portion of their financial resources are consumed with disaster recovery?**
- With this new reality, what is a wise course of action for Texas and the PUF?



PUF and Fossil Fuel

- **The production and sale of oil and gas (or coal) from State of Texas lands is now clearly a threat to human survival on the Planet Earth and a threat to the financial health of both major Texas Universities.**
- **Question: Are there any other oil and gas (or coal) assets outside the PUF benefiting the two universities? If so, these assets are included in the problem.**
- **Clearly, a solution must be found quickly. The human race is running out of time.**
- **ALL universities and ALL United States organizations should be creatively addressing this enormous challenge.**



The Legal Questions Concerning a Fossil-Fuel Based Texas PUF

- Now that the enormous harm from fossil fuel has been well-defined, what are the legal implications of a state government contributing to large amounts of carbon-to-atmosphere pollution?
- Production of fossil fuel is legal now, but since the harm is well-known, could this continuing activity create huge civil liability issues for the State of Texas?
- In what year will laws catch up to this negative situation and ban the production and consumption of fossil fuels? (6)
- These are urgent questions, but fortunately, solving the problem does not have to wait for the environmental laws to change.



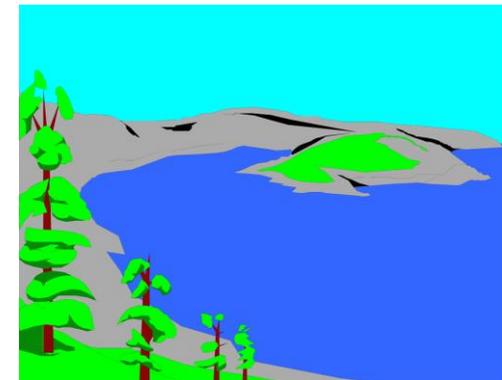
Transitioning the Texas PUF to Sustainable Assets

- The issue of solid mineral assets (like sulphur) will be addressed separately.
- A PUF based on renewable assets can be achieved, and would last for centuries with minimal harm to the environment.
- Such a PUF and AUF would clearly benefit Texas, it's citizens and it's major universities.
- Solar farms, wind farms and water resource assets already exist on PUF land (2), the transition just needs to be an order of magnitude larger and faster.



The Steps to Transitioning the Texas PUF to Sustainable Assets

1. The Texas Government passes a law requiring the PUF to completely transition to renewable/sustainable assets by 2035 or earlier.
2. The Texas Government passes laws immediately freeing capital funds for PUF renewable energy and water resource projects investment.
3. The University of Texas-Texas A&M Investment Management Company (UTIMCO) greatly increases investment in solar and wind farms.
4. Also, investment in water resources and reservoirs will be greatly increased.
5. The UTIMCO develops and implements a plan to incrementally shutdown oil and gas exploration (and income) on PUF land, until all PUF income is from renewable-sustainable sources.



1. Texas Laws Require the PUF to Transition to Sustainable Assets

- In 2021, Texas Laws could be enacted that require the PUF to operate with 100% renewable-sustainable resources by 2035 or earlier.
- The Texas Legislature could easily enact such laws, especially considering the long-term benefit to Texas citizens.
- An implementation schedule could be supported that requires 50% reduction of oil and gas production on PUF lands by 2028.
- This also includes re-directing any PUF financial investments away from non-sustainable fossil fuel-based activity.
- The subsequent slides describe how the AUF income can be replaced.



2a. Texas Government Allocates Capital Resources for PUF Renewable Assets Investment

- PUF assets have risen from \$18 billion to \$24 billion from 2017 to 2020, even after the annual AUF funds have been allocated.
- This transition must not take 30 years, so the only viable option is to change the Texas Constitution to immediately allocate \$6+ billion of PUF endowment principle (and extra available AUF funds) for construction of new renewable assets.
- This would create thousands of new jobs for Texans.
- Global Warming is deadly to current and future generations. This is a national and global crisis, this is force majeure. (4)
- The new assets would start generating millions of dollars in annual income, and the assets would be renewable !
- This investment pattern could be repeated until all PUF assets are renewable-sustainable.



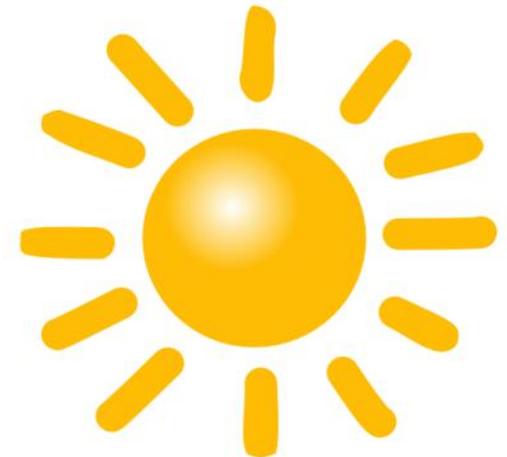
2b. Texas PUF Assets Would not be Reduced, Just Altered

- It is very important to realize the \$6+ billion in financial assets is not lost, just changed to physical assets that generate income.
- The income generation could be at least 5% per year, based on the investment.
- Therefore, the altered investments could be just as effective as the previous financial investments.
- The total assets of the PUF are largely maintained.
- This reality will encourage more investment in renewable physical assets for the Texas PUF.



