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Fuel Impact Assessment

Purpose:

This assessment illuminates current and future impacts of the inevitable increase in fuel prices, the fuel industry, government conversion to clean energy, and increasing local demand for gasoline. The global shift in the fuel market will not affect us immediately, but we should be prepared.

Executive Summary

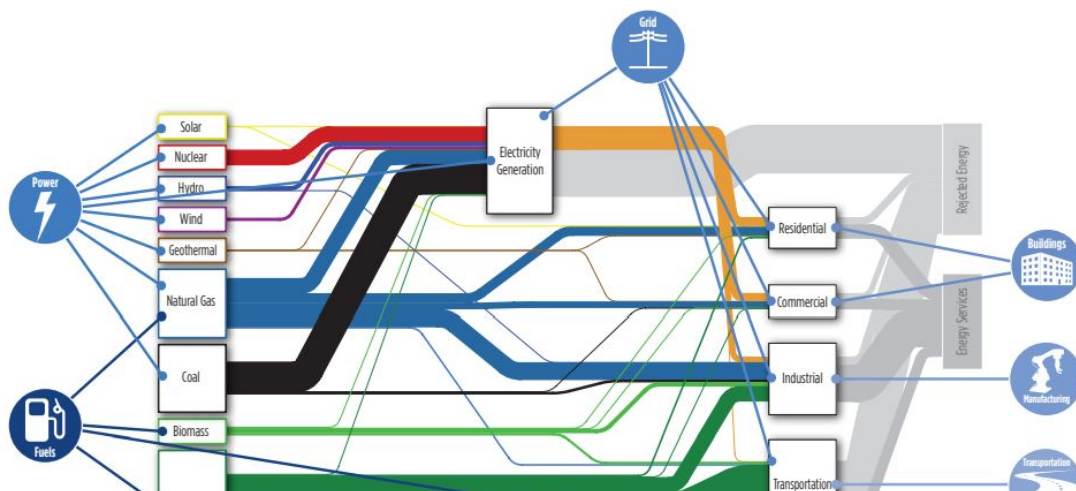
Petroleum is currently the largest single source of energy in the United States; it is used for, among other things, running vehicles, generating electricity and businesses. When prices are stable and relatively low, as they were for much of the 1990s, they tend to be taken for granted and receive little attention. When COVID-19 hit in March 2020, fuel prices dropped when there was no demand. Fossil fuel became the core reason for many economic issues and expose American Samoa's reliance on imports.

To save the oil industry, major oil production cuts were required. Even the long-time oil war between Russia and Saudi Arabia was put on hold as the two oil giants agreed to put aside their differences to avoid heavy losses. Everyone enjoyed the low price per gallon at the pumps but will now have to pay back the losses twice over. Forecast models created by major oil executives predict the price per gallon at the pump to be almost \$5-\$6.00 by the end of 2021. A variety of factors will play key roles in the oil price recovery such as COVID restrictions and the oil industries investment into alternative renewable energy sources.

(Below is a breakdown of the US power infrastructure with the types of energy sources on the left leading to the major industries on the right.)

Figure ES.1 Sankey Diagram of the U.S. Energy System Depicting Major Areas of Coverage by the Technical QTR Chapters 3-8

Estimated U.S. Energy Use in 2014: ~98.3 Quads



Although the energy sector accounts for a small share of GDP, the pervasive use of energy throughout modern economies makes uninterrupted supplies and stable prices critical to sustaining growth. Rapid growth in energy demand coupled with growing concerns about energy security and the environment, however, raise questions about the sustainability of the current energy system and call for renewed efforts to develop and deploy new and improved energy technologies that can support a sustainable energy system. (*Quadrennial Technology Review: Assessment of Energy Technologies (2018)*) The Biden Administration reestablishing the United States agreement with the Paris Agreement has oil investors around the world looking to start investing in green, renewable energy. Understanding how to stimulate innovation in energy technology is therefore of growing importance.

On the other hand more practical folks like ASPA, have bought quick start generators to facilitate the continuation of energy from the plants when the solar green technology becomes unreliable when the sun sets, rain cloud sets in and even when windmills cease to produce as wind ceases.

