MISSION FOR AMERICA · CHAPTER 18 · THE PLAN

The National Mission for Industry

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The Problem

American industry has been hollowed out at the exact moment the country needs it to do more than it ever has.

The United States is still one of the largest industrial economies in the world. It produces steel, chemicals, aluminum, glass, paper, and advanced materials at enormous scale. But decades of offshoring and underinvestment have thinned that base, and what remains faces two problems at once. It has to scale up to supply the enormous material demands of the Mission for America, and it has to decarbonize its own processes. The clean power buildout needs steel, copper, transformers, and rare earth elements. The electric vehicle transition needs batteries, motors, and charging equipment. The building retrofit mission needs insulation, heat pumps, and windows. The water grid needs pipes, pumps, and treatment equipment. Every piece of the Mission for America depends on a domestic industrial base operating at a scale the country has not seen in decades.

Private investment is split in a way that makes the scaling harder. Upstream, raw materials are mined, refined, and turned into components. Downstream, those components are assembled into finished products. The downstream end grew fast. U.S. solar module manufacturing capacity reached about 65 gigawatts a year by the end of 2025, the maximum those factories are built to produce. Battery-storage makers added nearly 19 gigawatts of new capacity that year, and several major EV battery plants were retooled to build grid-storage batteries instead. Private clean manufacturing investment surged from $2.5 billion in the third quarter of 2022 to $14 billion in the first quarter of 2025, then declined to about $8 billion by the second quarter of 2026. But almost all of that money went to the downstream end, to final assembly, packaging, and installation. The upstream supply chains that feed those assembly lines, the raw-material processing, the cell manufacturing, the component production, are badly bottlenecked by high capital costs, multi-year permitting delays, and strict regulatory rules. Private capital will fund a solar module factory and leave the polysilicon refinery that supplies it unbuilt. The result is an industrial base that looks impressive at the finished-product end and is dangerously thin underneath.

Meanwhile, the trade environment has been chaotic. The Trump administration imposed aggressive tariffs in early 2025, 60 percent or more on Chinese solar components, 25 percent on steel and aluminum that rose to 50 percent by mid-2025, and 25 percent on imports from Mexico and Canada. The Supreme Court struck down all of the trade-emergency tariffs in February 2026, including those on Mexico, Canada, and China, though the steel and aluminum tariffs survived under a separate legal authority. The administration replaced the struck-down tariffs with a temporary surcharge and then, in July 2026, with new tariffs on goods from 60 countries under another trade law, and those now face their own court challenges. The result is deep uncertainty for domestic manufacturers about what protection, if any, will last. China can generate electricity from clean power sources at 11 to 64 percent lower cost than the global average, and its chemical industry is flooding the world market with overcapacity that has driven the global chemical industry's deepest downturn in a generation.

The One Big Beautiful Bill Act, the Trump administration's budget reconciliation law signed in July 2025, rescinded billions in unspent climate funds from the Inflation Reduction Act and phased out the main wind and solar tax credits. The Energy Department has since terminated, or is expected to terminate, about two-thirds of the 29 awards in the Industrial Demonstrations Program, which funded flagship decarbonization projects.

The Mission

The Mission for America will rebuild a domestic industrial base that supplies every piece of the nation's clean energy transition, powers the next generation of advanced manufacturing, and competes globally at scale as the rest of the world transitions off fossil fuels. When complete, the country will run end-to-end supply chains from raw material to finished product for the transformers, batteries, heat pumps, components, and materials that every other MFA mission depends on. It will do this by deploying patient, long-term capital where private markets are failing, pairing that capital with emissions standards that rise as the new technology comes online, and organizing the workforce transition each industry needs.

The upstream bottleneck is the first target. Downstream assembly grew fast, with solar modules, batteries, and heat pumps all produced domestically, but the raw materials, cells, and components that feed those final-assembly lines are imported. The Reconstruction Finance Corporation will map every upstream chokepoint in the MFA supply chain, publishing a National Industrial Supply Chain Map in Year 1 and updating it annually. Where private capital refuses to go, the RFC will build government-owned, contractor-operated (GOCO) facilities directly. Where private firms will build but cannot get financing, it will lend for 30 years, take direct equity, and guarantee purchase volumes for critical materials.

Heavy industry, meaning aluminum, glass, paper, and the other high-heat sectors, will be offered RFC capital to convert to clean production at any scale, paired with a Clean Manufacturing Standard (CMS) that rises in scheduled revisions as the financing reaches more facilities. The standard will be technology-neutral. Each industry will choose its own pathway, whether electrification, carbon capture, alternative chemistry, or hydrogen, and compete to find the cheapest route to compliance. Fire brick thermal storage, a new way of smelting aluminum whose only byproduct is oxygen, and electric furnaces will be deployed at scale. Federal procurement will pull the market by buying growing volumes of CMS-compliant materials.

The chemical industry, the country's biggest industrial energy user and one of its largest emitters, will cut its emissions in steps. The Mission will start on Day One with controls on methane leakage, then move to electrified steam crackers and membrane separations at commercial scale, while a crash research program in the Manhattan Projects chapter drives fossil-free synthetic feedstock toward commercial demonstration. Together these steps will cut the greenhouse gases from the industry's energy and processes by 80 percent. The carbon in the feedstock itself is on a separate, longer track.

