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GUEST ESSAY

Sometimes, to Make an Electric Car Better, You've Got to Make It a Little Worse

April 8, 2024

By Ezra Dyer

Mr. Dyer is a columnist for Car and Driver magazine.

We're at an inflection point in electric-car optimism. Over the past few years, as electric vehicle sales increased substantially and car companies announced an onslaught of new battery-powered models, it seemed that electric cars were a near-term inevitability. But for all the heady promise, E.V. enthusiasm seems to be cooling.

Ford recently announced that it's cutting production targets for the Lightning, its electric truck. Brag-and-bluster Tesla projected that sales growth in 2024 would be "notably lower" than in recent years. Hertz is selling off about a third of its electric cars and Audi is slowing its transition to E.V.s. There are plenty of obvious headwinds for E.V.s — cost, range, and charging infrastructure (or lack thereof). But there's also a more subtle issue at play, one that won't be easily resolved: Electric cars are too boring.

I know this seems like a preposterous complaint, and I agree. On the list of things wrong with the world, "electric cars are dull" isn't in the Top 5. I revel in being able to charge my plug-in hybrid Chrysler Pacifica with my solar panels, and believe that E.V.s are the answer to humanity's long-term transportation needs. However, I also believe that the anesthetic experience of driving an electric car is a real hurdle to the technology's widespread adoption, given that nearly every potential E.V. buyer grew up with the rich sensory experience of internal combustion.

Driving, as we all knew it before the arrival of mass-market electric cars a little more than a decade ago, involved familiar rituals that carved out a place in our collective psyche. You'd turn a key or push a button, feel a rumble of vibration through the seat and steering wheel, put a transmission in gear and listen to the revs rise and fall with upshifts and downshifts. Maybe you learned to drive with a manual transmission, with your feet dancing between clutch and accelerator as you chose your gears, herky-jerky at first but eventually tilling a furrow into muscle memory. There might be smells, oil and gas or diesel, not pleasant but not entirely unpleasant, either.

For people who love cars, and even those who don't, this flood of visceral sensory feedback becomes associated with freedom and road trips, first dates and dashes to the grocery store.

Electric cars make a clean break from all of that. Climb into an electric car, and there's often no key to turn or start button to push — it's just on. There's little noise except for the legally required pedestrian warning tone, which often sounds like Trent Reznor composing a creepy-synth Nine Inch Nails tune somewhere behind the front bumper. Some of them have a "one pedal" mode that doesn't even require touching the brake pedal most of the time. It's like driving a sensory deprivation chamber. For passengers, it's luxurious. For drivers, it's dull.

Sure, some versions of the Lucid Air and Tesla Model S can hit 150 m.p.h. in less than 10 seconds, but that's important the same way it's important for watches to be waterproof to a depth of 1,000 feet — as a brag for tedious rich people. The Tesla Cybertruck, with its polygon-meme shape and stainless-steel skin, is essentially

the world's most visible riposte to the boring-E.V. problem. Squeeze the accelerator, though, and it behaves like every other electric car, which is to say quick and coldhearted.

Powerful acceleration used to be a thrill in its own right, but E.V.s commodified and muffled that aspect of performance. A quick electric car is as common as a sunny day in Los Angeles, a pleasant base-line normal that's mostly taken for granted.

Perhaps it's true that many cars are generally boring regardless of how they're powered, deliberately inoffensive in the name of mass appeal. And griping about sound and character might sound like the futile whining of a demographic raised on muscle cars and four-speed manuals — “OK Boomer” on wheels. But I've got some bad news for car companies hoping that the next generation will become E.V.-native.

My kids are 11 and 13 years old and they are manifestly unexcited about electric cars. When they play Forza on Xbox, I hear the shrieks of Lamborghinis and the roar of Ford Raptors emanating from the room. I test cars for a living, and the kids' favorite car from the past few years was the Dodge Challenger Black Ghost, an 807-horsepower resource-pillager that represents the last gasp of supercharged V-8 thunder for Dodge. It's a stupid car, really, peak mouth-breather, screaming of wretched excess. But its analog mechanical brutality activates some primal lobe deep in our brains, the one that catalyzes noise into adrenaline. The final V-8 Challenger rolled off the line on Dec. 22 last year, another dinosaur obliterated by the E.V. asteroid.

