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## Don't Mess with Texas, Invest in Texas

This proposal is for Texas state leaders such as Texas Governor Greg Abbott. In order to get this idea across to Abbott, the proposal would most likely be sent to the Governor's office by phone or email. This proposal could also be written as an opinion piece on an online news website or tweeted at Greg Abbott, who is active on Twitter. The climate crisis is beginning to impact Texas more in recent years, as seen by the frequent winter freezes, hotter temperatures, and increase in storms. Hundreds of lives are being lost due to these events, especially due to Texas' unpreparedness. Hurricane Harvey was one of the most fatal and destructive hurricanes in Texas. During both recent winter storms, Texans lost power and the roads were left unsalted and slippery, leading to car accidents as residents fled looking for warmth. Hotter temperatures led to droughts, resulting in the loss of crops- a hard hit for the Texas economy. If nothing is done about this, then Texas residents will continue to suffer.

I propose that Texas state leaders should invest in preparing for extreme weather caused by climate change. With the proper funding, the state can prevent extreme weather events from causing more losses in Texas. By this point, Texas residents should recognize that the climate crisis will most likely continue growing, so there is nothing more to do other than adapt to these changes. If enough Texas residents advocate for the economic decision to fund these preparations for future weather events in order to save lives and prevent future damages. A counterargument that state officials may have is that upgrading Texas' infrastructure and other preparations for

weather events would be too expensive. However, Michael Webber, an energy resources professor at the University of Texas at Austin, put it best: "It's expensive to be cheap" (Salhotra, Pooja, et al.). Adapting to the increase in extreme weather events may be costly at first, but in the long run, it is a good investment because it would end up saving Texas more money rather than having to pay for damages each time from each weather event that would just accumulate over time. In this article, I will propose four ways that the state can invest in and better prepare for the effects of climate change.

The first strategy and one of the easiest strategies to adapt to future extreme weather events would be to invest in vegetation management. Vegetation management simply means "having a rigorous and ongoing tree-trimming effort to continually keep up with" (Salhotra, Pooja, et al.). The 2023 winter freeze in February was marked by power outages across Austin that lasted for 3 days. These outages weren't caused by the power grid failing such as the February winter freeze in 2021- this time, the outages were caused by fallen trees on powerlines. The night before the freeze, there was a rainstorm. As the temperatures got colder, the water coating the tree leaves froze and began to weigh the branches down. The weight of the ice on the leaves was too much, and many tree branches broke off as a result. These tree branches blocked off roads, fell on top of cars and homes, and the most widely experienced- fell onto powerlines, downing them and cutting the power in the surrounding areas. The effort to restore power was a long process due to electrical companies having to track down and fix the affected power lines, taking three days in total. This whole ordeal could have easily been avoided if tree branches were trimmed before the expected winter freeze. The forecast predicted this freeze a week in advance, so this event was not unexpected; there was no reason that the city couldn't at least trim tree branches to prevent

damage. In the future, investing in vegetation management is a simple and inexpensive yet effective solution to keeping the city safe.

On the topic of downed powerlines, the most powerful solution to preventing future issues in the face of extreme weather events is infrastructure upgrades. Although this is the most costly investment, it would be the most effective in strengthening the state's preparedness. Burying powerlines, such as in midwestern and northeastern states, would prevent downed powerlines altogether. The two main things discouraging burying powerlines throughout the state are the cost and the difficulty of maintaining buried powerlines as compared to above-ground powerlines. Jackie Sargent, an Austin Energy general manager, claimed that burying powerlines makes it more difficult to "pinpoint a break in the line" (Salhotra, Pooja, et al.)- but what's more costly? The lives of Texas residents, or burying powerlines? Many Texas residents were left to freeze in their homes due to the lack of power, and 8 lives were lost as a result of desperate attempts to keep warm. Not only should powerlines be buried, but the power grid should be reinforced and strengthened to withstand extreme temperatures to prevent another incident like the 2021 winter freeze. Getting off the topic of power-related infrastructure, Texas should take water and flood control into consideration when building new infrastructure as well as reinforcing existing bridges and highways to prevent flooding. Hurricane Harvey in 2017 and Tropical Storm Imelda in 2019 caused catastrophic flooding. Tropical storm Imelda redefined the term, "Thousand-year flood" since it hit Texas just two years after Harvey. Harvey flooded the Houston area up to five feet, while Imelda totaled three-and-a-half feet. Some residents have yet to recover from the effects of Hurricane Harvey, such as 61-year-old Dana Jones. Jones still feels the impact of Harvey, which flooded her home and left her with PTSD. She claims she, "feels unsafe in her own home" (Douglas) because she feels as though her house might flood again at