In summary:

- The recent rise in oil prices, when demand outstrips supply, has caused higher prices in shipping, food products, and utilities.
- Minimum wage increase of .40 cents in September 2020, require local prices will spike to cover payroll.
- Private sector needing to work together with American Samoa Government.

Introduction:

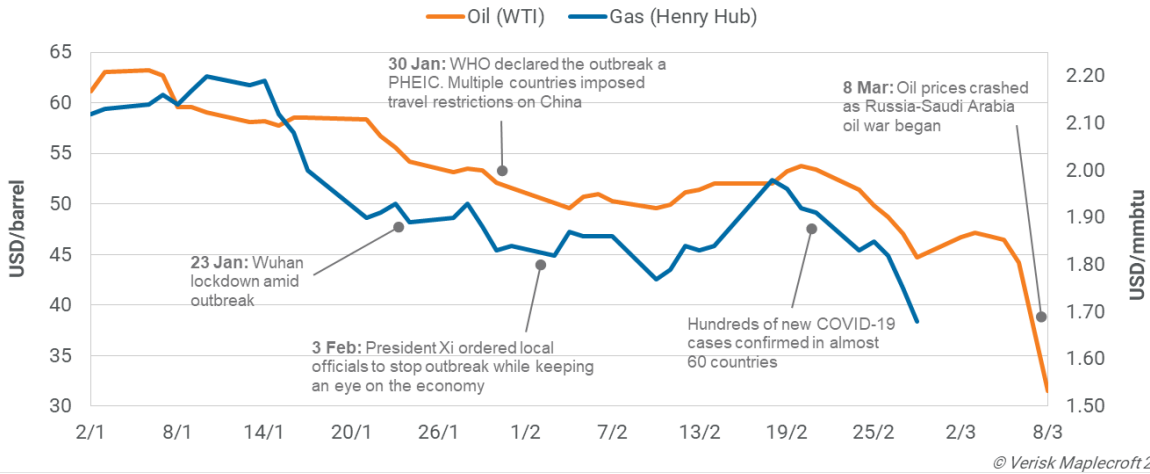
- Unleaded Gas, Diesel and Kerosene are the 3 main sources of fuel powering our basic needs – from cargo ships, to cars, planes and electricity. To prepare for the economic impact of COVID and future global threats, we must understand the fuel market. Because of the push for alternate energy resources, any reduction in fuel imports, or drastic increase in price would have a major impact. We need to understand the importance of fuel and the impact it will have on American Samoa.

Fuel Market Updates

In 2020, the COVID-19 pandemic caused volatility in the oil market and in many other areas of basic needs. Prices fell at an alarming rate to the point where gas prices in the market were at their lowest and the consumer price per gallon was less than a dollar in some places.

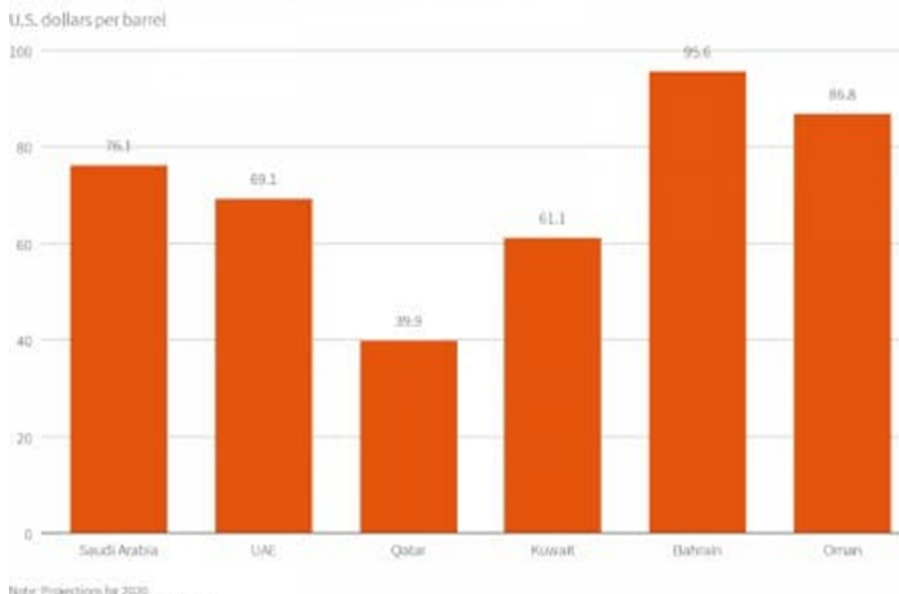
In March 2020, there were over 260 major oil refineries around the world. By November 2020, that number was cut in half leaving minimal fuel production. In the beginning, production was slowed due to COVID-19 restrictions but eventually, many were hurting due to the loss of fuel demand primarily in the travel industry. The Office of Petroleum Exporting Countries (OPEC) decided on major fuel production cuts in August 2020 when prices were dropping. This was to match the dramatic decrease in fuel demand and try to stabilize the price per gallon. The refining of crude oil might have taken a hit, but the production and distilling process never stopped. Saudi Arabia, Iran, Russia, China, and

