Environmental Health Committee Report

Introduction and Summary of Major Positions

Utah Citizens' Counsel makes the following recommendations to promote environmental health. We acknowledge that the burgeoning, life-threatening pandemic is an immediate concern. Yet, in the long term, the health and well-being of all ages are gravely threatened by continuing environmental problems such as air pollution and global climate change. We urge all Utah citizens and leaders to consider these UCC positions. Our documentation and rationale are found in the subsequent pages of this Environmental Health report.

- **Air quality.**
    - Continue to advance and implement automobile and truck legislation that reduces air pollution
    - ***Tier 3 gasoline***. Do not extend tax credits to Holly and Big West refineries beyond the current expiration date, and press for their production of Tier 3 gasoline sooner. Ensure that, by 2022 at the latest, all gasoline being sold in Utah is Tier 3, low sulfur gasoline.
    - ***Cleaner, more-efficient vehicles***. Incentivize sale and use of vehicles with low emissions and increase public understanding of their importance.
    - ***Building codes.*** Bring Utah residential building codes up to international standards. Develop more legislation to help home buyers understand the energy efficiency of prospective purchases as in the pilot program of HB235. Consider mandating that all new residential housing carry a Home Energy Rating System (HERS) score.
- **Public Transit.** Keep and increase planning for and investments in the future of public transportation. While ridership is temporarily down due to the pandemic, mass transit is crucial for our future. Rep. Schultz's HB3, "Enhanced Mass Transit Strategic Business Plan" is important to implement as soon as possible.
- **Spending on roads.** To better balance current spending between new highways and mass transit, plan how to reduce spending on new and expanded highways. Reduce and eventually eliminate the approximately $500 million sales tax earmark for roads. This subsidy is keeping other taxes constitutionally designated for public roads artificially low, thus obscuring the true cost of our roads.
- **Digital communication.** Encourage use of teleworking, telemedicine, virtual meetings, and appropriate use of on-line university teaching to save time and expenses and to decrease pollution from vehicle use.
- **Inland Port project.** The Utah Inland Port Authority (UIPA) Strategic Business Plan lacks major elements expected in a business plan, including a budget for developing the port's infrastructure and expected income. It does not address mitigation of environmental impacts adequately. Its aim of "revolutionizing global logistics for the next generation" is a grandiose promise that is not supported by specifics in the Plan.
- **Climate Change and Reduction of CO_2.** Implement a revenue-neutral carbon fee and dividend system.
- **Climate Change and the Lake Powell Pipeline and Bear River Dam projects.** These projects are not economically justifiable nor supported by Utah taxpayers. Currently, the Water Infrastructure Restricted Account (WIRA) annually receives for these two projects approximately $40 million, which should be released for better uses.

Air Quality

Air quality has been a main subject of Utahns' interest in the environment for the past several years and is emphasized again in this report. While Utah air quality is gradually improving, much more needs to be done to protect the health of our residents and economy. A 2020 "Utah Expert Assessment" study by BYU researchers found the following:

1. Air pollution shortens the life of the average Utahn by two years;
2. Air pollution costs Utah's economy $1.8B annually;
3. Fossil fuel pollution causes or worsens many illnesses and conditions in Utah;
4. Many state-level actions could reduce air pollution while benefitting the economy.[1]

Efforts to improve air quality were reflected in the 2020 Legislature's approval of nearly $60M in appropriations and eight bills, including HB59 "Tax Credit for Alternative Fuel Heavy-duty Vehicles," HB235 "Voluntary Home Energy Information Pilot Program," and HB259 "Electric Vehicle Charging Network." Much of this is the result of stellar work by members of the Clean Air Caucus of the Utah Legislature. Unfortunately, the Legislature failed to acknowledge or discuss recommendations of an important University of Utah report by the Gardner Policy Institute, commissioned by the 2019 Legislature to deal with climate and air quality.[2]