any point. She must live with black mold and deteriorating wood, because "she's on a fixed income and can't afford to leave the home she's lived in for decades" (Douglas). Jones isn't the only Texas resident dealing with the repercussions of these extreme weather events- thousands of other Texas homeowners are, too. If Texas reinforced the current infrastructure to prevent floods from reaching high numbers, then it would keep Texas residents safe and prevent numerous losses. The state has a \$33 billion surplus on infrastructure, and will reportedly "have a record-breaking \$188 billion budget for the 2024-25 cycle" (Weaver) so there is more than likely enough to invest in the safety of Texans. Extreme weather events are only going to continue happening, and they may get stronger and stronger, so investing in better infrastructure will pay off in the long run.

The next option state officials can invest in is to develop an early warning system for all Texas cities that can provide timely alerts to people in the areas where a weather issue may occur and guide emergency response efforts. Amarillo as well as east Texas already has something like this: "Amarillo increased [their] number of emergency weather sirens" (Salhotra, Pooja, et al.), while the "East Texas Council of Governments, which serves 14 counties, has an alert notification system funded by the state." (Salhotra, Pooja, et al.). If more Texas cities had this, then residents could have more time to prepare and plan ahead for any impending weather event. Developing a warning system to warn residents ahead of time shouldn't be that costly of an investment; these notifications could work the same way as an amber alert (but perhaps less frightening for the user). Almost everyone has a phone in this day and age, so it wouldn't be hard to send out weather alerts when there is a weather issue the state feels is important to know about.

The last potential investment the state could implement would be to support climate research and innovation. There are already climate researchers out there and they provide the state with useful information that can be used to further prepare the state for the future. A good example of this is A&M Regents Professor and State Climatologist of 2000 John Nielsen-Gammon and his team of A&M researchers, who "analyzed decades of Texas weather records to project climate trends out to 2036, the year of Texas' bicentennial" (Texas 2036). The study found that Texas will experience "twice as many 100-degree days, 30-50% more urban flooding, and more intense droughts" (Texas 2036) if climate change continues to grow. State leaders are luckily beginning to incorporate climate research findings into long-term city planning, such as the State Water Plan and the energy emergency preparedness planning process passed in 2021 by Senate Bill 3. According to the Texas Water Development Board's website, the State Water Plan "serves as a guide to state water policy and identifies river and stream segments of unique ecological value and sites of unique value for the construction of reservoirs that the Board recommends for protection" ("State Water Plan | Texas Water Development Board"). The Energy Emergency Preparedness plan introduced "new regulatory requirements for public utilities related to emergency preparedness for weather emergencies, power outages, and other disasters" (Lackey), as stated on the Trihydro engineering and environmental consulting firm website. If the state continues to support research like this and implement it into things like climate-resilient infrastructure and new technology, then Texas could adapt to climate change more easily.

In summary, extreme weather events are becoming increasingly more common and severe in Texas as a result of the climate crisis, and will most likely only continue. The unpreparedness is causing large economic losses, damage to the city, and death. To prepare for the future, Texas should invest in vegetation management, upgrade its infrastructure, develop an early warning system, and support climate research and innovation. Investing in all of these suggestions will enforce the safety of all Texas residents and save the state money in the future.

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