The Reconstruction Finance Corporation will pay for most of it. Private capital will not touch upstream supply chains, heavy-industry decarbonization, or chemical plant conversions, so the RFC will supply the

30-year capital those projects need. It will also coordinate projects that each depend on another getting built first, the kind of standoff that stalls private markets.

The RFC's financial toolkit will include direct loans and equity for upstream manufacturing, GOCO construction and operation, Advanced Market Commitments guaranteeing purchase volumes, pay-for-performance contracts for new industrial technologies, and direct lending through community lenders for smaller manufacturers. Tax credits and federal grants will amplify the RFC's reach.

Every GOCO operating contract and every large financing will be awarded by competitive selection against published criteria. The industrial director and the program staff will work under conflict-of-interest and recusal rules and under independent inspector-general and GAO oversight. Loans and equity will carry clawback terms that recover public money from a company that takes the capital and fails to deliver. And a public dashboard will publish every award, every equity stake, and every outcome in close to real time, so failures show up early.

Taken together, these tools will rebuild an industrial base that runs from raw material to finished product on American soil, clean enough to meet the Mission's emissions targets and large enough to supply every other mission.

Solutions

Solution 1: Break the Upstream Bottleneck

The country builds the last step of its supply chains and imports almost everything that feeds them.

Solar module factories are running, but the refined silicon, semiconductor wafers, and solar cells that feed them are overwhelmingly imported. Battery assembly plants are operational, but the electrical steel, specialty alloys, and precision components inside them come from abroad. Heat pump factories in Tennessee and Georgia assemble units from imported compressors and heat exchangers. Raw minerals and their refining belong to the Critical Minerals chapter. This chapter picks up at the next step, where refined material becomes components and modules.

Private capital will not fix this. Upstream processing facilities are capital-intensive, take years to permit and build, and face regulatory rules, chiefly bans on partnerships with foreign adversaries and imports made with forced labor, that make financing difficult. The returns are slower and less spectacular than downstream assembly. Venture capital, banks, and private equity all avoid it because the payback is long and the risk is high.

The RFC as bottleneck finder. The RFC will assess the full capital needs of every critical MFA supply chain in its first year of operation. This is what the War Department did in 1941 with the Victory Program, the study led by Albert Wedemeyer that estimated the total forces the country would need to defeat the Axis and, from that, the full slate of materials and industrial production required to equip them. It became the blueprint for wartime mobilization. No such assessment exists today for the clean-industrial buildout.

The government tracks aggregate capacity in gigawatts but does not map the upstream chokepoints that constrain it. The assessment will identify every facility, material, and component where domestic production is missing or insufficient, and publish the results as a national industrial map.

GOCO for the gaps nobody will fill. Where the baseline assessment identifies critical upstream facilities that no private company will build, the RFC will build them directly under the GOCO model, government-owned and contractor-operated. The RFC pays for and owns the facility, and a private firm with the technical expertise is paid to run it. The Defense Plant Corporation funded over 2,300 projects across 46 states during World War II using this model, building synthetic rubber plants, aluminum smelters, steel mills, and aircraft engine factories. The private sector operated them. The government owned them and could redirect production as strategy required.

Direct loans and equity for private upstream investment. Where private companies are willing to build upstream facilities but cannot secure financing, the RFC will provide 30-year, low-interest loans and take equity stakes. The equity positions will let taxpayers share in the profits and give the RFC a say in making sure the facilities serve the national industrial strategy as well as their shareholders.

Advanced Market Commitments for upstream output. The RFC will guarantee purchase volumes for domestically produced polysilicon, semiconductor wafers, electrical steel, specialty alloys, compressors, heat exchangers, and other critical upstream inputs manufactured from refined minerals. The guaranteed demand will remove the market risk that keeps private investors away, because a company that builds the facility and makes the component will have a buyer.

Clear the permitting logjam. Capital alone does not fix a five-year permit, and part of why upstream facilities stall is that they take years to approve. So RFC-financed upstream projects will get a federal permitting coordinator that runs the required reviews at the same time, and projects sited on land already zoned and used for industry qualify for categorical exclusions that reserve full environmental review for undeveloped land. The exclusion will apply only after a cumulative-burden screen confirms that the site's neighbors do not already carry more than their share of industrial pollution, and the Clean Water Act, Clean Air Act, and Endangered Species Act reviews will still apply in full, so the timeline gets shorter while the protections stay.

Build new industries where the byproducts used to be. Some of the country's most important industrial materials are byproducts of fossil processes the Mission is winding down. Each will need a clean domestic industry that makes the material on purpose, often with a more secure supply than the byproduct ever gave. The RFC's supply-chain map will spot these hand-offs early and finance the replacements before the old supply runs out. Three matter most.

- **Food-grade carbon dioxide.** The fizz in soda, the gas that freezes food and makes dry ice, is mostly a byproduct of ammonia, ethanol, and hydrogen plants, well over half the merchant supply. Some of that is already clean. The CO2 that pours off fermentation at ethanol plants, breweries, and biogas upgraders comes from fermenting crops and organic waste, so it adds no fossil carbon, and only needs to be captured and cleaned to food grade. What shrinks as the Mission cleans up ammonia and hydrogen production is the fossil share. So the Mission will finance biogenic fermentation capture, purification,

and distribution ahead of the shift, with direct air capture as a costlier backstop where no biological source sits nearby. The beverage, cold-chain, and food industries will end up with a cleaner CO2 supply than they have today.