3. UTIMCO Can Greatly Increase Investment in Renewable Energy

- **\$4+ billion dollars, plus capital from other Texas sources, could be invested in solar and wind farms on PUF land. New land acquisition may be needed.**
- **Solar electricity generation is preferred because it has zero moving parts and lower on-going maintenance costs. (4)**
- **Off-shore wind is more reliable than on-shore, and energy from the ebb and flow of tides should not be overlooked. (4)**
- **Each day, the sun's rays striking the state of Texas contain 50+ times the energy needed to power the entire state for that day. All we need to do is harness 2% of the energy. (4)**
- **Energy storage technology is advancing rapidly, and within 7-8 years, significant amounts of solar energy can be stored for use at night.**



4a. UTIMCO Can Greatly Increase Investment in Water Resource Assets

- Within a few decades, in 2/3 of the land area of Texas which receives low rainfall amounts, water could approach the value of oil.
- \$2+ billion, plus capital from other Texas sources, could be invested in new water resources and reservoirs.
- Massive new reservoirs 30-40+ feet deep and thousands of acres big, could be built to retain a significant amount of the rainwater that falls in key locations around Texas, and especially in East Texas. This may require new land acquisition.
- New pipelines and large pumps driven by solar electricity could be installed to pump the water from east Texas to south, central and north Texas areas needing water for farming and ranching (and municipal use). This water would generate millions of dollars in annual income.
- Environmental clean-up of contaminants in the water must be built into the system.



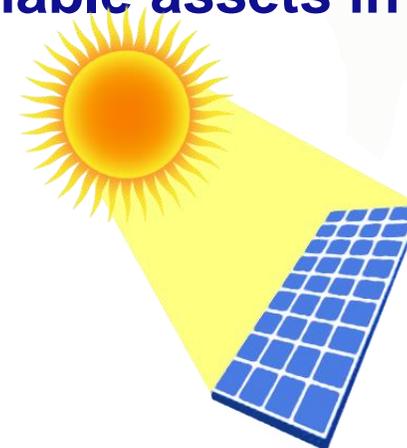
4b. Water Resources and Solar – A Powerful Combination

- The combination of large water reservoirs with solar farms is a golden opportunity.
- Many solar farms exist today that float over reservoir and lake water. This design greatly reduces water loss due to evaporation and generates electricity at the same time. A Win-Win ! (7)
- Such new sustainable assets could generate millions of dollars per year in income for the PUF and AUF.



5. UTIMCO Incrementally shuts down Oil and Gas Exploration on PUF Lands, until all PUF Assets are 100% Renewable-Sustainable

- As new investment is made in sustainable assets, oil and gas production on PUF can be greatly decreased.
- In about 15 years, all PUF assets could be renewable-sustainable.
- In addition, all financial investments for the PUF should be free of any fossil-fuel-related activity.
- Nature put the oil and gas in the ground thousands of years ago. Removing and using fossil fuels is ruining the future for current and future generations.
- The best course of action is to leave the non-sustainable assets in the ground, we do not need them in order to prosper. (8)



Why Sustainable Assets for the Texas PUF is a Better Idea

- The U.S. consumption of oil and gas will greatly shrink over the next 15 years. The known environmental damage, lower cost electric vehicles and lower cost solar electricity will drive this trend.
- Income derived from oil and gas changes greatly as the price of oil swings from \$25 to \$80 per barrel. This does not help high-level financial planning.
- Sustainable assets can generate consistent (and increasing) income for decades in the future, with smaller swings in income.
- On initial consideration, the perception might be “the sustainable assets will only replace, not grow the income from the PUF”. This is very false.
- The continued investment in sustainable assets will increase PUF and AUF income far beyond the shrinking limits of income obtained from fossil fuel assets.
- This is not an emotional decision, this is cold, hard cash.



PUF Sustainable Assets Will Attract Billions in New Economic Activity

- **The potential for this new economic growth over the next 15 years is in the tens of billions of dollars, far greater than the shrinking opportunities from fossil-fuel.**
- **As visible and successful renewable-sustainable projects are completed in Texas, interest from large technology companies will grow.**
- **The commitment to the future will be obvious, and this will help attract new technology projects.**
- **Staying with the archaic and destructive fossil-fuel assets just discourages this new technology growth.**
- **The recent announcement of a new battery-electric truck manufacturing facility near Austin is one example of new growth worth billions in economic activity.**



Does This Have to Be “Oil & Gas” versus “Environmental Protection”?

- It is obvious that many Oil & Gas companies and employees are actively seeking to protect business, profits and salaries.
- There is illogical ignoring or denial of experts’ warnings and facts about increasing global disasters linked to global warming.
- It is not unusual that employees would want to protect their jobs, but this effort now includes negativity towards environmental champions.
- Instead, Oil & Gas companies and employees should embrace the future, believe the danger and support rapid transition to renewable sourcing of energy.
- Further, America (and Texas) should be helping in this transition by providing tax credits, job re-training, job placement, and large public works for renewable power.
- The future of our children and grandchildren depends on this rapid transition.



Texas Leadership Needs

- **State of Texas government and university leaders are supposed to make wise and prudent decisions concerning public finances...i.e.. be fiscally responsible.**
- **Important Question: Is continuing to allow the Texas PUF to be based on non-sustainable, harmful fossil fuel-derived income fiscally responsible?**
- **This document clearly answers “No”. If that is the case, why haven’t Texas leaders taken swift and bold positive action?**
- **Accomplishing this huge transition will take forward-thinking and visionary leadership.**
- **It just takes the will, the belief and the commitment.**
- **Plus, these projects will generate thousands of Texas jobs!!**
- **20 years from now, what kind of prestige would flow to Texas and it’s Universities if they are on the leading edge of this inevitable and valuable transition?**



Citations

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