even the United States continued to drill and process crude oil. Even though the demand was not there, crude oil was still being produced with little means to refine it. This caused a major buildup of crude oil which led to a giant surplus and storage problems. Oil storage across the world filled up by the end of 2020, including oil tanker ships. The production of oil has not stopped in 2021 and COVID-19 restrictions continue to hold down the demand for fuel.



In January 2021, major oil companies such as Shell, Exxon Mobil, and BP Oil reported an average loss of \$20 billion dollars. OPEC met in February 2021 to discuss lifting oil cuts considering the possibility of oil demand slowly returning and refineries being able to meet production expectations. With a huge surge of oil surplus flooding the market, oil prices would start to decline once again. Saudi Arabia and Russia were among the countries voting to keep the status quo to start making their money back. Their argument was that avoiding the price increase now will only inflate the price further. Forecast models show that price per gallon could reach up to \$5-\$6.00 by the end of the year. That price could almost double if prices were to drop again.

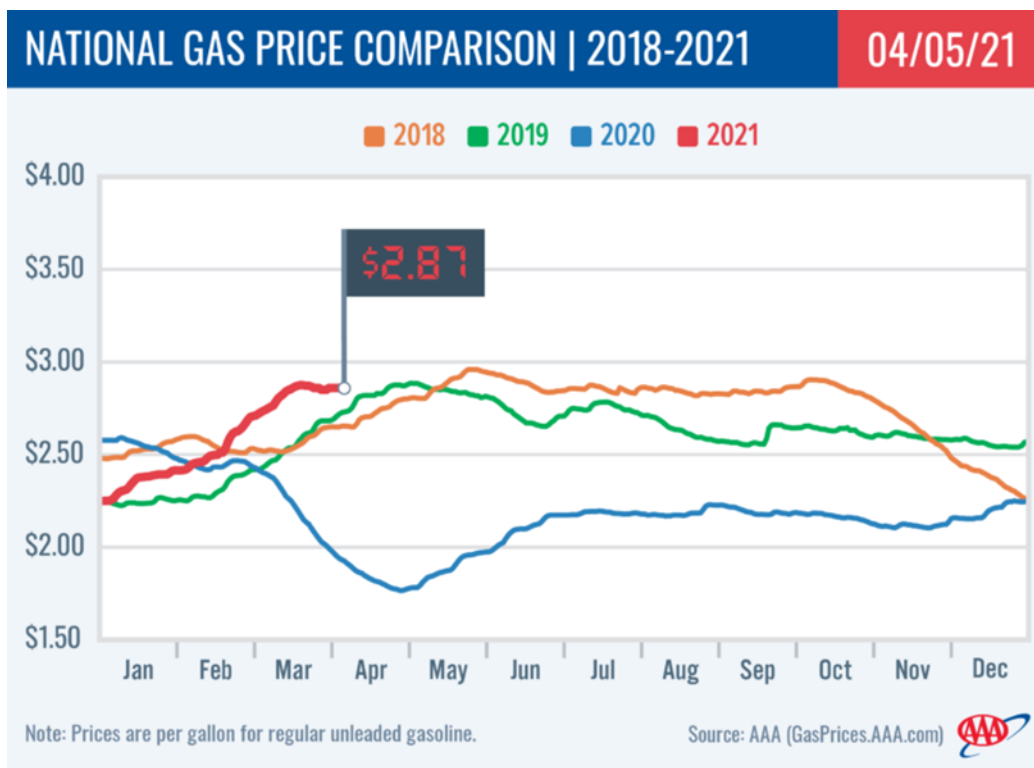
Gulf countries' fiscal breakeven oil prices