- **Asphalt for roads and roofs.** Bitumen, the binder in every road and most roofs, is the heavy residue left at the bottom of the crude refining the Fossil Fuels Mission is winding down. No fossil-free binder can yet replace it at pavement scale and commodity cost, so the Mission will take three steps. Because asphalt's carbon stays locked in the road for good, the wind-down will protect a small, steady supply of bitumen, one of the few fossil uses it keeps. The country already recycles reclaimed asphalt at enormous scale, one of the most recycled materials in America, and modern rejuvenators let that recycled binder stand in for much of the virgin supply, a lever the RFC will push harder. And bio-based binders made from lignin and other plant residues will cover part of what is left and improve across the decade. Over time, more of the binder will come from recycled and plant-based sources and less from fresh crude.
- **Wallboard gypsum.** About half of the gypsum in American drywall is captured from the scrubbers on the coal power plants the Mission is retiring. This one is easier, because gypsum is an abundant natural mineral with large domestic reserves. The Mission will phase the shift to mined and recycled gypsum in step with the coal retirements, so drywall makers are never caught short, financing the mines and the logistics to bring natural gypsum back and scaling construction-and-demolition recycling so the walls coming down supply the walls going up.

What this delivers: A map of every upstream chokepoint in the MFA supply chain. GOCO facilities filling the gaps that private capital refuses to touch. RFC-financed private investment in upstream manufacturing. Guaranteed demand that justifies the investment. Clean replacements arranged ahead of the fossil sources they succeed, from food-grade CO2 to road binder to wallboard gypsum. An industrial base that runs from refined material to finished product on American soil.

Solution 2: The Clean Manufacturing Standard

American heavy industry, from glass and aluminum to paper and dozens of smaller sectors, puts hundreds of millions of tons of CO2 into the air every year, and it comes from three different places. Most of it is from burning fossil fuels to make heat. Some of it is baked into the chemistry of the materials themselves, reactions that give off CO2 no matter what fuel runs the furnace. And a few industries release gases far worse than CO2, like nitrous oxide and the fluorinated compounds, which are thousands of times more powerful per ton and slip past any rule that counts only carbon dioxide. Decarbonizing industry means solving all three. Cement is the largest single source of the process kind, and it has its own chapter.

The Clean Manufacturing Standard (CMS) will be paired with the RFC's standing offer to finance every aluminum, glass, and paper facility's conversion to cleaner production. The capital will come first, as an offer no producer can say it was denied, and the standard will fall on a schedule set in law. The CMS will set sector-specific emissions ceilings that tighten on a defined schedule, and the RFC-financed technology is what will let producers meet each step without being crushed by it. The CMS will be technology-neutral. It will tell each sector how much to cut and by when, and let producers compete to find the

cheapest route. Sector-by-sector input from industry leaders, engineers, and workers will shape each sector's path to compliance, but Congress will set the schedule itself in law.

How the standard is enforced. Missing a ceiling will carry a cost. The sector limits and their tightening dates will be written into statute, so they stand as fixed law that a hostile administration cannot quietly relax, and putting the numbers and the schedule in the law itself is what will let the standard survive the legal challenge any major new rule now draws. The ceiling will fall on that calendar by default. A sector will be able to win a pause only by proving, with evidence, that the compliance technology and the financing are not yet available, and the burden of that proof will sit with the producer asking for the delay. Because the RFC's capital will be on the table for every plant, a producer that turns it down will forfeit the pause, so holdouts pay more. A facility over its ceiling will pay an escalating fee for every ton above it, rising each year until compliance is always cheaper than paying, and a plant that stays out of compliance will lose its eligibility for federal contracts and for the CMS-compliant procurement premium. The Environmental Protection Agency will administer the standard and the fee, and the fee revenue will flow back into RFC financing for the plants still converting. Every deadline will come paired with the capital to meet it, and the RFC will sit down with any producer, large or small, to build a transition that works. The fee falls only on producers that refuse the help.

One exception applies. Some products are regulated molecules, like an approved drug or a registered pesticide. For those, a maker cannot simply switch its raw materials or its recipe, because even a small change can force a full re-approval by the FDA or EPA that costs as much as launching a brand-new product. For those industries the standard cannot assume free reformulation. It will give them longer timelines and RFC funding for the recertification itself, so meeting the standard never means pulling a proven medicine or crop protection off the shelf.

Industrial heat: multiple clean pathways. Across all heavy industrial sectors, a huge share of emissions comes from burning fossil fuels to generate heat for kilns, furnaces, boilers, and dryers. The CMS will require clean heat, and several technologies can deliver it:

- **Fire bricks.** Thermal storage bricks that store heat up to 1,800 degrees Celsius for days to weeks, with roughly 1 percent heat loss per day, at about one-tenth the cost of battery storage. Heat the bricks when renewable electricity is cheap and abundant, and use the stored heat for industrial processes when it is not. European industrial pilots are beginning to cascade stored heat across successive lower-temperature processes, a practice the MFA will support at scale. Fire bricks are among the cheapest and most deployable clean heat technologies available today.
- **Direct electrification.** Electric arc furnaces, induction heating, resistance heating, and industrial heat pumps, all proven technologies for processes at lower temperatures. Already standard in steelmaking (the Steel chapter covers this in depth).
- **Microreactors.** Small modular nuclear reactors sized for industrial heat, always-on and compact enough to sit at or near a plant. This is the least proven option on the list, an emerging technology not yet demonstrated at wide commercial scale, so the Mission will treat it as a promising pathway that still has to prove itself. The Nuclear chapter covers the fleet order and RFC financing, and the CMS will recognize nuclear heat as a compliant route where it is available.

