Illinois
Department of Commerce
& Economic Opportunity

Hydrogen Economy Task Force
2024 Annual Report
to
The Illinois General Assembly

Hydrogen Economy Task Force
2024 Report

EXECUTIVE SUMMARY

The State of Illinois is strongly positioned for national leadership in building a new hydrogen economy, with a focus on the development of sustainable hydrogen fuels for transportation and the use of hydrogen to replace carbon-emitting processes in heavy industry. To find new, actionable ways to support development of hydrogen manufacturing and technologies in our state, the Hydrogen Economy Task Force was created by Public Act 102-1086 in 2022. As part of our statutory responsibilities, the Hydrogen Economy Task Force is required to provide the Governor and the Members of the General Assembly with an annual report on our activities, findings, and recommendations.

Over the past year, the Illinois Hydrogen Economy Task Force has continued its work to identify new and effective ways that our state can support this emerging industry, extend ongoing research and development efforts, and reduce the obstacles to successful deployment of hydrogen energy technologies in our state. We view hydrogen as a necessary component of a portfolio of energy technologies that can support our transition to net-zero carbon emissions while creating jobs and strengthening our economy.

During our 2024 meetings, the Hydrogen Economy Task Force repeatedly heard from stakeholders that the ongoing lack of certainty regarding the Federal government's eligibility requirements for the section 45V Clean Hydrogen Production Tax Credit was seriously hampering investment in clean hydrogen projects. The 45V credit creates a

new 10-year incentive for clean hydrogen of up to $3/kilogram, depending on the carbon intensity of the qualifying project's hydrogen production process and whether the project meets prevailing wage and apprenticeship requirements. Together with the Illinois state tax incentive of $1 per kilogram of eligible qualifying hydrogen used, these credits can make clean hydrogen projects in Illinois attractive to investors; without them, most clean hydrogen projects are not likely to be viewed as economically feasible.

Given the potential impacts that the details of the tax credit could have on the future of Illinois' hydrogen industry, both in terms of potential investment and carbon emissions, the Task Force voted to postpone publication of this report until the Federal rules were published. The final rules, which were issued on Jan. 3, 2025, set forth specific guidelines tying eligibility for the full credit to the overall carbon intensity of the hydrogen production process.

It should be noted that there are now concerns that the Trump Administration may pause disbursement of up to $9.5 billion in hydrogen grant funding, along with federal loans to hydrogen producers. At this point, it is unclear what, if any, impacts these concerns will have on clean hydrogen projects in Illinois.

Similarly, concerns have been raised about ongoing Federal funding for the Midwest Alliance for Clean Hydrogen (MachH2), which was selected by DOE in 2023 as one of seven regional clean hydrogen hubs. The hub designation carries a promised award of up to $1 billion in DOE funding to accelerate the production and use of clean hydrogen. As the Task Force moves forward, we will pay close attention to the Federal funding landscape and the impacts that any shifts may have on Illinois investors, our workforce, our environment, and our economy.

In addition to our attention on actions at the Federal level, the Hydrogen Economy Task Force also heard from stakeholders across a variety of sectors here in Illinois. Notably, we heard a report from a team from the Grainger College of Engineering at the University of Illinois Urbana-Champaign, which is developing a deployment strategy and roadmap for hydrogen fuel cell trucking in the State of Illinois. Given that fuel cell trucking represents the most economically feasible means to decarbonize freight vehicles, this effort could have a significant impact on both the economy and the environment.

We also focused attention on the complex set of challenges related to the electric power grid. As the State of Illinois works toward our goals for sustainable electric generation, any major increase in green hydrogen production may strain the capacity of our renewable energy facilities. At the same time, hydrogen also could be deployed to help solve the problem of providing grid-level storage for excess energy generated by wind and solar.

Another major issue is the challenge of making sure that Illinois workers have access to the training they will need to succeed in this new industry. The Hydrogen Energy Task Force estimates that Illinois' hydrogen industry will create 3,200 to 4,000 new jobs by 2030, with a total workforce of 24,000 by 2050. These jobs will include highly technical research and development positions, plant management, construction work, communications, sales, logistics, and a wide range of other well-paid careers. Establishing Illinois as a leader in hydrogen production and technologies will require major investments in workforce development and education, with a special emphasis on the community colleges that will bear the greatest responsibility for ensuring workers'

ability to move seamlessly into these new roles. Workforce preparation also must include safety training for first responders and other community members.

As Illinois moves forward with hydrogen, it will be important to create strong channels for reliable communications and outreach to multiple audiences, including potential investors, technology companies, advocates, policymakers, colleges and universities, community members, environmental advocates, first responders, and government agencies. This will require thoughtful, strategic, ongoing investments of time and resources, as well as collective efforts to ensure that these channels are viewed as unbiased and credible.

We also must make sure that our efforts are guided by a strong commitment to environmental justice, so the communities that have borne the greatest environmental burden see the earliest benefits. In addition, we must make equitable, long-term investments in communities that are facing challenging energy transitions, so that those most personally affected by the shift from fossil fuels have full opportunity to benefit from this burgeoning new economy.

Establishing Illinois Leadership in Hydrogen

The State of Illinois is strongly positioned for national leadership in building a new hydrogen economy, with a focus on the development of sustainable hydrogen fuels for transportation and the use of hydrogen to replace carbon-emitting processes in heavy industry. Illinois' fleet of 11 operating commercial nuclear power reactors – the most in the country – offer a substantial non-emitting source of power for hydrogen production. Our position as one of the nation's most connected hubs for transportation, distribution and logistics creates exceptional opportunities for the development and deployment of hydrogen-powered freight systems. Our vehicle manufacturers build hundreds of thousands of innovative cars and trucks here each year, creating opportunities for close collaboration with hydrogen cell manufacturers.

Our $50 billion agricultural industry offers significant potential demand for energy-efficient hydrogen-powered farming equipment, irrigation systems, and other critical applications. For example, clean hydrogen could be used to reduce carbon emissions during ammonia production by more than 90 percent; given that 88% of ammonia is used for fertilizer production, use of clean hydrogen in ammonia production could significantly reduce agricultural CO_2 emissions. Further carbon reductions could be achieved by using green hydrogen to produce urea, a wide used agricultural chemical created by combining ammonia and CO_2.

Importantly, Illinois also offers a highly trained workforce with deep experience in energy safety, along with renowned universities and research centers that are pushing the

boundaries of today's hydrogen technologies while developing the brilliant researchers who will achieve tomorrow's discoveries. The Illinois community college system also will play a vital role in training workers for green hydrogen careers.

