

WORLD LEADERS NEED OUR HELP TOO

By Alan D. Bristow, November 30 2021



November 2021 saw political and business leaders attended the [26th United Nations Climate Change Conference](#) (COP26) in Glasgow, Scotland. The results and promises were mixed. Global organization alone will be unable to reign in our climate crisis. Although much of the news cycle coverage of this event focused on global and national initiatives, this is our environment too. So COP26 is a call for urgent action at local levels.

In the [Paris Agreement](#) of 2015 countries agreed to the target of keeping the global mean temperature to +1.5 °C since pre-industrialization, which was [12.7 °C](#) throughout much of the last [10,000 years of the Holocene](#). The [Intergovernmental Panel on Climate Change](#) produced reports in [2018](#) and [2021](#) reinforcing the scientific imperative. The current global mean temperature is already 13.9 °C (a rise of +1.2 °C). These reports were nothing short of warning bells, [sounding the alarm](#) on a decade-long countdown to irreversible climate change and the permanent breach of the [safe operating space for our species](#). It was expected that countries would present stronger commitments for 2030 emission levels approaching eventual net-zero goals. With such high stakes, COP26 had little chance of meeting expectations nor requirements.

You may have seen footage of the COP26 President, Alok Sharm, shedding a tear during his closing speech as he acknowledged the lack of progress. Meanwhile, climate-activist Greta Thunburg lambasted world leaders, saying “Build back better. Blah, blah, blah. Green economy. Blah blah blah. Net zero by 2050. Blah, blah, blah,” during a speech in Milan, Italy to the [Youth4Climate summit](#), saying “Words that sound great but so far have not led to action. Our hopes and ambitions drown in their empty promises.”

There is reason for skepticism. The world’s largest climate-change emitters pledged in 2009 to provide support for countries already affected by the climate crisis in a one-time fund of US \$100 billion to be fulfilled by 2020. This pledge has not yet been met according to the [World Resources Institute](#) and the new target date has been pushed to 2023. For comparison, US Special Presidential Envoy for Climate, John Kerry, voiced at the meeting that rich countries have given over US \$2.5 trillion in subsidies to fossil fuel producers in the last five years alone. This amount is also inconsequential compared with the annual defense budget of the United States, which currently stands at about US\$ 800 billion (and over US \$2 trillion per annum if you include the other rich countries). While the US has a few international defense concerns, they pale in comparison to the existential threat of climate change. Luckily, this fact has not been completely lost on the US Department of Defense, as evidenced by their [plan for climate change](#).

By comparison the business world is typically [slower and more conservative](#) with its pledges, but when once made they are usually adhered to because they involve financing, dedicating infrastructure or adapting supply chains. One example is the financial industry, which is estimated to have lent [US\\$ 340 million](#) to green projects in 2020. However, at the same time, those industries

have lent [US\\$575 million](#) to fossil fuel industries in the same period. At the meeting, large car manufacturers pledged to end sales of greenhouse-gas emitting vehicles worldwide by 2040. This was signed by Ford, GM, Land Rover, Mercedes-Benz and Volvo, with notable holdouts including Volkswagen, Toyota, Renault-Nissan and Hyundai-Kia. The electric-vehicle market, however, misses the salient fact that carbon-dioxide emission from manufacturing (electric or conventional) vehicles [outstrips the emissions](#) during their useful life.

COP26 also saw several other missed opportunities: A recognition for coal drawdown by 2030 was not signed by major the users, namely the US, China, India, Australia and Japan. A 30% methane-reduction pledge was not signed by India, China and Russia. No change was proposed on the use of most insidious aspects of logging and monoculture plantations that are often used in place of preserving indigenous forests with their broader biodiversity. The growing of unsustainable food production industries such as animal agriculture was not even discussed.

COP26 was still important though. India announced its first even commitment to a net-zero target, with the caveat that that target is 20 years behind the rest of the world. The US\$ 19 billion pledge for deforestation prevention was renewed. The methane-reduction pledge was signed by 105 countries. The US and China made overtures for better cooperation on the climate crisis, and Denmark and Costa Rica led a 12-country coalition called the [Beyond Oil and Gas Alliance](#) (BOGA), but sadly without the support or backing of some of the largest emitters.