Rising Gas Prices

The COVID-19 pandemic was an unexpected occurrence, but it was not the only natural disaster that caused an economic loss in American Samoa. In November 2019, Upolu experienced a Measles outbreak which caused everyone to panic and schools to close. This continued into January 2020 when 4 tropical storms and cyclones brushed passed American Samoa. Then the COVID-19 outbreak made headlines in February 2020. By the end of March 2020, restrictions were starting to be enforced and business operational hours were reduced to 6am – 6pm. For gas stations specifically, this was a recipe for disaster as many people started to avoid going out. The culmination of these natural disasters and restrictions lead to an average 20% loss for majority of gas stations.

Gas stations suffered during the restrictions. Gas stations are normally a 24-hour, 7-day per week business but the government’s restrictions cut operational hours in half. To cover costs, gas stations had to increase gross margins at the pumps by five cents. Gas station owners were then accused of price gouging.



COVID-19 is not the only contributing factor to the local gas price increase. In September 2021, American Samoa is expected to increase the minimum wage by .40 cents. The increase will affect the minimum wage employees and all employers across the board.

increase from .65 cents to about .90 cents by September 2021, reflecting the increased minimum wage, increased cost of shipping, and increased operational cost.

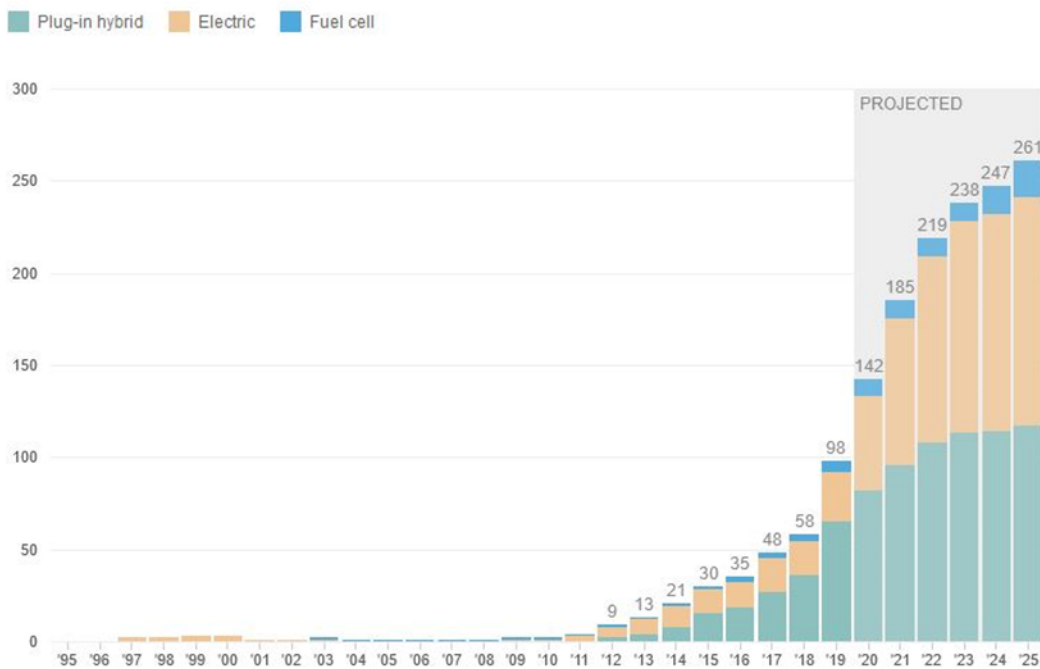
Fuel Forecast Model & Impact

After 2020, the oil industry has been split in half. Half of the industry has started investing in green, renewable energy sources and selling or closing their oil investments. In March 2020, the Prince of Saudi Arabia announced his support to move towards production of renewable energy, investing over \$5B hydrogen plant. It is the first step towards their goal of becoming the world’s largest supplier of hydrogen – a market worth over \$700B by 2050. Russia followed suit, investing in a billion-dollar hydrogen pipeline. The major oil producers are moving towards green, renewable energy. No such new investment is being made in the fossil fuel industry. China is the dominant user of coal worldwide.

The transportation industry is the largest end-use sector of fossil fuels at 66% in 2020. However, major car companies, such as General Motors, have announced that they will no longer produce gas powered vehicles and plan to discontinue their motor vehicle lines completely. By 2035, GM will have completely switched over to the production of electric vehicles (EV). Ford and Hyundai have started switching over with their new hybrid and eco-boost lines to EVs. Swift Corporation, a major long-haul trucking company, has produced and tested EV trucks. Airline companies have started converting cargo planes into EV as well. Amazon, FedEx and UPS have made similar changes with majority of their fleets being EV. Law enforcement organizations around the U.S. signed contracts with Tesla to convert their street and ticket fleet to EV.