Over the past year, the Illinois Hydrogen Economy Task Force has continued its work to identify new and effective ways that our state can support this emerging industry, extend ongoing research and development efforts, and reduce the obstacles to successful deployment of hydrogen energy technologies in our state. We view hydrogen as a necessary component of a portfolio of energy technologies that can support our transition to net-zero carbon emissions while creating jobs and strengthening our economy. We also believe that, if Illinois succeeds in fostering a thriving hydrogen industry, the positive impacts will be felt far beyond our state's borders. Our goal is to work proactively, in partnership with all stakeholders, to accelerate the pace and scale of hydrogen innovation in ways that will strongly support Illinois' transition to a sustainable, equitable energy economy.

45V Clean Hydrogen Production Tax Credit announced

Until recently, investment in this sector has been constrained by a lack of clarity around the Federal government's eligibility requirements for the section 45V Clean Hydrogen Production Tax Credit, established by the Inflation Reduction Act of 2022. The 45V credit creates a new 10-year incentive for clean hydrogen of up to $3/kilogram, depending on the carbon intensity of the qualifying project's hydrogen production process and whether the project meets prevailing wage and apprenticeship requirements. Together with the Illinois state tax incentive of $1 per kilogram of eligible qualifying hydrogen used, these credits can make clean hydrogen projects in Illinois

attractive to investors; without them, most clean hydrogen projects are not likely to be viewed as economically feasible.

For more than two years, there has been intense nationwide debate on the details of the 45Vcredit, primarily focused on the sources of electricity used to split water into hydrogen. This electrolysis process avoids greenhouse gas emission if the electricity is generated through a non-emitting energy source, such as renewable or nuclear energy. However, electrolysis that relies on power generated from fossil fuels can considerably increase demands on the electric grid and can actually result in carbon emissions that exceed conventional methane-based hydrogen production.

To avoid a net increase in carbon emissions, environmental advocates called for the 45V tax credit to include the “three pillars” of sustainable electrolytic hydrogen production: "incrementality" (also called "additionality"), "hourly matching," and "deliverability". Basically, these pillars mean that the power used to produce hydrogen must be newly built and generated by renewables (additionality), that it must be matched hour-by-hour with electricity production (hourly matching), and that it must be delivered within the same regional grid (deliverability).

During our 2024 meetings, the Hydrogen Economy Task Force repeatedly heard from stakeholders that the ongoing lack of certainty regarding the 45V tax credit was seriously hampering investment in clean hydrogen projects. Given the potential impacts that the details of the tax credit could have on the future of Illinois’ hydrogen industry, both in terms of potential investment and carbon emissions, the Task Force voted to postpone publication of this report until the Federal rules were published.

The final rules, which were issued on Jan. 3, 2025, broadly include the three pillars, requiring qualifying projects to use electricity that is:

- Generated by a clean energy plant built no more than three years before the electrolytic hydrogen project comes on line; this rule includes exemptions for nuclear power, which is critically important for projects in northern Illinois;
- Generated in the same hour that it is used by the electrolyzer (for all projects beginning in 2030 or after);
- Generated at a site within the same U.S. Department of Energy “National Transmission Needs Study” region (with a possible pathway for interregional trade).

The rules also state that, to qualify for the full credit, projects must meet prevailing wage and apprenticeship standards. This rule aligns with the prevailing wage and PLA requirements for utility-scale clean energy projects set forth under Illinois Climate and Equitable Jobs Act (CEJA).

To qualify as clean hydrogen under the new statute, the lifecycle greenhouse gas emissions of the hydrogen production process must be no greater than 4 kilograms of carbon dioxide equivalents (CO_2e) per kilogram of hydrogen produced; hydrogen produced with the lowest emissions will receive the largest credit.

The tax credit will be calculated using the U.S. Department of Energy’s 45VH2-GREET (Greenhouse gases, Regulated Emissions, and Energy use in Technologies life cycle assessment, a groundbreaking model developed here in Illinois at Argonne National Laboratory under the leadership of Task Force member Michael Wang. The GREET

tool can be used to calculate energy consumption, emissions, and environmental impact challenges for any given energy and vehicle system, across its entire life cycle.

The value of the 45V credit is increased in Illinois by the tax credit created under HB2204. This legislation creates a tax credit of $10 million per year in 2026 and 2027 for users of clean hydrogen. At the conclusion of the tax credit, the Illinois EPA will conduct a study to evaluate both the emissions impact of the tax credit and the national landscape to recommend additional policy measures.

Potential Federal funding concerns

Although the issuance of this rule was intended to "provide clarity, investment certainty, and flexibility", as the Department of Energy stated in its announcement, it should be noted that there are now concerns that the Trump Administration may pause disbursement of up to $9.5 billion in hydrogen grant funding, along with federal loans to hydrogen producers. At this point, it is unclear what, if any, impacts these concerns will have on clean hydrogen projects in Illinois.

Similarly, concerns have been raised about ongoing Federal funding for the Midwest Alliance for Clean Hydrogen (MachH2), which was selected by DOE in 2023 as one of seven regional clean hydrogen hubs. The hub designation carries a promised award of up to $1 billion in DOE funding to accelerate the production and use of clean hydrogen. As the Task Force moves forward, we will pay close attention to the Federal funding landscape and the impacts that any shifts may have on Illinois investors, our workforce, our environment, and our economy.

Hydrogen Investment

Despite uncertainties related to the Federal 45V tax credit, the State of Illinois succeeded in attracting investments in hydrogen projects over the past year. These investments demonstrate the significant opportunities for growth in the clean energy sector, as outlined *Open for Business: Illinois' 2024 Economic Growth Plan*.

Most notably, in November, the Midwest Alliance for Clean Hydrogen (MachH2) signed a cooperative agreement with the U.S. Department of Energy (DOE) Office of Clean Energy Demonstrations that secured $22.2 million in initial federal funding. That Phase 1 funding is intended to support planning, design, development, and community and labor engagement activities for the hub, which is expected to produce more than 1,000 metric tons per day of clean hydrogen at scale.

As a Regional Clean Hydrogen Hub, MachH2 represents a network of clean hydrogen production, distribution, and consumption sites across the Midwest – including sites in Illinois, Indiana, Iowa, and Michigan. The hub projects are led by nine major partners in both the private and public sectors: Air Liquide, a French multinational supplier of industrial gases and services; BP, a British multinational oil and gas company; Constellation Energy, a Baltimore-based energy company; GTI Energy, a Des Plaines, IL-based energy technology company; Invenergy, a Chicago-based power generation development and operations company; the Flint, MI Mass Transportation Authority; the - Michigan Department of Environment, Great Lakes, and Energy; the Midwest Hydrogen Corridor Coalition, a collaboration of seven states, including Illinois, that have signed an

agreement to promote decarbonization, and Nicor Energy Ventures Company (NEV), an affiliate of Naperville, IL-based Nicor Gas.