Car companies are trying to figure out how to recapture the distinctive personalities of cars like the Black Ghost in the E.V. era. Dodge envisions a booming speaker system for its future electric muscle cars, mimicking loud exhaust. BMW is going futuristic, with a soundtrack developed by Hans Zimmer — floor the accelerator, and the iX model fills with the noise of a synth-spaceship warp. Toyota is developing a manual transmission emulator for electric cars, to return some of the driving engagement. Or so we can hope.

Building a simulated manual transmission that's not really connected to anything might sound a little bit pathetic, but I have reason to be optimistic, because I've seen how quickly technology can change. Twenty years ago, I went to Michelin's alternative-fuel vehicle conference in Shanghai, and at that point nobody saw lithium batteries and electric cars on the horizon. Now we have electric pickup trucks that are as quick as a Corvette, and wind and solar power are the fastest growing and cheapest new means of producing electricity. The Biden administration aims to hasten E.V. adoption with new rules and tax incentives. And it seems logical that, after conquering their objective goals, car companies will turn to the subjective ones, the noises and nuances that make driving fun.

Look, all I want is an E.V. that sounds like a mountain lion keening at your bedroom window, the way a Porsche 911 GT3 does at full throttle. The GT3 — and many of our favorite cars — could easily be made much quieter. But Porsche understands that sometimes, to make a car better, you've got to make it a little worse.

The electric future is clean, smooth and refined. But we might get there sooner if we can figure out how to rough it up a little bit.

Ezra Dyer is a columnist for Car and Driver magazine.

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Climate crisis

Climate crisis: average world incomes to drop by nearly a fifth by 2050

Cost of environmental damage will be six times higher than price of limiting global heating to 2C, study finds

Jonathan Watts

Wed 17 Apr 2024 17:21 CEST

Average incomes will fall by almost a fifth within the next 26 years as a result of the climate crisis, according to a study that predicts the costs of damage will be six times higher than the price of limiting global heating to 2C.

Rising temperatures, heavier rainfall and more frequent and intense extreme weather are projected to cause \$38tn (£30tn) of destruction each year by mid-century, according to the research, which is the most comprehensive analysis of its type ever undertaken, and whose findings are published in the journal *Nature*.

The hefty toll - which is far higher than previous estimates - is already locked into the world economy over the coming decades as a result of the enormous emissions that have been pumped into the atmosphere through the burning of gas, oil, coal and trees.

This will inflict crippling losses on almost every country, with a disproportionately severe impact on those least responsible for climate disruption, further worsening inequality.

The paper says the permanent average loss of income worldwide will be 19% by 2049. In the United States and Europe the reduction will be about 11%, while in Africa and south Asia it will be 22%, with some individual countries much higher than this.

"It's devastating," said Leonie Wenz, a scientist at the Potsdam Institute for Climate Impact Research and one of the authors of the study. "I am used to my work not having a nice societal outcome, but I was surprised by how big the damages were. The inequality dimension was really shocking."

The study also looked at the second half of this century, where human actions now can still make a big difference. If business as usual continues, the authors projected average income losses of more than 60% by 2100. But if emissions fall to net zero by mid century, income declines will stabilise by mid century at about 20%.

The economic hit predicted by the paper is more than twice as high as any previous analysis.

Behind that difference is a more sophisticated methodology. While most previous studies considered only damages related to rising temperatures at a national level, the new paper also incorporated rainfall and extreme weather impacts using 40 years of data from 1,600 subnational regions. This is important because weather is a local rather than national phenomenon. The study also considered how impacts tend to persist over months and years, rather than being only a short-term hit.



EDF renewables' employees at the solar farm, La Fito photovoltaic park, in south-east France. Photograph: Christophe Simon/AFP/Getty Images

Previous projections were optimistic that most northern hemisphere economies would continue to grow. By contrast, the new paper says countries such as Germany (-11%), France (-13%), the US (-11%) and UK (-7%) will lose out even by mid century. Worst affected will be countries in already hot regions including Botswana (-25%), Mali (-25%), Iraq (-30%), Qatar (-31%), Pakistan (-26%) and Brazil (-21%).