These pathways are matched to the temperature each process needs, and together they cover the great majority of industrial heat, which sits below about 1,000 degrees. The hardest cases are at the very top of the scale, above roughly 1,800 degrees, where refractory minerals are fused and specialty ceramics are melted. Fewer clean options exist at those temperatures, though some are in development. Green hydrogen burned in pure oxygen produces a flame near 2,800 degrees, hot enough for the job, and is being trialed in glass melting today. Concentrated sunlight focused in a solar furnace reaches even higher, above 3,000 degrees, though still only at research scale. And plasma torches, driven by clean electricity, can exceed anything else on the list. None of these is yet a mature, drop-in replacement for a fossil burner at production scale. So the Mission will deploy what is ready where it fits and fund the research to bring the rest to commercial scale.

The CMS will set the emissions ceiling. Manufacturers will choose the path forward, with generous support from the RFC.

Aluminum: a new kind of electrode. Conventional aluminum smelting works by passing electric current through a bath of molten aluminum ore using carbon electrodes (called anodes). The carbon anodes are consumed in the process, reacting with the oxygen in the ore and releasing CO2. A new technology called inert anodes replaces the carbon with a material that is not consumed in the process. The only byproduct is oxygen. The technology has been demonstrated at commercial scale. ELYSIS started a full-size cell at a Rio Tinto smelter in late 2025, and the remaining step, from one working cell to full production lines and a whole industry, is the risk the RFC financing is meant to absorb.

When the carbon comes from the chemistry. Aluminum shares this problem with a whole family of high-heat industries, where the CO2 comes from the chemistry itself and carbon is the reactant. It is fed in on purpose to pull the oxygen out of an ore, and it leaves as CO2 no matter how the furnace is heated. Lime gives off CO2 as it is baked out of limestone. Making silicon metal and ferroalloys like ferromanganese and ferrosilicon, and smelting some other metals, all burn carbon (usually coke) to strip their ores. For these, switching to clean heat changes almost nothing, because the emissions were never about the heat. So the Mission will match its approach to what each process is ready for.

Where a process gives off a concentrated, nearly pure stream of CO2, as lime kilns do and titanium-dioxide plants do to a lesser degree, carbon capture is the near-term tool, and it is far cheaper on a clean concentrated stream than on the dilute exhaust of a smokestack. The RFC will finance the capture. The hard part is moving and storing the carbon afterward. Recent CO2 pipelines have been beaten back by landowner and community opposition, and many of these plants are mid-size and scattered far from any storage site, so the cement industry's one-big-plant approach does not copy over. Where a plant sits near a viable storage hub, the RFC will finance shared pipelines and injection wells with benefit-sharing for the community, and it will fund that transport and storage as an outright public subsidy. Where a small plant is too remote to reach storage, the Mission will build it capture-ready this decade and keep funding the research, and the CMS schedule will reflect that.

Where a cleaner chemistry exists but is not yet proven, the RFC will fund the first commercial demonstrations, knowing most sit at pilot scale today. The two most promising are stripping the ore with hydrogen, and molten-oxide electrolysis, which pulls the metal out with electricity the same way the

inert anode does for aluminum. Carbon black, a fine black powder of almost pure carbon that goes into tires, inks, and coatings and is made straight from fossil fuel, has the most developed answer and already runs at commercial scale, if only at one modest plant so far. Methane pyrolysis splits natural gas into solid carbon and hydrogen, which eliminates the process CO2 and also produces low-carbon hydrogen.

A few of these, silicon metal and the ferroalloys above all, have no fossil-free route ready to deploy this decade. They will rely on carbon capture and a research push in the meantime.

The gases a carbon rule cannot see. A carbon standard counts carbon. But a few industries release gases that are not carbon dioxide and are hundreds to tens of thousands of times more warming, ton for ton, so they slip right through a CO2 rule. The Clean Manufacturing Standard will cover them in a companion category, because some of the country's worst emitters release them. Two groups matter most.

The first is nitrous oxide, nearly 300 times stronger than CO2, released when plants make nitric acid and the adipic acid that goes into nylon. This is one of the cheapest fixes in industry. A catalyst fitted to the plant's exhaust destroys most of it at modest cost, a fix already standard in parts of Europe. The CMS will require it and the RFC will pay for the retrofit.

The second is the fluorinated gases, the most potent greenhouse gases ever made. One, used to insulate electrical switchgear, traps heat more than 20,000 times as strongly as CO2 and lasts for centuries. Others are used to make semiconductors, or to run refrigerators and blow foam. Each has a substitute. The grid buildout will specify switchgear that skips the gas entirely, chip fabs will destroy their process gases on site with equipment the RFC finances, and refrigerants will move to low-warming replacements already required by law, with the Toxins chapter making sure the substitutes are not a new pollution problem. All of this can happen with today's science, once a standard counts these gases and the money is there to clean them up.

Glass and paper. Glass manufacturing can be substantially decarbonized through electric furnaces and increased use of recycled glass (called cullet in the industry). Paper and pulp can shift to biomass energy and improved process efficiency. These are smaller sectors with clearer pathways.