The Regional Clean Hydrogen Hubs are intended to enable large-scale clean hydrogen production in close proximity to high-priority hydrogen users, making it possible to share infrastructure. These early federal investments are expected to drive scale in production, distribution, and storage, and to leverage significant investment from the private sector.

Looking to the future, this Task Force will explore further avenues to promote private investment in Illinois hydrogen sector. One option that may reward further study is the possibility of creating a Hydrogen Exchange, modeled on commodities exchanges, to facilitate sales contracts between producers and end users. Given Chicago's long history of successful commodities markets, Illinois might be well positioned to establish the first such hydrogen trading entity.

Hydrogen Production, Storage, and Transport

At present, approximately 10 million metric tons (MMT) of hydrogen are currently produced in the United States each year, primarily for use in petroleum refining and ammonia production. However, the hydrogen market is expected to expand dramatically as hydrogen-based technologies are used to enable zero or near-zero emissions in a wide range of chemical and industrial processes, integrated clean energy systems, and transportation applications, including data centers, ports, steel manufacturing, and medium- and heavy-duty trucks.

Because hydrogen may rarely exist. naturally as a gas on earth, hydrogen is generally produced by using heat and chemical reactions to release hydrogen from organic materials, such as fossil fuels and biomass, or by using electricity to split water (H2O) into hydrogen (H2) and oxygen (O2) gas, a process known as electrolysis.

Green, blue, gray, and pink hydrogen

The manufacturing methods used to produce hydrogen fuels determine their carbon intensity, or “carbon footprint”. Although there are no chemical differences in the actual hydrogen gas end product itself, no matter how it is produced, the energy industry uses a series of color codes to refer to types of hydrogen based on the energy sources used to produce them. The most common types are green, blue, gray, and pink.

- Green hydrogen is made by using clean electricity from renewable energy sources, such as solar or wind power, for electrolysis, creating hydrogen gas with no carbon emissions.

- Blue hydrogen is produced mainly from natural gas (methane), using a process called steam reforming, which brings together natural gas and heated water in the form of steam to produce hydrogen, with carbon dioxide as a by-product. Blue hydrogen production includes carbon capture and storage (CCS).
- Pink hydrogen is generated through electrolysis powered by nuclear energy.
- Gray hydrogen is created from natural gas, using steam methane reformation but without capturing the greenhouse gas byproducts. This method, which is the most common and the least costly, generates about 10kg of CO2 equivalent GHG emissions for every kg of hydrogen produced.

The greatest challenge to clean hydrogen production is cost. The U.S. Department of Energy's Hydrogen and Fuel Cell Technologies Office is focused on developing technologies that can produce hydrogen at $2/kg by 2026 and $1/kg by 2031 via net-zero-carbon pathways, in support of the Hydrogen Energy Earthshot goal of reducing the cost of clean hydrogen by 80% to $1 per 1 kilogram in 1 decade ("1 1 1").

The "color" of hydrogen production is highly correlated with the region in which it is produced, based primarily on the most prevalent regional energy sources. The DOE hydrogen hubs in California and the Pacific Northwest are focused on making green hydrogen, for example, while MachH2 has plans for products that will include green, blue, and pink hydrogen. For example, one blue hydrogen project currently under evaluation by BP for its plant in Whiting, IN would use autothermal reforming of natural gas and renewable natural gas with carbon capture and sequestration. The BP-produced hydrogen would be used for power generation, refining and industrial feedstock, and steel production. Constellation has proposed building the world's largest

nuclear-powered hydrogen production facility in LaSalle IL, producing an estimated 33,450 tons of pink hydrogen annually.

Transportation and Storage

One of the major constraints on increasing hydrogen production is the issue of transporting and storing the gas. At present, most hydrogen currently produced in Illinois is used on-site. Nationally, hydrogen may be produced near the end-user or moved through a 1,200-mile pipeline in the Gulf Coast to a variety of fuel and chemical producers.

Expansion of hydrogen production will require multi-modal commercial transportation – in pipelines as compressed gas, by truck or railcar as a cryogenic liquid, and by truck as a compressed gas in cylinders ("tube trailers"). Pipelines offer the highest capacity and are generally the most economical way to transport large and continuous quantities of hydrogen between regional supply and demand centers. Significant infrastructure investments will be needed to assure adequate transportation and delivery capacity as hydrogen production increases.

To be stored at scale, hydrogen must be placed under high pressure at low temperatures, either in insulated tanks or underground in naturally occurring geologic formations. Geologic storage in underground formations or unused mines is currently being investigated by the State Geological Survey and GTI Energy, with plans for a working model by 2026. As new hydrogen storage technologies are developed, environmental and safety impacts must be considered, with appropriate monitoring systems. These are critical issues, as storage ultimately may become the most difficult

component of hydrogen development in Illinois if a safe and reliable method is not secured.

Carbon Capture and Sequestration

Related questions regarding production constraints and sustainability are raised by the production of blue hydrogen, which requires carbon capture and storage (CCS).

A CCS operation at ADM's Decatur facility, the nation's first major project of its kind, was paused in October after the company detected a potential leak deep underground. The project, a carbon injection well, pumped liquified carbon dioxide deep underground for permanent storage. The future safety of this project is especially critical given that a large number of proposed carbon sequestration wells have been proposed in Illinois, where the Mt. Simon sandstone formations have been identified as particularly suitable for holding sequestered carbon dioxide.

Another large pilot CO2 capture project is under way at the City Water, Light and Power (CWLP) plant in Springfield. The $80 million project, which broke ground in December 2023, is the largest of its kind in the world and is led by the University of Illinois, in partnership with the Linde Group, BASF Corporation, Affiliated Engineers, Inc., Affiliated Construction Services, Inc., and Visage Energy. The 10-megawatt-electric (MWe) capture system, which is expected to being operations in March 2025, is designed to capture 200 metric tons of CO2 daily. Separately, the Illinois State Geological Survey's Subsurface Energy Resources section is conducting a testing project on the CWLP site to assess the efficacy of trapping CO2 deep underground. Following regulations by the

Illinois Department of Natural Resources, the project will focus on drilling a test well and studying the rock sample and will not involve injecting carbon dioxide into the ground.

To improve CCS safety, the General Assembly in May 2024 passed the SAFE CCS Act, which establishes a comprehensive regulatory framework for the development of carbon capture and sequestration (CCS) projects. The Act, which was signed into law in July, sets out a number of environmental protection and safety provisions, including:

- "Do No Harm" Mandates: CCS projects must demonstrate that they will not result in a net increase in potential emissions of the six pollutants regulated under the Clean Air Act's National Ambient Air Quality Standards.
- Emergency Response and Training: Operators are required to have emergency response plans and provide training to ensure preparedness for incidents such as fluid or carbon dioxide release.
- Long-Term Monitoring: Developers of carbon capture projects must obtain state permits that require ongoing safety monitoring and post-injection site care for a minimum of 30 years.