Maximilian Kotz, an author of the study, said: "Strong income reductions are projected for the majority of regions, including North America and Europe, with south Asia and Africa being most strongly affected. These are caused by the impact of climate change on various aspects that are relevant for economic growth such as agricultural yields, labour productivity or infrastructure."

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Although the newly painted scenario is far worse than anything that came before, the authors acknowledge it is still conservative and incomplete. There are many major climate impacts that have not yet been incorporated into the analysis, including heatwaves, sea level rise, tropical cyclones, tipping points, and damage to natural ecosystems and human health. The authors said these factors would be added to future models.

"We are providing a more comprehensive picture but this is not the final picture," Wenz said. "It is likely a lower bound."

The authors said the study showed the need for stronger adaptation strategies, particularly in poorer, worst-affected countries, to cope with the changes up to 2050 that are already locked into the climate system.

It also found that reducing emissions was far cheaper than doing nothing and accepting more severe impacts. By 2050, it calculated mitigation costs - for example, from phasing out fossils and replacing them with renewable energy - to be \$6tn dollars, which is less than a sixth of the median damage costs for that year of \$38tn.

Anders Levermann, the head of complexity science at the Potsdam Institute, said: "It is on us to decide: structural change towards a renewable energy system is needed for our security and will save us money. Staying on the path we are currently on will lead to catastrophic consequences. The temperature of the planet can only be stabilised if we stop burning oil, gas and coal."

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FARHAD MANJOO

It's the End of Computer Programming as We Know It. (And I Feel Fine.)

June 2, 2023



By Farhad Manjoo
Opinion Columnist

I was 5 or 6 when I got my first sense of the joys of computer programming. This was in the early 1980s, when few people had a computer. One day, my dad brought home a Sinclair ZX Spectrum, one of the world's early affordable, mass-market PCs. The device looked like a chunky keyboard; it had 48 kilobytes of memory (my phone has about 125,000 times as much RAM); and it used your TV as a display. Software, mainly games, came on cassette tapes that you loaded into the computer with a connection to a tape player — the floppy drive of its time.

But the games took forever to load, and while waiting I would often pore over the incredible programming manual that came with the Spectrum. The book was full of simple programs written in the accessible BASIC programming language. Most of it went over my head, but as I experimented with the examples, I began to feel the thrill that people who fall for computer programming often talk about — the revelation that, with just the right set of incantations, you can summon to life these otherwise inert machines and get them to do your bidding.

My obsession with programming deepened when I got to high school (I was very popular!), and there were a few weeks early in college when I thought coding could be something I did for a living. Of course, I didn't stick with it; for me, writing words won out over writing code.



A 1982 ZX Spectrum. Sspl/Getty Images

Though I did find it fascinating to learn to think the way computers do, there seemed to be something fundamentally backward about programming a computer that I just couldn't get over: Wasn't it odd that the machines needed us humans to learn their maddeningly precise secret languages to get the most out of them? If they're so smart, shouldn't they try to understand what we're saying, rather than us learning how to talk to them?

Now that may finally be happening. In a kind of poetic irony, software engineering is looking like one of the fields that could be most thoroughly altered by the rise of artificial intelligence. Over the next few years, A.I. could transform computer programming from a rarefied, highly compensated occupation into a widely accessible skill that people can easily pick up and use as part of their jobs across a wide variety of fields. This won't necessarily be terrible for computer programmers — the world will still need people with advanced coding skills — but it will be great for the rest of us. Computers that we can all “program,” computers that don't require specialized training to adjust and improve their functionality and that don't speak in code: That future is rapidly becoming the present.

A.I. tools based on large language models — like OpenAI Codex, from the company that brought you ChatGPT, or AlphaCode, from Google's DeepMind division — have already begun to change the way many professional coders do their jobs. At the moment, these tools work mainly as assistants — they can find bugs, write explanations for snippets of poorly documented code and offer suggestions for code to perform routine tasks (not unlike how Gmail offers ideas for email replies — “Sounds good”; “Got it”).