The smaller industries. Many smaller industries together carry a large share of industrial emissions, and the same standard and financing will reach them. Foundries and forges, the smelting of copper, zinc, and nickel, ceramics and refractories and lime, textile and dye houses, foam and mineral-wool insulation, the fine and specialty chemicals behind drugs and crop protection, chlor-alkali and PVC, and food and beverage processing, which is the largest manufacturing employer in the country, will all sit under the Clean Manufacturing Standard on a timeline their own engineers help set. Each can draw on RFC capital, with a dedicated community-lender track for the thousands of smaller plants too small for a flagship deal.

Measure carbon first. A ceiling on carbon per ton of product, and a charge on the carbon embedded in an import, both rest on the same thing, a trustworthy way to measure how much carbon is in a given product. That measurement does not exist today at the detail this needs, and building it delayed Europe's own carbon border for years. So the Mission will build it first. Alongside the Year-One supply-chain map, the RFC and the EPA will stand up a federal carbon-intensity accounting system, meaning

common measurement rules for each sector, accredited third-party verifiers, product-level certification, and a public registry of verified carbon intensities. The Clean Manufacturing Standard will measure every plant's compliance against that registry, and the carbon border cannot charge a single import until the registry can produce a verified number to charge it against.

Federal procurement pulls the market. The federal government buys enormous quantities of steel, aluminum, glass, and other industrial materials for infrastructure, military, and federal buildings. Congress will require growing percentages of federal procurement to meet CMS standards, creating guaranteed demand for clean industrial products. This is the demand signal that justifies private investment in clean production.

A carbon border adjustment. The Trump administration's 2025 trade-emergency tariffs were struck down by the Supreme Court in early 2026 and replaced by new tariffs that face their own court challenges, and no manufacturer can invest against protection that can vanish in a single ruling. The Mission's answer runs through the CMS. Once the standard sets a measured, rising clean-production benchmark for American industry, a carbon border adjustment can charge imports for the carbon embedded in them, so a dirtier foreign product no longer undercuts a cleaner American one on price. The Foreign Policy chapter builds that border adjustment. The CMS supplies the domestic standard it references. Paired with Buy-America content requirements on federally financed and procured goods, it will protect clean domestic producers as they scale, without betting the industrial base on tariffs that may not survive the next court or the next election. It will also answer cheap, high-carbon imports from China by pricing their pollution, which rewards the clean production the Mission is financing at home.

What this delivers: Binding emissions standards across all heavy industrial sectors, backed by a carbon border adjustment that references the CMS and by Buy-America procurement. Multiple clean heat pathways competing to meet them. Standards that reach past fuel emissions to the process CO2 where carbon is the reactant, and to the potent non-carbon gases a carbon-only rule would miss. Federal procurement creating a market for clean materials. A framework that the Steel and Concrete chapters inherit and apply in detail.

Solution 3: Decarbonize the Chemical Industry

The chemical industry is the single largest industrial energy consumer in the United States and one of its biggest greenhouse gas emitters.

The defining fact is the 40/60 split. Only 40 percent of the fossil fuels entering a chemical plant are burned as fuel, to generate heat, run equipment, and power processes. The other 60 percent are feedstock, meaning the carbon and hydrogen atoms in oil and natural gas literally become the product. A polyester shirt is made of oil. A plastic chair is made of natural gas. Eliminating fossil fuels from the chemical industry means changing how plants are powered and also finding entirely new raw materials for the products themselves. That second problem is far harder and will take far longer.

Over 10 years, the MFA will scale up proven chemistry in the chemical industry, faster and more broadly than any country has tried. The building blocks are demonstrated. Electrified steam crackers, membrane separations that replace distillation on the highest-value streams, and advanced recycling that turns waste plastic back into chemical feedstock all exist at pilot or early-commercial scale today. The decade's job is to drive an 80 percent cut in the industry's energy and process emissions, stand up the first commercial installations of each of these, and push as far as possible on the hardest problem, replacing fossil feedstock itself, though that work will run past the first decade of the Mission for America.

The strategy is sequenced by cost and readiness.

Step 1: Cut upstream methane leakage (Day One action). This is the cheapest first step and one of the most effective. In the fuel industry, upstream emissions from extraction, processing, and transport account for roughly 20 percent of lifecycle greenhouse gas output, and the rest is combustion. In the chemical industry, you do not combust the product. That means upstream methane leakage can account for a much larger share of a chemical product's lifecycle emissions, well above that 20 percent. And leakage in the worst basins is far higher than the national average. Nationwide, oil and gas operations leak about 2.3 percent of the gas they produce, but the Permian has been measured at around 3.5 percent, and one aerial survey of the New Mexico Permian found 9.4 percent, with methane trapping heat some 80 times more powerfully than CO2 over its first two decades. That makes cutting leakage worth more per ton for chemicals than for fuels. The One Big Beautiful Bill Act delayed the Inflation Reduction Act's methane fee to 2034 in July 2025, and EPA has since weakened its own leak-monitoring rules in a series of rollbacks. Congress will restore the fee, and on Day One EPA will begin rulemaking to restore the full monitoring rules, which the Clean Air Act already authorizes. Even the oil and gas industry broadly supports methane reduction.