Non-gas car models likely to nearly triple by 2025

Cars using alternative powertrains, such as electric power, fuel cells and plug-in hybrids, are expected to see substantial growth over the next decade. Only two models were available in 1997, compared with 98 in 2019. Bars in the shaded area are projected totals.



Source: Wards Intelligence and LMC Automotive

With the oil producers slowly converting to renewable energy, the transportation industry replacing gas powered vehicles and planes to EVs, and the Biden Administration renewing U.S. membership in the Paris Agreement, forecasters predict a full conversion to EV within 30 years. Selling fuel at gas stations will no longer be an option. Oil sales will only happen at the wholesale level to major factories and EV stations. This will not only impact gas stations but all power stations that run on oil as well. Oil prices could skyrocket with these EV stations needing to be constantly charged due to the current inadequacy or lack of means to store this renewable energy on a large scale.

Conclusion:

- A solution to COVID-19 is needed to change the current course of the world's economy. The economy needs to recover and we will start seeing the impact by the end of 2021. The time to prepare is now to avoid mass shortages and closure of many local businesses. ASG should coordinate with the private sector and include their voice on major decisions which will help create a transparent and inclusive relationship with the people of American Samoa.

Request:

- Gas Stations to be considered essential businesses. Emergency Action Plans have been prepared to handle situations such as hurricanes and tsunamis.

References:

- <https://oilprice.com/Energy/Crude-Oil/The-7-Trillion-Reason-Saudi-Arabia-Is-Cutting-Oil-Production.html>
- <https://oilprice.com/Latest-Energy-News/World-News/Libyas-Largest-Oilfield-Could-See-Exports-Interrupted.html>
- <https://oilprice.com/Energy/Energy-General/Russia-Pandemic-Could-Continue-Affecting-Oil-Demand-Until-2024.html>
- <https://www.gm.com/electric-vehicles.html>
- <https://www.nytimes.com/2021/01/29/business/general-motors-electric-cars.html>
- <https://www.nytimes.com/2021/01/29/climate/gm-electric-cars-power-grid.html?action=click&module=RelatedLinks&pgtype=Article>
- <https://www.npr.org/2019/02/16/694303169/as-more-electric-cars-arrive-whats-the-future-for-gas-powered-engines>
- <https://www.evarglobalforwarding.com/bn/general/dawn-of-electric-aviation>
- <https://www.ttnews.com/articles/trucking-industry-making-strides-toward-electrification>
- <https://www.eia.gov/state/analysis.php?sid=AQ>