Decarbonizing Manufacturing

Hydrogen can play a key role in decarbonizing a number of high-emitting manufacturing processes that are important to Illinois' economy and that cannot be substantially abated by improved energy efficiency or converted to electric power. A shift to hydrogen for these industrial processes would yield important environmental benefits, especially for nearby communities that currently bear an outsized and inequitable share of these processes' environmental impacts.

Chemical Manufacturing and Fertilizers

Chemical manufacturing in Illinois generates more than $40 billion worth of chemistry products each year, including fertilizers and other chemicals that are considered crucial to agriculture. One of the most widely used – and difficult to decarbonize – chemical processes is ammonia production, a carbon-intensive process that uses natural gas as a feedstock. Currently, 2.8 tons of CO2 are produced for every ton of ammonia; worldwide, ammonia production is responsible for about 1.5% of global CO2 emissions, because the process uses gray hydrogen with no carbon capture. Conversion to clean hydrogen, either by replacing the steam reforming process with autothermal reforming to facilitate CO2 capture and sequestration or by electrolysis using renewable energy, would reduce ammonia-related carbon emissions by more than 90 percent.

The vast majority of ammonia produced – more than 80 percent – is used in fertilizer manufacture. Ammonia binds airborne nitrogen, the most important crop nutrient, and makes it available to plants. Here in Illinois, our 11 million acres of corn crops receive an average of 172 pounds of nitrogen per acre each year, so the positive environmental

impacts of decarbonizing ammonia production for agricultural uses would be considerable.

Illinois also has an opportunity to lead in the development of an ammonia market for clean hydrogen, creating an additional opportunity for the Midwest Hydrogen Hub to connect with end users throughout the region.

Cement

Another potential decarbonization opportunity can be found in the manufacture of cement – the main component in concrete, the second-most consumed resource in the world, after water. Cement manufacturing is extremely heat-intensive, with 0.6 tons of carbon emitted for every ton of cement produced. As a result, cement production accounts for up to 7 percent of global CO2 emissions.

Conversion from fossil fuels to green and blue hydrogen for heating could markedly decrease carbon emissions from cement production. However, burner redesign would be necessary to accept hydrogen fuels, even if the necessary volume of clean hydrogen was available. A more achievable option, at least in the short term, could be hydrogen injection, a blend of hydrogen and fossil fuels that would not require full-scale burner redesign.

At present, cement manufacturing in Illinois is a $250 million industry, so conversion to hydrogen could have a significant impact here.

Fueling Heavy-Duty Vehicles

Freight transportation is central to the Illinois economy. We sit at the heart of the U.S. interstate highway system, with 2,169 miles of highway within our borders. I-80 and I-90 are the nation's most-traveled interstate highways, both in terms of average annual traffic volume and the value of cargo transported. The combined value of Illinois truck shipments is expected to exceed $889 billion this year, with an anticipated increase to $1.1 trillion by 2040.

The volume of freight carried by Illinois' heavy-duty trucking industry, combined with our exceptional rail freight capabilities, have made Illinois a national leader in logistics. The size of our freight trucking industry also makes Illinois a likely proving ground for hydrogen-fueled medium-duty and heavy-duty vehicles, which account for less than 5% of the vehicles on the road but produce more than 20% of transportation-related emissions.

The health impacts of the carbon dioxide and other pollutants emitted by the exhausts of freight vehicles are especially severe in communities sited near major interstate highways and industrial areas. These areas are often under-resourced, which compounds the adverse health effects of transportation-related pollution. The quality of life for nearby residents would be greatly enhanced by the heavy-duty fleet's conversion from fossil fuels to hydrogen-powered vehicles, whose exhausts consist primarily of water vapor.

But while hydrogen may provide a practical, healthier alternative to fossil fuels for trucks and buses, there are a number of significant constraints and barriers preventing

widespread deployment. These include an immature market, insufficient production capacity, workforce limitations, hydrogen fuel costs, lack of codes and standards, lack of government incentives, and scarce access to land, especially in urban areas. The State of Illinois can help to address these roadblocks through a combination of legislative actions, grants and loans to hydrogen producers, pilot projects focused on fueling stations, and outreach to potential partners.

Cost-related bottlenecks

The high costs of hydrogen fuel cell-powered trucks relative to diesel-fueled freight vehicles pose the most obvious obstacle to conversion of the fleet. A 2022 study by the Department of Energy's Vehicles Technologies office, found that a hydrogen fuel cell-powered heavy-duty truck costs an average of $265,500 – 66% more than a comparable diesel-fueled vehicle. That higher price was due primarily to additional costs of hydrogen storage, fuel cells and additional powertrain components in the vehicle.

In addition to their high prices, hydrogen vehicles are also scarce in the market. The effort to expand hydrogen fuel cell-powered truck availability suffered a setback in December when Hyzon, a hydrogen fuel cell system manufacturer and technology developer, announced plans to lay off all workers at its facilities in Bolingbrook IL and Troy MI. The company cited its inability to raise funding amid uncertainties related to government subsidies –most notably the California Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project – which Hyzon blamed for customers' decisions to slow down or suspend purchasing decisions. Hyzon had been primarily focused on deploying its fuel cell technology in heavy-duty commercial vehicles in Class 8 and refuse collection vehicles.

Beyond the initial purchase price, a 2024 study by a private energy consulting group looked at operating costs for heavy (Class 8) trucks, which typically can carry around 15 tons of cargo, covering up to 1,000 miles a day, with a range of roughly 1,500 to 2,000. miles between fueling stops. The analysis noted that the cost of cleanly produced hydrogen fuel is roughly 2.5 times greater than the cost of diesel. Beyond that, the analysis included additional costs related to accessing currently scarce hydrogen fuel stations. Overall, the study estimated that the total operating costs for hydrogen trucks are about 75% higher than their diesel counterparts in the United States.

The cost barriers to conversion from diesel to hydrogen go beyond buying and operating individual vehicles. The high costs for installing hydrogen refueling stations at truck stops pose another barrier, especially as long-distance freight hauling crosses state lines and requires interstate coordination.

Another, less obvious financial constraint relates to weight limits for trucks traveling on interstate highways, as set by the U.S. Department of Transportation Federal Highway Administration. The Illinois Manufacturers' Association reported that efforts to transition to hydrogen fuel cell trucks can be hampered by the trucks' increased weight – about 5,000 pounds more than comparable diesel-fueled vehicles. As a result, the trucks' payload must be reduced by 10 to 15 percent to meet federal maximum standards for vehicle weights, requiring more trips to transport the same amount of freight. To address this issue, the American Trucking Association has advocated for a change in federal law that would provide a 2,000-pound weight exemption to hydrogen-powered vehicles, similar to the exemption currently enjoyed by both battery-electric and natural gas-powered heavy-duty trucks.