Step 2: Clean electricity for chemical plants. Roughly 10 to 20 percent of a chemical facility's energy consumption is electricity. That is a large quantity in absolute terms, hundreds of megawatts for a single industrial cluster. Switching to clean electricity will use existing technology and will take new transmission and generation capacity built to serve industrial zones. The Clean Power chapter handles the grid buildout, and this chapter will ensure chemical plants are priority customers. Fertilizer production is the one exception, handled in the Farming chapter, which covers both the cleanup of fossil-hydrogen Haber-Bosch plants and the effort to reduce how much fertilizer farms need in the first place.

Step 3: Electrify the crackers and the separations. Steam crackers, the furnaces that break hydrocarbon molecules into the building blocks of plastics, solvents, and synthetic fibers, are the core of the petrochemical industry. They run on fossil fuel heat. Electrified steam crackers, powered by clean electricity, can eliminate those emissions. Membrane-based separation technologies, thin filters that sort molecules by size or chemistry, the way a coffee filter separates grounds from liquid, can replace the enormously energy-intensive distillation columns that currently boil and re-condense chemical mixtures to separate them, and those columns eat a huge share of the chemical industry's energy, on the order of 40 to 50 percent. Between electrified crackers and membrane separations, the chemical industry can reach the 80 percent reduction target. That target is measured against the plant's energy and process emissions. The carbon locked into the product itself is addressed separately below.

These technologies exist but are not yet deployed at commercial scale. The RFC will finance first-of-a-kind commercial installations through direct loans and pay-for-performance contracts, and use AMCs to guarantee purchase of the clean chemical output.

Electrifying the crackers changes what comes out of them, and the plan has to account for it. Today's crackers mostly run on naphtha, a liquid made from crude oil, and a naphtha cracker throws off a whole slate of building blocks at once. It makes the ethylene behind polyethylene plastic along with propylene, the butadiene that becomes synthetic rubber, and the benzene-family chemicals (called aromatics) behind polyester, nylon, and many solvents and pigments. Electrified crackers tend to run on lighter feedstock, which pushes them hard toward ethylene and much less of everything else. Close the old naphtha crackers without a plan and all those other industries lose their raw material overnight. So the Mission will track every building block on the slate and finance dedicated ways to keep each building block flowing as the crackers change, from making propylene on purpose, to getting butadiene from plants and recycled material, to the aromatics work flagged among the hard edges below.

Ending fossil feedstocks. The steps above address the 40 percent of fossil fuels that a chemical plant burns as fuel. The other 60 percent become the product itself. The carbon atoms in a plastic bottle and the hydrogen atoms in a bag of fertilizer came out of an oil or gas well. That is a fossil-dependence problem, because the carbon stays locked in the product unless it is later burned or breaks down. As long as the chemical industry runs on fossil feedstocks, it keeps the country tethered to fossil fuel extraction. Ending that dependence is the hardest problem in industrial decarbonization, and it will not be finished in 10 years. In the first decade the Mission will stand up the industries and prove the pathways that replace fossil feedstock, and push them as far as public money can.

Three approaches will do this work.

- **Advanced recycling.** The Oceans chapter introduces this industry as a way to process recovered marine plastic, but it matters even more here. Every ton of plastic broken back down into raw material is a ton of fossil feedstock that stays in the ground. The United States recycles only about 5 percent of its plastic today. Advanced recycling uses chemical processes to break plastics all the way back to their molecular building blocks, so it can handle the contaminated, mixed, and degraded plastic that ordinary recycling cannot. The RFC will finance it at industrial scale, but only on strict terms. It will require minimum yield thresholds, clean power for the process energy, and output limited to chemical feedstock, all binding and verified conditions of the money. These plants draw fierce and often justified opposition from the fenceline communities that have hosted a century of pollution, so the Mission will lead with plain mechanical recycling and with simply making less plastic before it reaches for the chemical route, and will hold any plant it does finance to strict air limits and community consent.
- **Kelp-based bioplastics.** An emerging renewable feedstock grown in the ocean that needs no freshwater, no fertilizer, and no farmland. It is still early-stage, carried by the Oceans and Manhattan Projects chapters, and not yet a deployable feedstock at industrial volume.
- **A crash research program for fossil-free synthetic feedstock.** Carried by the Manhattan Projects chapter, this funds the bio-based and synthetic pathways that can replace fossil inputs without driving

deforestation. Most forecasts treat it as a mid-century problem. The Mission will fund the research at wartime intensity to move that date up. The goal for the decade is a proven set of pathways with the first plants demonstrated, so the replacement can scale in the following decade.

For any of this to pay off, recycled feedstock has to win on price, and virgin oil and gas feedstock is cheap. Two policies drawn from the Oceans chapter will close that gap. A federal fee on virgin plastic will raise the price of fossil feedstock to reflect the pollution and cleanup it imposes, with its revenue helping fund the recycling buildout. And an extended producer responsibility standard will make the companies that put plastic on the market responsible for taking it back, creating a steady, paid stream of used plastic for recyclers to process. Together they will make recycled feedstock cheaper than fossil feedstock, the way procurement and the Clean Manufacturing Standard will for clean steel and aluminum. The Oceans chapter will enact the fee and the standard. The chemical plants in this chapter are where the recovered feedstock is used, so their demand decides whether the recyclers get built. The same approach applies beyond plastic. Used motor oil re-refined into base stock, reclaimed asphalt and shingles, and carbon black recovered from scrap tires are all circular streams the Mission will pull into the market the same way, each one replacing virgin fossil input.