It is true that Utah air quality during recent decades has generally been improving. Most of that improvement is the result of federal standards for air quality and vehicular efficiency, but recognition must be given to our state officials for enforcing those high standards and collaborating with local officials and private entities to achieve them. Two private organizations, Envision Utah and Rocky Mountain Power have recently collaborated to produce an important on-line resource "Your Utah, Your Future" with a section devoted to helping residents and officials learn what they can do to improve air quality.[3]

Tier 3 fuels. "Tier 3" (low sulfur) gasoline used in high-efficiency "Tier 3" vehicles--those produced beginning in 2017--is predicted by the Environmental Protection Agency to reduce vehicular air pollution by 80%. Utah is a state where such an improvement in air quality is most desperately needed, but two of our refineries escaped the federal mandate to produce Tier 3 fuel beginning in 2020 due to legal loopholes. Fortunately, in January of 2020, three of Utah's main gasoline suppliers—Chevron, Marathon, and Silver Eagle—did begin distributing exclusively low-sulfur Tier 3 gasoline, and Sinclair began piping in mostly Tier 3 gasoline from its Wyoming Refinery. That means that Utahns can now purchase Tier 3 gasoline at Chevron, Exxon, Shell, Silver Eagle, Sinclair, Speedway, and Texaco. However, two refineries--Holly Frontier and Big West-- chose not to retool to produce Tier 3 gasoline.[4] That means that Tier 3 gasoline is never or only occasionally available at some of our most popular retailers such as Conoco, Costco, Flying J, Harmons, Maverik, Phillips, 76, and Smiths. Great improvement in air quality could be made by helping the public understand where low-sulfur Tier 3 gasoline can be

purchased and where it cannot, but retailers selling it have been inexplicably slow to advertise its availability and enormous advantage for air quality. An excellent website https://www.tier3gas.org/ provides clear information and maps on this issue, but few residents are aware of it. Unfortunately, the Utah Clean Air Partnership (UCAIR) is unable to help with this issue due to statutory restrictions, so widespread publicity is still needed.

Lobbyists representing Holly and Big West pressed legislators for two more years of tax credits to assist them to produce Tier 3 gasoline belatedly, but under pressure from environmental advocates, lawmakers shortened the tax credit window to only 1.5 years. So we should expect to have widespread availability of cleaner Tier 3 gasoline in 2022.

Cleaner, more-efficient vehicles. Tier 3 vehicles emit far less pollution than do ordinary vehicles and have been mandated since 2017. It would be good if customers for new cars understood "smog ratings," which range from 1 (worst) to 10 (best, only electric vehicles). If customers were to choose only vehicles with smog ratings of 6-10, air pollution could be drastically decreased. Availability and customer choice are of course key issues here.

Just before April 1, 2020, an EPA official claimed that President Trump's rollback of mileage standards "will benefit our economy, will improve the U.S. fleet's fuel economy, will make vehicles more affordable, and will save lives by increasing the safety of new vehicles."[5] We wish this were just an April Fool's joke. The rollback of car fuel efficiency from 5% per year to just 1.5% will not help in reducing air pollution and global warming. The Legislature did pass some bills for reducing CO_2 emissions, as discussed below, but failed to endorse the "Utah Roadmap" as proposed in HCR11. The Roadmap, among other recommendations, proposes "(Milestone 5) *Make Utah the market-based electric vehicle (EV) state."* Our concern is that the "market" for vehicles in Utah is going in the wrong direction. As reported in our previous annual reports, consumers continue to increase their purchase of light trucks and SUVs at the expense of more fuel-efficient smaller cars. New light truck purchases increased from 75% in 2018 to 78% in 2019 of all new vehicles purchased in Utah.[6] Another check on market reality is the Utah State Tax Commission report on vehicle registrations as of February 2020.[7] The data show that of the 2.7 million vehicles registered in Utah, only 8,041 (0.3%) are electric vehicles (EVs) and only 4,481 (0.17%) are plug-in hybrid electric vehicles (PHEVs).