Hydrogen Fuel Accessibility

Another major bottleneck is created by the lack of access to cleanly produced hydrogen itself. Because green and blue hydrogen technologies are immature, with manufacturing still in its early stages, there is a limited amount of hydrogen available for fuel. Beyond that, there also are constraints related to the lack of hydrogen infrastructure for refueling.

The challenge of infrastructure development is further complicated by the potential need to harmonize siting of refueling stations for passenger cars, given that different pressures are required to dispense hydrogen to passenger cars and heavy-duty trucks. While it is likely that the two types of refueling stations could be integrated, there are currently no clear plans for this type of infrastructure.

Establishing a Market

Many of the roadblocks to conversion of heavy-duty trucking to hydrogen stem from the “chicken and egg” nature of the problem: The small number of hydrogen trucks currently on the road limit the demand for infrastructure expansion, and the lack of hydrogen refueling sites deters conversion from diesel to hydrogen. Creating “critical mass” will require a major fleet owner to purchase a large number of hydrogen fuel cell-powered trucks and establish its own refueling centers. For example, a large municipality (such as the City of Chicago) could replace its fleet of garbage trucks with hydrogen vehicles, building a handful of fueling stations in key locations. This initial foothold could be expanded to include fueling stations sited every 100 to 200 miles along interstate corridors. With this level of fuel distribution and dispensing, 1,000 vehicles could be

enough to establish a stable market in Illinois. By creating economies of scale and reducing obstacles to energy transport and storage, it will be possible to reduce costs across the entire supply chain

Creating a Hydrogen Fuel Roadmap

To address these challenges, a team from the Grainger College of Engineering at the University of Illinois Urbana-Champaign is in the process of developing a deployment strategy and roadmap for hydrogen fuel cell trucking in the State of Illinois.

A key component of the roadmap is a plan to create an I-80 hydrogen corridor from New York/New Jersey ports to Chicago that leverages the new clean hydrogen production capacity of MachH2, the Appalachian Regional Clean Hydrogen Hub (ARCH2), and the Mid-Atlantic Clean Hydrogen Hub (MACH2). The hydrogen production facilities located near I-80 are expected to provide sufficient quantities of hydrogen for refueling stations to create the economy of scale needed to support fuel cell trucks. This corridor, which will require regional public-private partnerships and multi-state memorandums of understanding, is intended to support a multi-state network of refueling stations supplying enough hydrogen to achieve price parity with diesel. It also will work to keep costs low by siting high-volume refueling stations in close proximity hydrogen production facilities.

The roadmap will address predictions and expectations for hydrogen demand, electricity generation, availability of renewables, etc. to quantify the dynamic interaction between hydrogen demand, electric grid capacity, and electricity demand. In addition, the roadmap will identify and develop potential state and regional incentives that could

contribute to funding Illinois' hydrogen economy, as well as changes in policy and regulation necessary to remove roadblocks and encourage expansion. The plan also will provide design and development parameters for future facilities that will assure interoperability as hydrogen technologies are deployed across multiple sectors.

It is hoped that the roadmap and its implementation will reduce uncertainty and risks associated with hydrogen-fueled transportation, fleet sizing and utilization, and will help to balance clean electricity generation requirements with hydrogen production capacity and on-site storage.

Although the roadmap is focused on the future, it is important to stress to stakeholders and to the public at large that reliable, functional hydrogen vehicles are already available in the market, and that infrastructure investments are ongoing. California's hydrogen hub, the Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES), is moving forward with plans to build more than 60 hydrogen fueling stations to enable 5,000-plus Class 6-8 hydrogen fuel cell-powered trucks, as well as 1,000 hydrogen buses.

Hydrogen and Public Transit

Conversion of heavy-duty vehicles to hydrogen must include development and deployment of hydrogen-powered municipal bus fleets. Illinois is already a leader in this effort; the Champaign-Urbana Mass Transit District is the first transit agency in the nation to deploy hydrogen-powered buses fueled entirely from sustainable sources. The Champaign-Urbana project includes a dozen hydrogen fuel cell electric buses that use hydrogen to generate electric power, a 5,500-panel solar array that produces electricity,

and a fuel production station that uses solar-produced energy for electrolysis, splitting water into hydrogen and oxygen.

MTD's hydrogen fuel cell electric buses are electric vehicles that use compressed hydrogen as an energy source. Each bus is equipped with a fuel cell that acts as a continuous battery charger to extend vehicle range. Fuel cells are more compact and lightweight than batteries with equal power. In addition, fuel cell electric buses can be refueled in 10 minutes, while recharging large battery packs can take as long as six hours. The MTD's fuel cell electric buses can drive up to 300 miles on a single refueling.

The MTD, which retired its last conventional diesel-powered buses in 2023, has offered to serve as a technical resource for other Illinois agencies considering conversion to hydrogen-power buses. The Task Force also heard information about Philadelphia's SEPTA (Southeastern Pennsylvania Transportation Authority) system, which is adding 10 hydrogen fuel cell buses to its fleet in a pilot program to help determine the role hydrogen could play in achieving zero-emissions public transit.

Generating Capacity, Storage, and the Power Grid

The development of a clean hydrogen economy in Illinois must include resolution of a complex set of challenges related to the electric power grid. As the State of Illinois works toward our goals for sustainable electric generation, any major increase in green hydrogen production may strain the capacity of our renewable energy facilities. At the same time, hydrogen also could be deployed to help solve the problem of providing grid-level storage for excess energy generated by wind and solar. These issues are further complicated by the lengthy lead times required to bring new sustainable energy generation facilities online.

Increasing demand

Producing hydrogen by electrolysis consumes a large amount of energy. Electrolysis currently has an energy efficiency of about 60% to 70%, which means that the hydrogen generated holds about 60% to 70% of the energy used to create it. Storage and transport of hydrogen may lead to more loss, and there are further energy losses when hydrogen is converted back to electricity in a fuel cell application. All in, the “round trip” efficiency of hydrogen fuel currently can be as low as 30 to 40 percent. So the electricity inputs required for hydrogen production at scale would be very large, and the environmental benefits of the hydrogen fuel produced would have to be balanced against the green electricity used to make it.

The concern that hydrogen production might cannibalize the existing supply of renewably generated electricity led to the “incrementality" (or "additionality") pillar of the

45V tax credit rules, under which the power used to produce hydrogen must be newly built and generated by renewable sources.

The increased power demands posed by hydrogen production, while concerning on their own, cannot be considered in a policy vacuum. A report released by the Department of Energy in December 2024 found that the energy load consumed by data centers has tripled over the past decade – and is projected to double or triple again by 2028. Those predictions of dramatically increased power demands for data centers reflect the steep and ongoing rise in energy-hungry AI platforms and services.