Beyond rhetoric, the [COP26 Glasgow Climate Pact](#) contained significant outcomes, including an agreement by developed nations to double the financial assistance to adaption and mitigation in developing nations (CMA.3 16), to recognize loss and damage due to climate and weather extremes (CMA.3 60), and to strengthen nationally determined contributions by the end of 2022 (CMA.3 30). Perhaps one of the most significant parts of the pact is CMA.3, 37. which “[c]alls upon Parties to accelerate the phasing-down of unabated coal and inefficient subsidies for fossil fuels.” This is first time a direct declaration to reduce the use of fossil fuels has survived the drafting process in the 26-year history of the COP meetings.

Of course, it is hard for politicians to make the kind of progress that is required to meet the scale of climate crisis. The fossil fuel industry is one of the richest in the world, it had the [largest delegation](#) at COP26 and continues to lobby political bodies worldwide. In the end, despite the tireless work of many hundreds of officials, the outcome of the conference does not do enough to meet the primary goal of the Paris Agreement. Analysis by the [Climate Action Tracker](#) during the meeting showed that if all the policies,

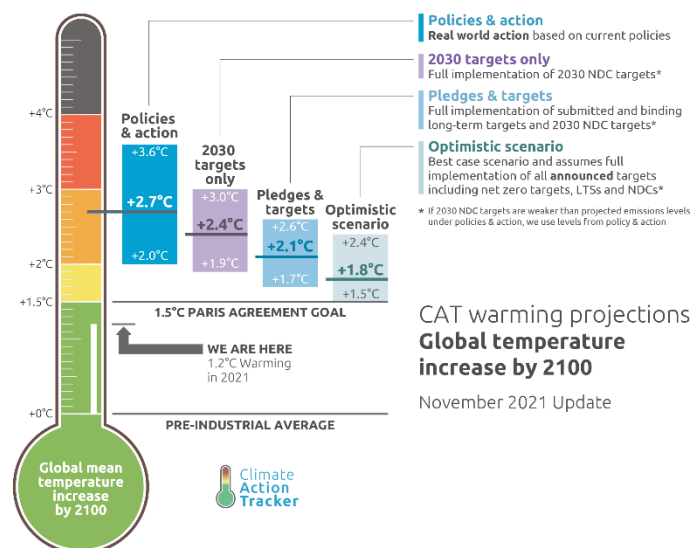


Figure 1 Global mean temperature from pre-industrial average with Paris Agreement goal and potential outcomes of the COP26 meeting. <https://climateactiontracker.org/publications/glasgows-2030-credibility-gap-net-zeros-lip-service-to-climate-action/> (ret. 12/1/21)

pledges and targets are implemented, optimistically the world may only see a +1.8 °C increase in global mean temperature compared to the pre-industrial average; see Figure 1. The sad news is that this is really optimistic, because greenhouse-gas emission needs to be [halved by 2030](#). For comparison, during the COVID-19 pandemic in 2020, a partial world shutdown only led to a temporary [5% reduction](#) and emissions have bounced back and ballooned beyond 2019 levels. Hence, the optimistic analysis from the Climate Action Tracker group requires nothing to go wrong and for more concerted effort at all levels of society.

[Determination is needed now](#), and this is where global meets local. The climate crisis is a result of human activity and requires a global series of local solutions in addition to the top-down pledges that attracts lion's share of the news. As individuals, we can transform our households by [recycling](#) and [changing our consumer behavior](#). While [challenging](#), we can also work with our communities to improve our [towns](#), our [politics](#) and our [workplaces](#). Meaningful power can be appropriately wielded at a local level, consider nearly all [stakeholders](#) and provide platforms to bring people together in common purpose, preferably in a [democratized](#) and [inclusive](#) fashion.