If Utah is to become an "EV state," the market forces for vehicles will need to change significantly. Some of the bills in the last session that did not pass should be reintroduced. HB176 "Vehicle Emissions Reduction Program," which provides incentives to help Utahns replace vehicles that fail their emissions test, would be helpful. HB 281, "Tax Credit for Alternative Fuel Vehicles" should also be reintroduced to replace the former Utah tax credit for EVs, unwisely eliminated in 2016. Given the minute percentage of EVs and PHEVs noted above, the next Legislature should consider eliminating the surcharge on these vehicles until their

number increases to more than 2 or 3 percent of registered vehicles in Utah. Such a move would encourage buyers to increase purchase of PHEVs and EVs in Utah. PHEVs with better than 100 MPG ratings are in short supply at Utah dealerships, although many large Utah dealers will bring in a PHEV or EV if customers request them.

Building Codes. As vehicular pollution decreases due to the increased use of Tier 3 gasoline and vehicles, we can expect that the largest sources of air pollution and green-house gases (GHG—largely CO_2) will be buildings and houses, mostly for space- and water-heating. The Legislature has updated building codes to international standards for commercial buildings but has lagged on updating them for single-family dwellings, fearing that buyers will be tempted to purchase more used houses. The current tight housing market makes that somewhat less likely, and two of the largest residential home builders in Utah—Ivory Homes and Garbett Homes--now offer an energy rating (Home Energy Rating System, HERS) on all their new homes, much like the mpg rating on new cars. This helps buyers understand that a more energy-efficient home that may initially cost more would actually save them money with greatly reduced utility bill charges over the life of the house.

Used homes have not had any such rating system, and utility bills are not always available to guide prospective buyers. However, this year's HB235 "Voluntary Home Energy Information Pilot Program" (Rep. Arent and Sen. Bramble) provides a trial program to test and label used houses with a HERS rating, which is expected to provide the same benefits as such ratings on new houses.

Most new commercial buildings are now being built to standards equivalent to 'LEED Silver' or better, because owners of such properties recognize the advantage such energy efficiency offers for long-term savings in building maintenance and operations. Salt Lake City's net-zero Public Safety Building sets an excellent example of public sector investment in energy-efficient buildings, and a remarkable number of commercial buildings have followed suit.[8] Salt Lake City requires owners of all large buildings to provide information on their structures' energy efficiency, and the city is experimenting with publicizing those buildings that are above average.

Public Transit

Mass use of automobiles in Utah has resulted in growing gridlock, despite incredibly expensive attempts to widen freeways and to pave expensive real estate. The solution is to invest more in well-planned public transit. Sensing this, legislators led by Rep. Schultz this year passed HB3, "Enhanced Mass Transit Strategic Business Plan" and allocated one-time funding of $1.6 million to develop a strategic business plan to optimize investment in FrontRunner, expanding and increasing service.

Since public transit cannot operate profitably in traditional urban sprawl, it makes good economic sense to encourage "transit-oriented development" near public transportation corridors, along with walkable communities that reduce the need for vehicle use with mixed-used zoning and amenities promoting active transportation—walking, biking, and running.

Digital Communication

COVID-19 has had many negative consequences, but a positive result is a significant reduction in vehicular travel and resulting pollution. Among the valuable travel-reduction practices that could be continued without economic damage are some kinds of teleworking and telemedicine, appropriate online university teaching, and virtual meetings. State offices have demonstrated commendable leadership in promoting teleworking, and rural residents have benefitted from development of telemedicine. In-person teaching has practical and psychological advantages for some students, but appropriate use of online methods at the university level can reduce costs and increase availability of scarce educational resources, as has been demonstrated by Arizona State University and other leading institutions.[9]

Need for Further Study of the Inland Port Project

We recommend that the Utah Inland Port Authority (UIPA) base their business plan on the "Salt Lake Inland Port Market Assessment" published in August of 2016 by the Kem C. Gardner Policy Institute.[10] That report addresses some of the environmental challenges of expanded truck, rail, and air traffic if the port is built.

