

### World News

China continues to force its will on others. Case in point, China warned the US there would be consequences if Speaker Pelosi made a planned visit to Taiwan [1]. Echoing China's concerns, President Biden claimed the Military did not think the trip was a good idea [2]. As the Speaker began her trip, there was no mention of a Taiwan visit [3]. Nevertheless, the Speaker did arrive in Taiwan [4]. After Speaker Pelosi left Taiwan, China started a number of live fire military exercises that established a blockade [5]. Additionally, China stopped all dialog with the US on climate change [6].

One of the approaches in fighting climate change replacing gas with electric vehicles. So, is the national power grid capable of powering a large demand for battery cars? We have seen the power line related fires in California indicating a system in need of upgrades [7]. We also were warned not to charge battery cars when the power grid is overloaded [8]. One question, is it better to charge batteries or create the electricity within the vehicle? To explore the topic, consider, one gallon of gasoline has the energy of slightly more than 33 KW hours of electricity. The cost for using a public charging station varies. For example, Electrify America charges \$0.43 per KW hour or \$0.31 for members [9]. So the energy cost of a gallon of gasoline, in electric power, exceeds \$10. So an electric car that holds a 33KW hour charge has the same energy storage as a gallon of gasoline.

The reality is that electric motors are more efficient than internal combustion engines. For example, diesel electric locomotives replaced steam engines. The design uses electric motors powered by a diesel generator [10]. The takeaway is that fossil fuel efficiency has a lot of room for improvement. As another example, unlike batteries that slowly discharge, fuel cells maintain the ability to create electricity as long as there is fuel [11]. What's more, fuel-cell powered locomotives are being tested to replace diesel with zero emission hydrogen [12]. Additionally, trucks and other large vehicles are starting to enter hydrogen fuel-cell usage with fueling stations planned for major roads [13].

Finally, gas turbines can achieve electric generation efficiencies of 60% [14]. (Continued on page 2)

### Ukraine War

There is hope the war between Russia and the Ukraine can be brokered. For instance, both sides agreed not to target cargo ships [1]. By one estimate, the Ukraine has \$10 Billion in grain available for sale [2]. The agreement allows grain to be shipped out of the Ukraine. However, one day following the agreement, Russian missiles hit the Ukrainian port city of Odessa [3]. Russia later claimed the attack was limited to military targets [4].

On the plus side, the first ship loaded with grain has left the Ukrainian port of Odessa [5].

Meanwhile, Russia is cutting the amount of gas going into Europe from its state owned pipeline [6]. It is believed this will result in rationing and a likely recession for Europe [7].

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*to reopen Black Sea ports, averting food crisis, July 22, 2022.*

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(Continued on page 2)

#### Inside this issue:

Terrorism	3
Economy	4

#### Special points of interest:

- US Enters Recession
- Gasoline Demand and Price Falling
- Unemployment Falls to 3.5%

## Ukraine War

(Continued from page 1)

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## World News

(Continued from page 1)

Could research extend to smaller, highly reliable versions, for automobiles?

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*I think I was identified as a failed president because I wasn't re-elected.—Jimmy Carter*

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## Terrorism

Iran has announced it now has the capability to construct an atomic bomb [1]. The Iranian government is openly talking about the ability to quickly construct atomic bombs [2].

In Uvalde, Texas, there was a mass shooting at a school where the police response was blamed for the large number of deaths [3]. However, one aspect appears to be due to lockdowns associated with the increase of illegal immigrants pouring through the community [4,5]. So, while the open Southern border may not have been the dominate cause, it appears to be a contributing factor. What's more, over half a million illegal crossers have evaded capture so far this year [6]. It is unknown how many of these people are actual terrorists looking for entry into the US.

Afghanistan is back in the news. It seems the US killed al Qaeda leader Ayman al-Zawahiri in a drone strike [7]. While this is good news in the war against terrorism it raises the question; is Afghanistan now a center for terrorist

groups? For instance, White House spokesman John Kirby stated they believe Ayman al-Zawahiri was living in Afghanistan since late last year or early this year [8]. Elsewhere in Afghanistan, a bomb went off in a Shiite neighborhood of Kabul, killing at least 2 people [9].

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*Reality has a way of intruding. Reality eventually intrudes on everything.—Joe Biden*

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## Economy

Earlier this year, President Biden claimed Western sanctions on Russia had reduced its currency to rubbish; only to see the Ruble (Russian currency) regain its strength [1]. It seems that countries such as India, Brazil, and China are purchasing Russian oil [2]. Even Saudi Arabia is getting in on the shell game. For example, it is increasing its import of Russian oil to fuel electric power generation [3]. This frees up Saudi oil for exportation. This came as President Biden asked Saudi Arabia to pump more oil [4]. So, Saudi Arabia does not have to pump more oil, only import more from Russia. On July 27, the Federal Reserve raised interest rates another 0.75% in order to combat rising inflation [5]. Then on July 28, the Bureau of Economic Analysis released the second quarter Gross Domestic Product (GDP) results indicating the economy contracted at a 0.9% rate [6]. The accepted implication of two GDP contracting quarters is the economy is in a recession [7]. Moreover there are other recession indicators. For in-

stance, gasoline demand has fallen below pre-pandemic levels [8]. This caused the price of gasoline to fall from \$5.016 on June 14 to \$4.069 on August 7 [9].

Meanwhile, the unemployment rate fell to 3.5% [10]. However, the labor participation rate fell from 62.2% down to 62.1% [11].

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only truths to be relied on  
in a newspaper.—Thomas  
Jefferson

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