But A.I. coders are quickly getting smart enough to rival human coders. Last year, DeepMind reported in the journal *Science* that when AlphaCode's programs were evaluated against answers submitted by human participants in coding competitions, its performance “approximately corresponds to a novice programmer with a few months to a year of training.”

“Programming will be obsolete,” Matt Welsh, a former engineer at Google and Apple, predicted recently. Welsh now runs an A.I. start-up, but his prediction, while perhaps self-serving, doesn't sound implausible:

I believe the conventional idea of “writing a program” is headed for extinction, and indeed, for all but very specialized applications, most software, as we know it, will be replaced by A.I. systems that are *trained* rather than *programmed*. In situations where one needs a “simple” program ... those programs will, themselves, be generated by an A.I. rather than coded by hand.

Welsh's argument, which ran earlier this year in the house organ of the Association for Computing Machinery, carried the headline “The End of Programming,” but there's also a way in which A.I. could mark the *beginning* of a new kind of programming — one that doesn't require us to learn code but instead transforms human-language instructions into software. An A.I. “doesn't care how you program it — it will try to understand what you mean,” Jensen Huang, the chief executive of the chip-making company Nvidia, said in a speech this week at the Computex conference in Taiwan. He added: “We have closed the digital divide. Everyone is a programmer now — you just have to say something to the computer.”

Wait a second, though — wasn't coding supposed to be one of the can't-miss careers of the digital age? In the decades since I pattered around with my Spectrum, computer programming grew from a nerdy hobby into a vocational near-imperative, the one skill to acquire to survive technological dislocation, no matter how absurd or callous-sounding the advice. Joe Biden to coal miners: *Learn to code!* Twitter trolls to laid-off journalists: *Learn to code!* Tim Cook to French kids: *Apprenez à programmer!*

Programming might still be a worthwhile skill to learn, if only as an intellectual exercise, but it would have been silly to think of it as an endeavor insulated from the very automation it was enabling. Over much of the history of computing, coding has been on a path toward increasing simplicity. Once, only the small priesthood of scientists who understood binary bits of 1s or 0s could manipulate computers. Over time, from the development of assembly language through more human-readable languages like C and Python and Java,

programming has climbed what computer scientists call increasing levels of abstraction — at each step growing more removed from the electronic guts of computing and more approachable to the people who use them.

A.I. might now be enabling the final layer of abstraction: the level on which you can tell a computer to do something the same way you'd tell another human.

So far, programmers seem to be on board with how A.I. is changing their jobs. GitHub, the coder's repository owned by Microsoft, surveyed 2,000 programmers last year about how they're using GitHub's A.I. coding assistant, Copilot. A majority said Copilot helped them feel less frustrated and more fulfilled in their jobs; 88 percent said it improved their productivity. Researchers at Google found that among the company's programmers, A.I. reduced "coding iteration time" by 6 percent.

I've tried to introduce my two kids to programming the way my dad did for me, but both found it a snooze. Their disinterest in coding has been one of my disappointments as a father, not to mention a source of anxiety that they could be out of step with the future. (I live in Silicon Valley, where kids seem to learn to code before they learn to read.) But now I'm a bit less worried. By the time they're looking for careers, coding might be as antiquated as my first PC.

Office Hours With Farhad Manjoo

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The Day the Music Died (on TikTok)

Cody Fry and Noah Kahan are among the artists who are wondering how the battle between Universal Music Group and the social media platform might affect them.



By Madison Malone Kircher

Published Feb. 2, 2024 Updated Feb. 4, 2024

Things were going well for Cody Fry, a singer-songwriter and producer known for his lush pop songs. He was looking forward to a pair of concerts with Ben Rector and the Colorado Symphony at the Boettcher Concert Hall in Denver. And on Monday his management team called him with exciting news: One of his songs, “Things You Said,” a romantic duet with Abby Cates, was gaining traction online and going seriously viral on Douyin, the Chinese version of TikTok.