Even with current demand, significant new sustainable generating capacity will be needed to meet the Illinois renewable portfolio standard (RPS) goal, which calls for half of all electricity sold to come from renewable sources by 2040. A sizeable increase in demand would necessitate a swift expansion of renewable generation that may be difficult to achieve. The construction of new clean energy facilities can take several years, due in no small part to delays related to regulatory issues and permitting, as well as the wait time needed post-construction to connect those new sources to the power grid. Hydrogen production projects that seek the maximum tax credit under 45V could face extended timelines related to construction of renewable energy installations, which could diminish much of the value of the 10-year credit.

The Task Force also noted that, while the additionality requirement creates incentives for renewable energy projects on a national level, it does not take into consideration the progress that has been made in Illinois to bring renewable sources into our energy portfolio. So, paradoxically, states that have made lesser commitments to clean energy might be able to offer more flexible and attractive opportunities for hydrogen

investments under 45V. However, these energy equations could shift if novel, highly efficient electrolysis technologies currently under development become commercially available.

Grid constraints

Beyond the potential need for new generating plants, the projected increase in energy demands over the next five to 10 years will impose additional strains on Illinois' electrical grid. Making sure our state's power infrastructure is adequate, reliable, and robust will require expanded transmission capacity to bring new generation online and to transfer electricity within Illinois and throughout the region. Deployment of grid enhancements will be costly and time-consuming, and supply chain availability may delay necessary upgrades.

Nuclear fleet

Illinois' large nuclear fleet provides a great asset for industrial-scale production of green hydrogen without drawing on renewably generated power; that capability must be balanced against the need to dedicate nuclear generation to the grid, especially as demand increases. Some of that generating capacity could be replaced by small modular reactors (SMRs), which would be permitted under Public Act 103-0569, which was signed into law in December 2023. The SMRs authorized by the law are limited to no more than 300 MW, much smaller than the existing reactors, although multiple reactors may be constructed on a single site. The law also allows the governor to commission a comprehensive study of nuclear power in Illinois, including permitting issues, water use, energy market impacts, and environmental and health risks.

Energy Storage

Although clean hydrogen production at scale could impose a heavy load on the power grid, it also could help to solve the problem of energy storage posed by renewable generation. Electrical power has no “shelf life”; electricity moves almost instantaneously from generation through distribution to consumption, which requires a delicate balance between supply and demand. Nuclear, coal, and natural gas generating plants can be controlled to adjust to peak levels of demand, but solar and wind power generate electricity when the sun shines and the wind blows, regardless of demand. As a result, the rise of renewable energy has driven the need for grid-scale electrical storage, to capture that energy for future use and improve overall grid stability for a more reliable, cost-effective power system.

Battery storage systems could be used to store renewably generated electricity during off-peak times, but grid-scale technologies for are immature and relatively inefficient. Large battery systems also are expensive to produce and can pose serious environmental concerns related both to manufacture and disposal at the end of their useful life.

Hydrogen storage may offer a complementary solution. Excess renewable energy can be used in electrolysis to produce green hydrogen, which can then be stored underground under pressure. As required, the hydrogen fuel can be used in fuel cells to create electricity. While this multi-step process does not offer the immediate energy release of battery storage, it raises fewer environmental concerns relative to the impacts of battery production and disposal. Even though batteries do offer greater energy

efficiency, hydrogen's higher energy density offsets a portion of its lower efficiency relative to battery storage.

Current costs of grid-level hydrogen storage are significantly higher than batteries per kWh, due to the higher infrastructure costs associated with hydrogen production and storage, including specialized tanks and cryogenic cooling needed for liquid hydrogen. However, hydrogen has the potential to store energy for significantly longer periods of time than currently available grid-level batteries.

The Illinois Commerce Commission (ICC) is currently hosting a series of energy storage procurement workshops to better address rising energy demand and support Illinois' energy transition as outlined in CEJA.

Building a Hydrogen Workforce

Establishing Illinois as a leader in hydrogen production and technologies will require considerable investments in workforce development and education, with a special emphasis on the community colleges that will bear the greatest responsibility for ensuring workers' ability to move seamlessly into these new roles. These efforts should prioritize outreach to workers transitioning from Illinois' oil and gas industries, whose skills are directly transferable to work in the hydrogen space. Workforce preparation also must include safety training for first responders and other community members.

The Hydrogen Energy Task Force estimates that Illinois' hydrogen industry will create 3,200 to 4,000 new jobs by 2030, with a total workforce of 24,000 by 2050. These jobs will include highly technical research and development positions, plant management, construction work, communications, sales, logistics, and a wide range of other well-paid careers. In addition to these permanent jobs, the establishment of the hydrogen industry infrastructure will create steep demand for highly skilled construction workers, such as metal workers, assemblers, plumbers, pipefitters, and electrical workers.

To make sure Illinois' workforce is ready to make the most of these new opportunities, it will be important to design job training and continuing education programs and forge academic partnerships that will focus on connecting the hydrogen industry with skilled, well-prepared workers. These new jobs present an important opportunity for the state of Illinois to leverage the clean energy transition in ways that open doors for people in

historically underinvested communities while strengthening the entire statewide economy.

CEJA and hydrogen

Illinois' commitment to expanding the hydrogen industry is strongly aligned with the goals of the Climate & Equitable Jobs Act (CEJA), signed into law in 2021. CEJA includes provisions to phase out carbon emissions from the energy and transportation sectors by 2045. The Act includes very significant public and private investments in workforce training, with an emphasis on supporting workers who live in under-resourced communities or who have lost jobs in the fossil fuels industry.

CEJA establishes the Clean Jobs Workforce Network Program, which consists of 13 workforce hubs run by community-based organizations to provide clean jobs training and a career pipeline for participants. This program requires use of a standard Clean Jobs Curriculum Framework, which covers training, certification preparation, job readiness, and skill development (including soft skills, math skills, and technical skills.) The curriculum framework also identifies a set of required core cross-training competencies and recommends best practices to ensure equity and cultivate safe, dynamic, enjoyable, successful working environments for all.

The Clean Jobs Workforce Network Program offers great potential to provide training and support for the hydrogen workforce. At the same time, the CEJA hub locations are legislatively defined, which means they may be relatively distant from hydrogen production and manufacturing facilities. There also may be some aspects of the Clean Jobs Curriculum Framework that are not relevant to hydrogen-specific workforce needs,

or that do not address important aspects of hydrogen workforce training. Over time, it will be important to make sure CEJA training programs have the flexibility to evolve to meet hydrogen workers' educational needs.

CEJA also established the Illinois Climate Works Pre-Apprenticeship program, which recruits, prescreens, and provides pre-apprenticeship skills training to candidates from underrepresented populations and Environmental Justice Communities, at no charge. The program is designed to develop a qualified, diverse pipeline of workers prepared for careers in the construction and building trades and clean energy job opportunities. Upon completion of the program, participants will be connected to apprenticeship programs in the construction and building trades.