For example, at the institutional level, especially in a [semi-democratized institution](#) like a university, its students, staff and faculty can drive change that has larger significance than in their homes. The University's energy budget is far larger than their collective household energy budget of all its students and employees. WVU runs [research laboratories](#) and [hospital facilities](#), hosts [sporting](#) and [social events](#), and operates vast [IT hardware](#), [teaching spaces and offices](#). The university does not need to curtail its academics, its research, its sports or its [mission](#). Instead, the university needs to adapt to the future and become a leader by embracing up-to-date technology for harvesting renewable energy and improving or developing sustainable practices beyond [minimum regulatory requirements](#).

So what are we doing locally, and what more can we do? First, there are many untapped fossil fuel replacement technologies that can be research, developed and implemented at WVU, in conjunction with the community and regional [companies](#). An initial step is to do a true accounting of the campus's energy budget, so we know what we need to replace. Some of the potential following steps include:

- (1) [Hydroelectric](#) - the Monongahela River could host a hydroelectric plant as proposed by [Downstream Strategies](#).
- (2) [Geothermal](#) – Morgantown is one of few places in the eastern US where geothermal technology may be viable.
- (3) [Solar power](#) –hectares of roof space across campus can support direct light-to-electricity conversion by working with local partner [companies](#).
- (4) [Retrofit conventional power stations](#) – thermal-energy storage is a good way to upgrade and decarbonize conventional power stations, makes use of the entire Rankine vapor cycle and provide balance to the fluctuating supply of renewable energy sources. Replacing boilers with a [miscibility gap alloy](#) or [electro-thermal](#) “battery” potentially preserves infrastructure and local jobs.
- (5) [Thorium and micro-nuclear reactors](#) – small reactors avoid the perceived problems with nuclear power with zero likelihood of meltdown and time-to-profit barriers for investors.

Molten-salt reactor, using conventional and/or [thorium](#)-based technology, are being explored worldwide. The latter is attractive because it also overcomes potential for [nuclear proliferation](#).

Beyond energy source modernization, the university can continue smart-grid development in partnership with the [National Energy Technology Laboratory](#). We should also continue our rewilding programs as part of the land-grant mission. To preserve indigenous forests and promote [rewilding](#) globally, West Virginians can get more bang for their buck by rewilding already hard-hit regions of the world, as has been demonstrated by a [UK charity in rewilding India](#). Also, we need to improve its efforts in [sustainability](#), expand its research and implementation of [carbon sequestration](#), extend [justice](#) for the [environment](#) and its [non-human inhabitants](#), and work on [community engagement](#) to overcome our modern cultural problem of alienation that has led to epidemics of poor [mental health](#) and [drug abuse](#) instead of empowering our better selves. Community engagement is required to bring people back together and inspire hope to solve the urgent problems. Additionally, our economists continue to build models for [carbon and energy budgets](#) without licensing poor emissions monitoring that go beyond traditional financially focused economics.

Leading is central to the university's mission and the benefits can be manifold – imagine a countdown clock on the university's home page showing the number of months to net-zero emissions or the percentage of the campus that is powered by green energy. Far from greenwashing, the university can reverse the climate damage done by our State's legacy as nation's powerhouse. WVU could be at the forefront of several technological revolutions, position itself to become a truly green campus, enhance its [R1](#) mission through modern interdisciplinary fields of research, training students in sought-after areas of green technology, and becoming a beacon for transformative and positive change. If we succeed in building a template for positive and inclusive change, we can inspire replication on other campuses nationally and worldwide.

World leaders need the help of local engagement, investment, and above all they need a political motivation. The world is finally waking up to this fact and there are wonderful lessons to be learned from communities that are making progress, which we can cooperatively adopt here. Taking action locally gives our community opportunities to lead, before [top-down action](#) is willed and outside interests exploit. This is the definition and requirement of "Mountaineers Go First." Paraphrasing [President John F. Kennedy](#), "ask not what your [climate] can do for you, as what you can do for your [climate]." Action now by all students, staff and faculty keeps decisions within our control. Investment is more than fiscal, and the return is even much more than that too – save our habitat, rebuild a reputation, and lead the community to a brighter greener future. WVU has the chance to be and lead that change. Wouldn't it be nice to be part of that institution?