More than 750,000 videos were created with that song in a single day, Mr. Fry said in a TikTok video. It was the kind of organic viral moment that artists and marketers dream of, the kind that can’t be forced.

But by Thursday, many of the fan-made videos featuring “Things You Said” went mute. The sudden TikTok silence came about after Universal Music Group, the world’s largest music company, pulled its catalog from TikTok after its contract with the platform expired.

In addition to Mr. Fry, who is signed to Decca Records, one of the company’s many labels, Universal artists whose videos went silent include SZA, Taylor Swift and Ice Spice.

Picture a TikTok video of somebody dancing to a snippet of Ms. Swift’s “Bejeweled.” Now picture that person dancing in complete silence.

“Help, this is so awkward with no music,” a comment read on a recent TikTok posted by Ice Spice, a rapper whose music regularly sparks a big reaction on the platform.

“This sound isn’t available,” reads the caption where a video’s music information would typically go.

TikTok trends can account for millions of views, which can help make or break a career.

“It’s everything you hope for as an artist,” Mr. Fry said by phone on Thursday during an intermission in his first Denver show. “To have it cut short just as it was ramping up in its infancy is just — it’s pretty devastating.”

GUEST ESSAY

The New Climate Law Is Working. Clean Energy Investments Are Soaring.

May 30, 2023

By Brian Deese

Mr. Deese was the director of the National Economic Council for the first two years of the Biden administration and helped shape the Inflation Reduction Act.

Last summer, in a meeting with business and labor leaders as Congress prepared to vote on the landmark Inflation Reduction Act, President Biden argued that it would result in “the largest investment ever in clean energy and American energy security — the largest in our history.” He added, “It will be the largest investment in American manufacturing as well.”

Nine months since that law was passed in Congress, the private sector has mobilized well beyond our initial expectations to generate clean energy, build battery factories and develop other technologies to reduce greenhouse gas emissions.

The law is doing exactly what it was designed to do: encourage private investment in clean energy. Tax incentives make the investments attractive, but businesses, along with rural cooperatives, nonprofits and others, must judge whether investing their own money in a hydrogen factory or a wind farm will pay off. In the end, the law will be only as successful as their appetite to invest at a scale that will meaningfully reduce emissions warming the planet and increase the nation’s energy security.

Over the past few months, we have begun to see how large that appetite may be. It seems clear already that the law will stimulate significantly more investment in clean energy than was at first thought possible while generating more revenue from high-income taxpayers to reduce the deficit.

But despite all the encouraging signs, still more needs to be done to achieve the nation’s climate goals and energy needs. For instance, the often cumbersome and time-consuming process of siting and building clean energy projects must be streamlined. And Congress needs to take additional steps to reduce emissions from heavy industries like steel, cement and chemicals.

But let’s first see how far the country has come since the I.R.A. became law. Companies have announced at least 31 new battery manufacturing projects in the United States. That is more than in the prior four years combined. The pipeline of battery plants amounts to 1,000 gigawatt-hours per year by 2030 — 18 times the energy storage capacity in 2021, enough to support the manufacture of 10 million to 13 million electric vehicles per year. In energy production, companies have announced 96 gigawatts of new clean power over the past eight months, which is more than the total investment in clean power plants from 2017 to 2021 and enough to power nearly 20 million homes.

Scott Moskowitz, the head of market strategy and public affairs for Qcells North America, which manufactures solar panel components in Georgia, summed up the impact of the law this way: “We will always look at the history of our industry in two eras now that the Inflation Reduction Act has passed” — meaning the before and the after.

“The I.R.A. contains some of the most ambitious clean energy manufacturing incentives enacted anywhere in the world,” Mr. Moskowitz said.

The investment appetite is defying geographic and political boundaries. From Oklahoma and Ohio to North Carolina and Nevada, new investment is breathing economic life into communities that have seen their economies decline. This is in part because the I.R.A. provides an explicit incentive to invest in places with contaminated industrial sites, communities with a significant economic reliance on traditional fossil fuel production or those with shuttered coal mines or coal-fired power plants.