Carbon that has to stay carbon. A set of solid carbon materials the clean economy runs on also come straight from oil and coal. The graphite electrodes that carry the current in an electric-arc steel furnace, the synthetic graphite in a lithium battery's anode, the carbon fiber in a wind blade or an aircraft, and the specialty cokes behind them all begin as petroleum or coal residues. The Mission will need more of these, because its own steel, battery, and wind missions depend on them, and today they come mostly from China, especially the industrial grades, with only the highest aerospace grades still led by Japan and the United States. Two moves answer this. The upstream program in Solution 1 builds domestic supply, treating graphite and carbon fiber as the critical materials they are. And the carbon itself gets cleaner over time. The same methane pyrolysis that decarbonizes carbon black yields a solid carbon that can feed some of these uses, recovered and bio-based carbons cover others, and where no clean precursor is ready yet, as with the needle coke behind the highest-grade graphite electrodes and the specialized precursor for aerospace-grade carbon fiber, the Mission will use a low-carbon fossil route and fund research to replace it.

The hardest cases. A few cases have no fossil-free route ready to deploy this decade. Some high-performance products, aerospace and automotive coatings above all, are locked to fossil chemistry and to safety certifications at the same time, so a clean substitute has to be invented and then re-qualified to exacting specs before it can ship. Some molecules, the fluorinated compounds at the heart of certain drugs, pesticides, and semiconductor chemicals, have no biological route even in principle, and a share of them will stay fossil-derived. And a clean, high-volume source of aromatic building blocks, the benzene-family molecules behind polyester, nylon, and many solvents and pigments, does not yet exist at commercial scale, which is the main bottleneck under a fossil-free plastics industry. Together with the asphalt binder, the titanium-dioxide reductant, silicon metal, and the ferroalloys covered earlier, these are the cases the Mission will fund research to solve.

What this delivers: An 80 percent reduction in the chemical industry's energy and process greenhouse gas emissions through a sequenced strategy that starts with the cheapest, easiest interventions and works toward the hardest. Methane controls on Day One. Electrified crackers and membrane separations at commercial scale. Advanced recycling turning waste plastic back into chemical feedstock at industrial scale, made competitive by the virgin-plastic fee and producer-responsibility standard. The first commercial pathways to fossil-free feedstock proven and demonstrated, with full replacement set to scale in the decade that follows. A chemical industry that stays globally competitive by building on the U.S. feedstock advantage.

Solution 4: The Industrial Workforce and the Automation Pivot

American manufacturing already cannot fill the jobs it has. Roughly half a million positions sit open today, and on current trends nearly 2 million could go unfilled by 2033. The Mission's own buildout, meaning new upstream plants, converted heavy-industry facilities, and first-of-a-kind chemical installations, piles fresh demand for skilled workers on top of a shortage that already exists. And the new plants often rise where the old manufacturing workforce is not, a geographic mismatch between where clean-manufacturing investment lands and where trained workers live.

Industry's own answer to the shortage is already visible, and it is automation. Facing job postings they cannot fill, roughly seven in 10 manufacturers are accelerating investment in robotics and advanced machinery to close the gap. The Mission will support that shift. A modern, highly automated plant is what lets American production match Chinese output on cost while paying American wages, and automation is often the difference between a factory that gets built here and one that does not. The Mission's task is to make sure workers move up with the machines.

Staff the buildout through the Workforce Mission. This chapter will staff its plants through the Workforce Mission's three-tier training pipeline. Employers lead the training, community and union partners come next, and public programs backstop whatever those two do not cover. It funds apprenticeships and portable credentials, pairs community colleges with specific RFC-financed plants, and covers relocation and housing where the workers and the factories sit in different places. The Workforce chapter builds that machinery. This chapter points it at the plants the Mission is financing.

Retrain workers as plants automate. Robots will take the dangerous, repetitive, and hardest-to-staff work, and incumbent workers will be retrained to run, maintain, and program them at higher pay. RFC financing for automation will carry retraining commitments, so a plant modernizing on public capital brings its existing workforce up with it. The wider guardrails on automation across the whole economy belong to the Out of Control Automation and AI Policy chapters. Here the rule is simpler. Any factory that automates with public money will also have to train the people who work in it.

Tie the financing to the jobs. Every RFC-financed facility will operate under prevailing wages, a project labor agreement, local hiring, and funded apprenticeship slots, attached as conditions of the capital, the same worker terms the other missions put on public money.

Workers at plants that cannot convert. A few sectors have no fossil-free route this decade, and some plants will close. The CMS will give a no-route sector the slowest schedule it can defend, so closure is the last resort. When a plant does close, its workers will step onto the same wage bridge and priority-hiring path the Fossil Fuels Mission built for displaced energy workers, kept whole while they retrain and moved to the front of the line for jobs through the Workforce Mission.

What this delivers: A trained pipeline into the Mission's new and converted plants, an automation strategy that raises productivity and moves workers into better jobs, and industrial financing conditioned on good jobs.

Presidential Leadership

During the campaign, the president will make the industrial case directly in the manufacturing towns the last three decades hollowed out. The country will rebuild the supply chains it gave away, and the factories that make the batteries, transformers, and materials the clean economy runs on will be built here, by American workers. The federal government will put patient capital behind the parts of the supply chain private markets will not touch, and it will hold industry to a rising clean-production standard while paying to help it get there.