UIPA's business plan published in May of 2020 lacks major elements expected in such a plan.[11] It lacks a budget for developing the Port's infrastructure and expected income from its operations. The word *logistics* is used more than 30 times in the report but is never clearly defined. The statement that UIPA is "charged with revolutionizing global logistics for the next generation" is a grandiose promise that may well be beyond UIPA's scope and expertise.

The UIPA report emphasizes the need for considering the environmental impacts of greatly expanded truck and train traffic as well as the needed expansion of roads, water, sewer, and energy infrastructure. It proposes to work with the Department of Environmental Quality to mitigate these impacts. The strategy to "Promote sustainable logistics investments" (page 6), which includes such items as changing to zero-emission trucks and rail engines and clean cargo handling equipment, would help to reduce (or not expand) air pollution in the Wasatch Front. The business plan, however, should include more details of how such a change would be implemented. Skeptics remain unconvinced.

Climate Change

Reducing CO_2 Emissions. Climate change caused by burning fossil fuels poses a growing existential threat to humanity in general and Utah in particular. Regional wildfires related to climate change regularly and dramatically degrade air quality each year. Fortunately, climate change is increasingly addressed by business and political leaders and was discussed in "The Utah Road Map" as "Milepost 7: participate in the national dialogue about market-based approaches to reduce carbon emissions." However, even that timid goal failed to achieve support this year as legislators rejected HCR7 on environmental and economic stewardship and Sen. Cullimore's SCR12 "Concurrent Resolution Concerning Climate," which would have encouraged Utah's federal delegation to support a "carbon dividend," i.e., a revenue-neutral carbon tax. Similarly, a citizen initiative on that subject labeled "Clean the Darn Air" failed to attract enough signatures to be included on the November 2020 ballot.

At least, the 2020 Legislature's allocations of just under $60M would fund HB396 "EV Charging Infrastructure Amendments" (up to $50M), "Rural Electric Vehicle Charging Infrastructure" ($2M), "USU EV Research" ($3M), "Carbon Capture Demonstration" ($2M), and an "Enhanced Mass Transit Strategic Business Plan" ($1.6M). All the above have the potential to reduce Utah's carbon footprint, but are vulnerable to drastic reductions due to the current economic recession.

At the same time, measures to combat COVID-19 have significantly reduced fossil fuel use and pollution. Holding down CO_2 emissions as we repair our economy will require foresight and discipline. One possibility could be increasing support for renewable energy and storage while phasing out our present extensive subsidies for fossil fuel extraction and processing. A possible model of this direction would be the federal government's "Emergency Economic Stabilization Act of 2008**"** that provided extensive federal funding to Utah for energy-efficiency measures while primarily addressing stabilization of the general economy during the Great Recession.

Changing the Way We Need to Think About Water. The future of agriculture within our state, our forests and wetlands, and ultimately our economy is increasingly threatened by what climate change is doing to the hydrology of the Southwestern United States. Utah is warming faster than the global average, and our state is expected to warm an additional 8º to 10º F. by 2100.[12] Higher temperatures enhance evaporation and transpiration, but more important, climate warming is diminishing the supply of water to our State. Utah receives the majority of its precipitation via winter snowfall, primarily during the months of December-March. However, due to warming, winters are starting later and ending sooner, shifting our annual precipitation from primarily a snow-driven to a rain-driven hydrology.[13] This change impacts our water supply by decreasing winter snow accumulation and accelerating melting. Premature melting causes inefficient spring runoff patterns in which we lose more water to evaporation, transpiration, and

sublimation. Modeling suggests that snow packs in the Western U.S. will be diminished by 80% by 2100.[14] Additionally, global warming is slowing the Jet Stream over Utah. This diminishes our precipitation through an increased incidence of High Pressure Ridging during winter months, reducing the frequency of storms.[15]