The investment surge has prompted forecasters to significantly update their views on the long-term potential of the law. Analysts at two research organizations, the Brookings Institution and the Rhodium Group, have estimated that over 10 years, private investment could be at least one and a half to three times as much as initial projections. The largest increase is projected to be in industrial and manufacturing activity for hydrogen, carbon capture, energy storage and critical minerals — areas key to long-term energy security.

This overall investment wave has the potential to drive a more rapid and efficient decarbonization of the economy while increasing the supply of clean energy and maintaining the country's competitive edge of stable, low-cost energy. Rhodium, for example, along with researchers from the University of Chicago, found that I.R.A. energy production tax credits would lower energy costs for consumers and businesses while reducing power sector carbon dioxide emissions at an average cost of \$33 to \$50 per metric ton — considerably less than recent estimates of the social cost of carbon, the economic damage that would result from emitting additional carbon.

But these early encouraging signs do not guarantee long-term success. The law did not provide all the necessary tools to achieve national goals for expanding our supply of clean energy. Congress and the Biden administration have more work to do.

First, lawmakers must make it easier to build clean energy infrastructure in America. Congress should immediately go beyond the permitting provisions included in the recently announced debt limit compromise bill and pass comprehensive legislation to speed energy development, an idea that has bipartisan support. The administration should use its authority to streamline project timelines. The Federal Energy Regulatory Commission should more aggressively clear backlogs preventing clean energy projects from connecting to the grid. Policymakers should consider new incentives to expand energy capacity, like conditioning federal assistance to states and localities that reform land-use policies to allow clean energy development.

Second, lawmakers should continue to encourage efficient, low-carbon investments. For example, Congress could develop an industrial competitiveness program for heavy industries like cement, steel and chemicals that includes an emissions-based border adjustment fee on imported industrial goods from countries with less ambitious emissions controls. This would bolster the I.R.A.'s incentives, increase the competitiveness of American industries and address China's nonmarket practices in these areas, such as flooding the market with products at far below their fair value.

Third, we need to work with allies across developed and emerging markets to build a cooperative international framework around the I.R.A.'s investment incentives. Our allies have little to fear and much to gain from working with the United States to expand incentives domestically to deploy clean energy technology because it must be deployed everywhere, and the I.R.A. incentives will drive down the global cost of energy technologies. The administration has already forged agreements to harmonize these incentives with the European Union, Japan and Canada but will need to use all levers of its foreign policy to secure cooperative arrangements to build resilient energy supply chains, particularly for critical minerals.

Fourth, policymakers and the public need better tools to close the gap between splashy corporate clean energy announcements and speculative long-term projections to understand where investments are being made and what they are achieving.

Finally, policymakers should remain vigilant about budgetary effects. The Congressional Budget Office recently estimated that the private sector's enthusiasm for the I.R.A.'s clean energy incentives could increase the cost to the federal budget by about \$200 billion over 10 years.

But that is only part of the overall calculation. The I.R.A. is about more than just clean energy. It also includes corporate tax increases and reductions in prescription drug spending by Medicare. That's why the I.R.A. overall is still projected to reduce the deficit over 10 years, with the reduction growing to \$50 billion a year by 2032.

Recent academic research has shown that the long-term deficit reduction could be much greater than these estimates anticipate, with the I.R.A.'s innovative investments in technology and audit capacity generating about \$500 billion and potentially much more over the next decade. While it is a mistake to undercut those investments, the savings are achievable even with the rescissions to Internal Revenue Service funding included in the debt limit compromises.

If we build on the I.R.A.'s investment-driven model, the optimistic outcome of more clean energy, more economic potential and a stronger fiscal future is within reach.

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Biden to Call for Tripling Tariffs on Chinese Steel Products

In a speech to union steelworkers in Pittsburgh, the president will announce several new measures meant to raise new barriers against floods of Chinese imports.



By **Jim Tankersley** and **Nicholas Nehamas**

Reporting from Washington and Scranton, Pa.