This Climate Works Pre-Apprenticeship Program provides candidates with financial support through the Energy Transition Barrier Reduction Program, which offers funding for stipends, childcare, transportation, driver's education fees, textbooks, tools, and other upfront costs associated with joining an apprenticeship program.

Labor standards

CEJA includes several provisions designed to protect wage levels for clean energy workers. It requires project labor agreements on all utility-scale wind and solar projects and prevailing wage on all non-residential wind and solar projects (except for projects up to 100 kw on houses of worship) that receive incentives through programs run by the Illinois Power Agency.

Although these stipulations in CEJA do not specifically address hydrogen projects, there is a similar requirement under the 45V tax credit guidance. To qualify for the full credit, a

project must meet prevailing wage and apprenticeship requirements during construction. The guidance does not specify wage limitations for employees once the project is operational.

To assure that future jobs in the hydrogen industry are well-paid, the State of Illinois may consider enacting sector-specific labor protection requirements, such as project labor agreements and prevailing wage and labor neutrality agreements.

Training and education

To prepare Illinois workers for the wide range of opportunities created by the clean hydrogen industry, our universities and community colleges will need to develop training programs that will address specific educational gaps and support upskilling and reskilling.

New curricula may be needed to assure students' familiarity with hydrogen-related topics. Course topics might include fuel cell technology, electrolyzer operation, and hydrogen safety protocols. At the university level, ongoing professional development activities and targeted instruction will be useful to support the expertise and career advancement of research and technical staff.

MachH2's community benefit commitments include partnerships with community colleges and universities for workforce development. To achieve the goals of these partnerships, it will be essential for Hub leadership to provide community colleges with clear and realistic timelines for future hydrogen workforce expansions. This information will be needed to enable timely development of industry partnerships for determining certifications, credentials, and degrees needed for hydrogen workers and to create and

shape curricula for both existing and new programs. These community college programs will include highly targeted Career & Technical Education (CTE) courses, which offer high-quality workforce education within an academic, technical, and real-world skills training framework.

Given the broad range of hydrogen technologies and related work opportunities, leaders of education programs – especially at the community college level – will benefit from robust connections with local hydrogen firms to identify gaps and promote skill-matching. The Illinois Manufacturing Excellence Center (IMEC), which serves as the state's U.S. Department of Commerce NIST Manufacturing Extension Partnership center, has offered to serve as a clearinghouse for community colleges that are seeking advisory committee members with expertise in hydrogen and other clean technologies.

Hydrogen training for first responders

Special training will be necessary for first responders in communities located near hydrogen facilities, to ensure that emergency response personnel understand the safety issues specific to hydrogen. It also will be important to extend education efforts to community members, to prevent unreasonable fears and potential opposition based on misconceptions about the relative safety of hydrogen production and use. These training and outreach programs will need adequate ongoing funding, as well as some level of oversight to make sure the curricula are factual and comprehensive. It will be important to make sure that these curricula are readily accessible to all regional fire departments, law enforcement, emergency room workers, paramedics, and any other first response agencies. Regular retraining will be needed to make sure all personnel understand appropriate precautions.

Outreach and Communications

As Illinois moves forward with hydrogen, it will be important create strong channels for reliable communications and outreach to multiple audiences, including potential investors, technology companies, advocates, policymakers, colleges and universities, community members, environmental advocates, first responders, and government agencies. This will require thoughtful, strategic, ongoing investments of time and resources, as well as collective efforts to ensure that these channels are viewed as unbiased and credible.

Creating a Single Portal

Development of a central, integrated, “one stop shop” to provide information could be extremely useful for stakeholders. A review of some sites in other states could provide a starting place for development of an Illinois hydrogen portal:

- One model might be found in The California Hydrogen Business Council (CHBC) website, https://californiahydrogen.org. CHBC is a membership-based trade association that brings together 110 companies, agencies, and individuals involved in the business of hydrogen, including auto manufacturers, bus and heavy-duty vehicle manufacturers, electrolyzers, fuel cell manufacturers, utility companies, government agencies, and non-profits. The website strongly reflects the association’s mission, “to inform policymakers and stakeholders on the substantial benefits of hydrogen and to develop and advance policy positions that support the commercialization of hydrogen in the energy and transportation

sectors to achieve California's climate, air quality, and decarbonization goals." However, the site's narrow focus does not address some issues of importance to the broader community, such as environmental justice or emergency response guidance.

- The website for California's DOE Hydrogen Hub, The Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES), https://archesh2.org/, takes a broader approach in terms of topics covered. Notably, the website includes a page titled "Commitment to Community, Energy and Environmental Equity and Justice," which stresses the hub's commitment to prioritizing projects "that directly result in cleaner air for impacted communities, and ensure real community involvement at all levels and genuine economic opportunity for all." The site also includes some general white papers related to California's energy hydrogen market. Because the site is limited to content from the Hub's partners and affiliates, however, it does not attempt to serve as a single portal for all things hydrogen in California.
- The Texas Hydrogen Alliance website, https://texashydrogenalliance.org/, is similar in mission to the California Hydrogen Business Council's site, in that it seeks "to broaden and enhance the understanding of opportunities for hydrogen in Texas and advocate for reshaping the State's policy and regulatory framework to expedite the adoption of hydrogen technology." Beyond that, the site offers a comprehensive educational component, such as a section on "Hydrogen-Fuel Cell 101."

Additionally, Italy's hydrogen website was created and hosted by Serintel, an oil and gas company. The site offers information on a wide range of hydrogen issues and technologies, targeting private energy companies, jobseekers, educational institutions, and research and development organizations.

To be effective, development of the hydrogen portal must be accompanied by an ongoing public education and outreach campaign, to ensure that this important sector is not hampered by skepticism and opposition fueled by misinformation. MachH2 will be important to this effort, both by serving as an honest broker of hydrogen information and by providing access to partners and affiliates who can amplify these messages to their own stakeholders throughout the Midwest. To be most effective, leadership of this campaign should include communications professionals who can make sure that messaging is clear and appropriate to key audiences, and who can maximize the impacts of all channels.

In addition to broad communications to the general public, it would be useful for the state of Illinois to exercise its power as a convener to bring together industry leaders, researchers, and investors from across the country. A well-attended annual hydrogen conference in Chicago would make a strong statement about Illinois' leadership in this space.

TASK FORCE RECOMMENDATIONS

- Create a “no wrong door” system within Illinois government for companies interested in investing in or setting up hydrogen operations with the state. This could involve creating an information center of some type within an existing DCEO office to provide expert guidance to interested parties and also serve as a source of factual information and subject matter training for DCEO regional managers and other state officials.