To see evidence of the hydrological impact that these changes are having on our state, see the United States Drought Monitor.[16] The "Exceptional Drought" of 2018 was centered in The Four Corners Region. Today, the epicenter of the current Exceptional Drought is Central Utah. Modeling suggests that droughts in the Southwest are going to increase in intensity and duration well beyond those for which we have records.[17]

Given the impacts of climate change on the hydrology of the Southwest, our only options for sustainable water policy come down to decisions about how we choose to use water and possible incentives for enhanced conservation. There are multiple actions citizens of our state can take to increase water conservation (see the Environmental Health sections of the 2017 and 2018 UCC yearly reports). In terms of water use policy, the single most important strategy that we advocate is the goal of ending planning and development of the Lake Powell Pipeline and Bear River Development projects. The Lake Powell Pipeline is estimated to cost $3.2 billion [18]and the Bear River Development $2.9 billion.[19] Because those two projects are needed neither now nor in the future and are unpopular with Utah taxpayers, the Legislature should (1) rescind the Water Infrastructure Restricted Account (Utah Code §73-10g-103), (2) return funds currently held in this account to the General Fund,[20] (3) implement effective mechanisms to document water resources and consumer use; and (4) adopt policies that provide strong incentives for water conservation.

In light of the above and other dangers from climate change, more than one hundred Utah leaders have recently crafted and posted a succinct "Climate and Clean Air Compact," which deserves active, tangible support from legislators and citizens.[21] Our future depends on it.

Endnotes for Environmental Health Report

[1] Isabella M. Arrigo, et al., "Human Health and Economic Costs of Air Pollution in Utah," *Brigham Young University,* unpublished paper, January 2020, accessed October 6, 2020, https://benabbott.byu.edu/UtahAirPollutionStudy.aspx. For a popular summary of this, see Ben Abbott, Isabella Arrigo, and Don Jarvis, "Commentary: Utah Air Pollution Is Literally Killing Us," *Salt Lake Tribune,* February 27, 2020, C1, accessed February 28. 2020, https://www.sltrib.com/opinion/commentary/2020/02/28/commentary-utah-air/.

[2] Natalie Gochnour, "The Utah Road Map: Positive Solutions on Climate and Air Quality," *Kem C. Gardner Policy Institute (*January 2020), accessed October 5, 2020, https://gardner.utah.edu/wp-content/uploads/TheUtahRoadmap-Feb2020.pdf.

[3] "Your Utah, Your Future," *Envision Utah*, accessed September 26, 2020, https://yourutahyourfuture.org/topics/air-quality.

[4] Lee Davidson, "Herbert urges Utahns to buy only less-polluting Tier 3 gas," *Salt Lake Tribune,* January 10, 2020, accessed February 11, 2020, https://www.sltrib.com/news/politics/2020/01/10/want-clean-air-utahs/.

[5] Ellen Knickmeyer and Tom Krisher, "New Trump mileage standards to gut Obama climate effort," *Salt Lake Tribune,* March 31, 2020, accessed April 1, 2020, https://www.sltrib.com/news/nation-world/2020/03/31/new-trump-mileage/.

[6] Data extracted from 2019 Utah State Tax Commission quarterly sales reports, accessed April 2, 2020, https://tax.utah.gov/econstats/mv/new-vehicle-sales.

2019 New Passenger and Light Truck Dealer Sales by Type

Vehicle Type	JAN19	FEB19	MAR19	TOTAL
Light Truck	8,060	7,664	8,359	24,083
Passenger	2,524	1,953	2,614	7,091
TOTAL	10,584	9,617	10,973	31,174

Light Truck	8,409	10,352	9,434	28,195
Passenger	2,529	3,064	2,616	8,209
TOTAL	10,938	13,416	12,050	36,404

Light Truck	9,450	8,559	7,619	25,628
Passenger	2,704	2,740	2,264	7,708
TOTAL	12,154	11,299	9,883	33,336

Light Truck	7,295	7,709	9,673	24,677
Passenger	1,907	1,977	2,617	6,501
TOTAL	9,202	9,686	12,290	31,178