During the transition, the president-elect's team will draft the legislative package for the first hundred days, covering the RFC's industrial financing authority and capitalization, the Clean Manufacturing Standard, and the federal clean-procurement mandate. The team will name the RFC's industrial director and commission the first National Industrial Supply Chain Map, so the baseline assessment can begin the moment the administration takes office. The team will convene manufacturers, engineers, and unions in the affected sectors to shape the CMS timelines before they are set, so the standard never gets ahead of the technology and the financing.

On Day One, the president will act within existing authority. EPA will begin rulemaking to restore the methane leakage monitoring rules weakened since 2025, and the executive branch will direct its agencies to begin the upstream supply-chain assessment and to prioritize existing federal financing tools for the most critical upstream gaps. What requires Congress waits for Congress. The RFC's industrial financing authority, the Clean Manufacturing Standard, and the procurement mandate will be enacted through legislation.

In the first hundred days, that package will go to Congress. It will contain the RFC industrial financing charter and capitalization, the Clean Manufacturing Standard with its sector-specific ceilings and scheduled revisions, the federal procurement mandate for CMS-compliant materials, and the restored methane fee.

Implementation will run through the cabinet. The Commerce Department will house the industrial strategy and, through the National Institute of Standards and Technology, build the carbon-intensity measurement system that the Clean Manufacturing Standard and the carbon border both depend on. The

Energy Department will run the industrial-demonstration programs and the clean-heat and reduction-chemistry work alongside the RFC. The Environmental Protection Agency will administer the Clean Manufacturing Standard, the over-ceiling fee, and the restored methane rules. The Treasury will capitalize the RFC and manage the tax credits that amplify it. The Defense Department will use its procurement power and Defense Production Act authority to anchor demand for the most critical upstream materials. And the Labor Department, with the Workforce Mission, will run the apprenticeship and retraining pipeline into the new and converted plants. A White House industrial council will keep them on one schedule, so the standard, the financing, and the workforce move together.

What the Ten-Year Mission Delivers

Foundations by Year 1 (2030)

- RFC chartered and capitalized, with the baseline assessment of upstream supply chain gaps complete and published
- First GOCO facilities for critical upstream gaps selected and breaking ground
- Clean Manufacturing Standard enacted, with sector-specific ceilings and tightening dates fixed in statute, an escalating over-ceiling fee, and EPA as the enforcing agency
- Carbon-intensity accounting system stood up alongside the supply-chain map, with common sector measurement rules, accredited verifiers, and a public registry the CMS and the carbon border both reference
- RFC industrial governance in place, including competitive selection for financing and GOCO contracts, conflict-of-interest rules, clawbacks, and a public awards-and-outcomes dashboard
- Federal procurement mandate requiring growing percentages of CMS-compliant materials
- EPA rulemaking underway to restore the methane leakage rules, with the restored methane fee enacted
- First fire brick thermal storage pilots sited and breaking ground at host industrial facilities
- Industrial workforce pipeline launched through the Workforce Mission, with the first apprenticeship cohorts tied to RFC-financed plants
- Carbon border adjustment framework enacted with the Foreign Policy chapter, referencing the CMS benchmark and sequenced to begin charging only once the carbon-intensity registry produces verified numbers

Scale Up by Year 5 (2034)

- Upstream manufacturing facilities operational for critical supply chain gaps, with domestic polysilicon, semiconductor wafer, and component production expanding
- CMS compliance underway across glass, aluminum, and paper sectors
- Clean industrial heat (fire bricks and electrification) deployed across dozens of facilities
- Chemical industry methane leakage reduced substantially

- First electrified steam crackers and membrane separation installations operational
- Non-CO2 emitters abated under the CMS: nitrous-oxide catalysts on nitric and adipic acid plants, point-of-use F-gas abatement in chip fabs, SF6-free switchgear specified for the grid buildout
- Carbothermic process emissions addressed: carbon capture on concentrated lime and titanium-dioxide streams, methane pyrolysis for carbon black, first hydrogen-reduction and molten-oxide-electrolysis demonstrations
- Second round of GOCO facilities addressing newly identified upstream gaps
- Automation-with-retraining underway across converted facilities, moving incumbent workers into higher-skill roles as plants modernize
- Byproduct supply hand-offs managed in step with the fossil retirements: biogenic food-grade CO2 capture, reclaimed-asphalt and lignin bio-binder scale-up, and the FGD-to-natural-gypsum hand-off

The Mission Delivered by Year 10 (2039)

- End-to-end domestic supply chains operational for all critical MFA inputs
- Substantial emissions reductions across glass, aluminum, and paper through CMS compliance, with the highest-emitting processes converted to clean heat, inert anodes, and electric furnaces
- The chemical industry achieving an 80 percent cut in energy and process emissions through methane controls and electrification, with upstream methane abatement counted as an additional gain on top
- Electrified crackers and membrane separations at commercial scale
- Clean industrial heat standard across all sectors
- The United States producing clean industrial materials at globally competitive prices
- Every MFA mission supplied by a domestic industrial base, from refined material to finished product
- The manufacturing labor shortage closing through the workforce pipeline and the automation pivot, with a clean-production carbon border keeping domestic producers competitive