- Increase funding for community colleges to support curriculum development for early hydrogen training programs, in appropriate phases to implement training. This will require input from MachH2 partners and affiliates, to assure that curricula align with current needs and best practices. Additional support would enable creations of multiple entry points along the Illinois higher education continuum to deliver advanced skills, reskilling, and upskilling for hydrogen workers.

- Use the State of Illinois’ power as a convener to host national, statewide, and regional industry collaboratives with leaders in hydrogen technologies. Establishing a well-regarded annual hydrogen conference in Chicago would make a strong statement about Illinois’ leadership in this growing industry.

(20 ILCS 4122/) Hydrogen Economy Act.

(20 ILCS 4122/1)

(Section scheduled to be repealed on June 1, 2026)

Sec. 1. Short title. This Act may be cited as the Hydrogen Economy Act.

(Source: P.A. 102-1086, eff. 6-10-22.)

(20 ILCS 4122/5)

(Section scheduled to be repealed on June 1, 2026)

Sec. 5. Hydrogen Economy Task Force.

(a) The Hydrogen Economy Task Force is hereby established.

(b) The Task Force shall consist of the following members:

(1) one member of the Senate, appointed by the President of the Senate;

(2) one member of the Senate, appointed by the Minority Leader of the Senate;

(3) one member of the House of Representatives, appointed by the Speaker of the House of Representatives;

(4) one member of the House of Representatives, appointed by the Minority Leader of the House of Representatives;

(5) one member representing the Governor's Office

of Management and Budget, appointed by the Governor;

(6) one member representing a statewide labor organization, appointed by the Governor;

(7) one member representing a national laboratory that researches alternate fuels, energy, and environmental impacts, appointed by the Governor;

(8) one member from the Office of Energy, appointed by the Director of the Illinois Environmental Protection Agency;

(9) one member representing local economic development interests, appointed by the Director of Commerce and Economic Opportunity;

(10) one member representing a trade association, appointed by the Director of Commerce and Economic Opportunity;

(11) one representative of a manufacturing association, appointed by the Director of Commerce and Economic Opportunity;

(12) one representative of a community-based organization that supports environmental justice communities, appointed by the Director of Commerce and Economic Opportunity;

(13) one member representing the University of Illinois Institute for Sustainability, Energy, and Environment, appointed by the President of the University of Illinois System;

(14) the Director of the Illinois Power Agency or

his or her designee;

(15) the Chairman of the Illinois Commerce Commission or his or her designee;

(16) the Director of Commerce and Economic Opportunity or his or her designee;

(17) the Director of Natural Resources or his or her designee;

(18) the Secretary of Transportation or his or her designee;

(19) the Director of Agriculture or his or her designee;

(20) the Chair of the Illinois Community College Board or his or her designee;

(21) one member with knowledge of public safety, appointed by the State Fire Marshal;

(22) one member representing a non-profit energy research organization, appointed by the Governor;

(23) one representative of a trade association representing the investor-owned electric and natural gas utilities and power generation companies in the State of Illinois, appointed by the Speaker of the House; and

(24) one representative of a trade association

representing wind and solar electric generators, renewable transmission companies, and storage companies, appointed by the President of the Senate.

(c) The members of the Task Force shall serve without compensation.

(d) The Task Force shall meet at least quarterly to fulfill its duties under this Act. At the first meeting of the Task Force, the Task Force shall elect a Chair from among its members.

(e) The Department of Commerce and Economic Opportunity shall provide administrative support to the Task Force.

(Source: P.A. 102-1086, eff. 6-10-22.)

(20 ILCS 4122/10)

(Section scheduled to be repealed on June 1, 2026)

Sec. 10. Duties. The Task Force shall have the following duties:

(1) establish a plan to create, support, develop, or partner with a Hydrogen Hub in this State, and determine how to maximize federal financial incentives to support Hub development;

(2) identify opportunities to integrate hydrogen in the transportation, energy, industrial, agricultural, and other sectors;

(3) identify barriers to the widespread development of hydrogen, including within environmental justice communities; and

(4) recommend government policies to catalyze the deployment of hydrogen in the State economy.

(Source: P.A. 102-1086, eff. 6-10-22.)

(20 ILCS 4122/15)

(Section scheduled to be repealed on June 1, 2026)

Sec. 15. Report. The Task Force shall report to the Governor and the General Assembly by December 1 of each year on its activities, findings, and recommendations.

(Source: P.A. 102-1086, eff. 6-10-22.)

(20 ILCS 4122/95)

(Section scheduled to be repealed on June 1, 2026)

Sec. 95. Repealer. This Act is repealed on June 1, 2026.

(Source: P.A. 102-1086, eff. 6-10-22; 102-1129, eff. 2-10-23.)

(20 ILCS 4122/99)

(Section scheduled to be repealed on June 1, 2026)

Sec. 99. Effective date. This Act takes effect upon becoming law.

(Source: P.A. 102-1086, eff. 6-10-22.)

Hydrogen Economy Task Force Members 2024

- State Sen. Laura Ellman (D-Naperville), Chair
- State Rep. Terra Costa Howard (D-Glen Ellyn)
- Patrick Devaney, Secretary-Treasurer, AFL-CIO
- Sarah Duffy, Deputy Legal Counsel, Illinois Power Agency
- Patrick Evans, President, Illinois Energy Association
- Kyle Freeman, Deputy Director, Governor's Office of Management and Budget
- State Rep. Bradley Fritts (R-Dixon)
- Jon Horek, Vice President, Hydrogen, Invenergy LLC
- James Hoyt, Global Director, Utilities Technology Center. Archer Daniels Midland Company
- Elizabeth Irvin, Deputy Director, Office of Planning and Programming, Illinois Department of Transportation
- Daniel LeFevers, Director, State and Consumer Programs, GTI Energy
- George Letavish, Small Business Financial Assistance Manager, Illinois Department of Commerce & Economic Opportunity
- Carly McCrory-McKay, Executive Director, Champaign County Economic Development Corporation.
- Dulce Ortiz, Executive Director, Mano a Mano Family Resource Center
- Chad Parker, Chad Parker, Laboratory Supervisor, Office of Mines and Minerals, Illinois Department of Natural Resources
- State Sen. Sue Rezin (R-Morris)

- Laura Roche, Chief of Staff, Illinois Environmental Protection Agency
- Doug Scott, Chair, Illinois Commerce Commission
- Petros Sofronis, James W. Bayne Professor, Department of Mechanical Science and Engineering, University of Illinois Urbana Champaign
- Catherine Stashak, Engineer, Office of the Illinois State Fire Marshal
- Michael Wang, Director, Systems Assessment Center - Environmental Assessment Leader, Argonne National Laboratory
- Dana Wynn, Associate Director for Career & Technical Education. Illinois Community College Board (ICCB)