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President Biden on Wednesday will call on his trade representative to more than triple some tariffs on steel and aluminum products from China, as part of a series of moves meant to help cushion American manufacturers from a surge of low-cost imports.

Speaking to the United Steelworkers Union in Pittsburgh, Mr. Biden will ask the U.S. trade representative, Katherine Tai, to increase tariffs to 25 percent on certain Chinese products that currently face tariffs of 7.5 percent — or no tariffs at all — U.S. officials said.

Mr. Biden will also announce a new trade representative investigation into China's aggressive support for shipbuilders and other related industries, in response to a union complaint. And he will announce new initiatives to work with Mexican officials to block China from evading American steel tariffs by routing its exports through Mexico.

The moves represent an escalating effort by Mr. Biden and his aides to stop a flood of low-cost Chinese exports from undermining made-in-America products — and jeopardizing a central focus of Mr. Biden's economic agenda.

Those exports, which often enjoy heavy subsidies from Beijing and low-cost labor, propelled the Chinese economy to higher-than-expected growth in the opening months of the year. But they have raised alarms in the United States and other nations that trade heavily with China, with leaders of those countries accusing Chinese officials of flouting international trade law and disrupting their own domestic manufacturing.

"China is simply too big to play by its own rules," Lael Brainard, who heads Mr. Biden's National Economic Council, told reporters.

U.S. officials have increasingly complained about China's manufacturing overcapacity, contending that its subsidies of clean energy products and other factory goods are giving Chinese factories an unfair advantage and distorting global markets.

"With these subsidies, the amount of capacity exceeds global demand and what it's likely to be even over the next decade," Treasury Secretary Janet L. Yellen said on Tuesday, in remarks accusing the International Monetary Fund of insufficient focus on the issue.

"When the markets weaken, prices fall and it's our firms who go out of business, and those that are our allied countries," she said. "Chinese firms continue to receive support so that they remain."

The Biden administration has balanced those critiques with diplomatic outreach — and pressure. Ms. Yellen traveled to China last week for several days of meetings with leaders there. On Tuesday, according to news reports, Defense Secretary Lloyd J. Austin III talked with his Chinese counterpart for the first time in more than a year.

Late last week, Mr. Biden convened a White House security summit with the leaders of Japan and the Philippines, which was intended as a show of unity against China's military actions in the South China Sea.

Countering China has also become a central issue in Mr. Biden's presidential rematch with former President Donald J. Trump. Both men are pitching tariffs and other trade restrictions to factory workers, labor groups and other key voting blocs in the industrial Midwest.

"When a country just rips us off like China, then what I did is that the tariffs, and the tariffs were forcing companies back to the United States," Mr. Trump told CNBC in March.

The tariffs Mr. Biden will propose raising on Wednesday were initially imposed by Mr. Trump when he was president. Mr. Biden's trade representative is conducting a four-year review of those tariffs. U.S. officials have said for months that the review is nearing completion, a position they reaffirmed in a call with reporters on Tuesday.

Mr. Biden's stop in Pittsburgh is part of a three-day swing through Pennsylvania, a crucial battleground state that he narrowly won in 2020 and has visited more than any other. The president's campaign is hoping to mobilize support from organized labor, a traditionally Democratic constituency from which Mr. Trump has pulled some support.

On Tuesday, Mr. Biden spoke at the local union of the United Brotherhood of Carpenters and Joiners in Scranton, Pa., his hometown.

He also delivered a flurry of attacks against Mr. Trump during a campaign address on taxes earlier in the day, asserting that the former president was a pawn of billionaires, not a friend of the working class, and citing his roots in Scranton.

"Donald Trump looks at the world differently than you and me," Mr. Biden said in a speech that signaled his campaign's intention to make the 2024 election a referendum on Mr. Trump. "He wakes up in the morning at Mar-a-Lago thinking about himself — how he can help his billionaire friends gain power and control, and force their extreme agenda on the rest of us."

Alan Rappeport and Michael D. Shear contributed reporting.

Jim Tankersley writes about economic policy at the White House and how it affects the country and the world. He has covered the topic for more than a dozen years in Washington, with a focus on the middle class. More about Jim Tankersley

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