Light Truck Total 2019	102,583	
Passenger total	29,509	22%
Total	132,092	

[7] Utah State Tax Commission web site: https://tax.utah.gov/econstats/mv/registrations

Utah Tax commission Vehicle Registrations
with a expiration of greater than 1/1/20 as of 2/17/20

County and Vehicle Type		Butane	Compressed Natural Gas	Diesel	Electric	Gasoline	Hybrid	Liquefied Natural Gas	Other	Plug-in Hybrid	Propane	Steam	TOTAL
STATE TOTAL	Motorcycle - Standard		1		89	79,551	3		32				79,676
	Passenger - Low Speed			1	50	19							70
	Passenger - Standard	2	3,114	10,786	7,070	1,222,482	33,616	1	16	3,762	6	1	1,280,856
	Light Truck		2,157	152,104	816	1,066,425	9,612		1	719	21		1,231,855
	Heavy Truck		792	69,735	16	16,779			3		100		87,425
GRAND TOTAL		2	6,064	232,626	8,041	2,385,256	43,231	1	52	4,481	127	1	2,679,882

[8] Erica Evans, "This Utah Group Just Proved That Net Zero Energy Buildings Don't Have to Be More Expensive," *Deseret News,* June 13, 2018, accessed October 6, 2020, https://www.deseret.com/2018/6/13/20646986/this-utah-group-just-proved-that-net-zero-energy-buildings-don-t-have-to-be-more-expensive.
[9] "Making Digital Learning Work," *Boston Consulting Group*, March 2018, accessed September 2020, https://edplus.asu.edu/sites/default/files/BCG-Making-Digital-Learning-Work-Apr-2018%20.pdf.
[10] Natalie Gochnour, "Salt Lake Inland Port Market Assessment" Research Brief, August 2016, *Kem C. Gardner Policy Institute,* accessed October 1, 2020, https://gardner.utah.edu/wp-content/uploads/2016/10/IP-Brief-FINAL.pdf.
[11] "Strategic Business Plan – FY2020-2024*,* Executive Summary*,"* (May 21, 2020), *Utah Inland Port Authority*, accessed October 1, 2020, https://inlandportauthority.utah.gov/business-plan/.
[12] Brian McInerney, "Climate Change and the Fate of Great Salt Lake," FRIENDS of Great Salt Lake Newsletter, Fall 2020, In press, www.fogsl.org.
[13] "What Climate Change Means for Utah," *Environmental Protection Agency,* August 2016, accessed September 2020, https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-ut.pdf.
[14] J. Rice et al., "Assessment of watershed vulnerability to climate change for the Uinta-Wasatch-Cache and Ashley National Forests," In review, accessed October 7, 2020, https://www.llnl.gov/news/sierra-snowpack-melt-steady-not-long.
[15] D. Swain, "New insights into the Ridiculously Resilient Ridge & North American Winter Dipole," *Weather West* (December, 2017), accessed October 2020, https://weatherwest.com/archives/5982.
[16] United States Drought Monitor, accessed October 6, 2020, https://droughtmonitor.unl.edu.
[17] T. R. Ault et al., "Relative impacts of mitigation, temperature, and precipitation on 21st-century megadrought risk in the American Southwest," *Science Advances* (2016) 2(10), e1600873.
[18] "Costs of the Lake Powell Pipeline," *Utah Rivers Council*, accessed October 10, 2020, https://utahrivers.org/pipeline-costs.
[19] "Bear River Development," *Utah Rivers Council*, accessed October 19, 2020, https://utahrivers.org/bear-river-development#:~:text=Exorbitant%20cost%2C%20no%20benefit.,%242.9%20billion%20just%20for%20construction.
[20]The Water Infrastructure Restricted Account (WIRA), which allocates 1/16th of a cent of sales taxes specifically to Bear River Development and Lake Powell Pipeline, currently receives approximately $40 million annually.
[21] "Utah Climate and Clean Air Compact," accessed October 8, 2020, https://climateandcleanaircompact.org/.