

New York State Climate Action Council

November 30, 2021
Meeting 17



**Climate Action
Council**

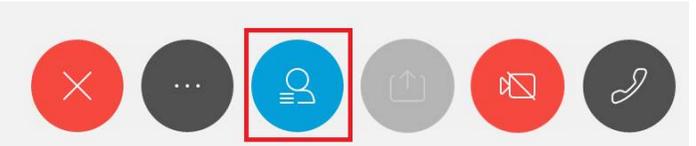
Meeting Procedures

Before beginning, a few reminders to ensure a smooth discussion:

- > CAC Members should be on mute if not speaking.
 - > If using phone for audio, please tap the phone mute button.
 - > If using computer for audio, please click the mute button on the computer screen (1st visual).
- > Video is encouraged for CAC members, in particular when speaking.
- > In the event of a question or comment, please use the hand raise function (2nd visual). You can find the hand raise button by clicking the participant panel button (3rd visual). The co-chairs will call on members individually, at which time please unmute.
- > If technical problems arise, please contact NYS.CAC@cadmusgroup.com.



You'll see  when your microphone is muted



Agenda

- > Welcome and Roll Call
- > Consideration of October 14, 2021 Minutes
- > Co-chair Remarks and Reflections
- > Presentation and Discussion: Jobs Study and Integration Analysis Updates
- > Presentation and Discussion: Development of draft Scoping Plan
 - Council member feedback and proposed resolution
- > Next Steps

Consideration of October 14, 2021 Minutes

Co-chair Remarks and Reflections

Welcome to Our New Strategic Communications Director for Climate!

Strategic Communications Director for Climate, Haley Viccaro

> Previous:

- Senior Advisor for Communications, Governor Hochul transition team
- Deputy Communications Director for Energy and Environment, Office of the Governor
- Communications Director, Office of the Lieutenant Governor
- Reporter at Gannett News, Albany Business Review, and the Daily Gazette



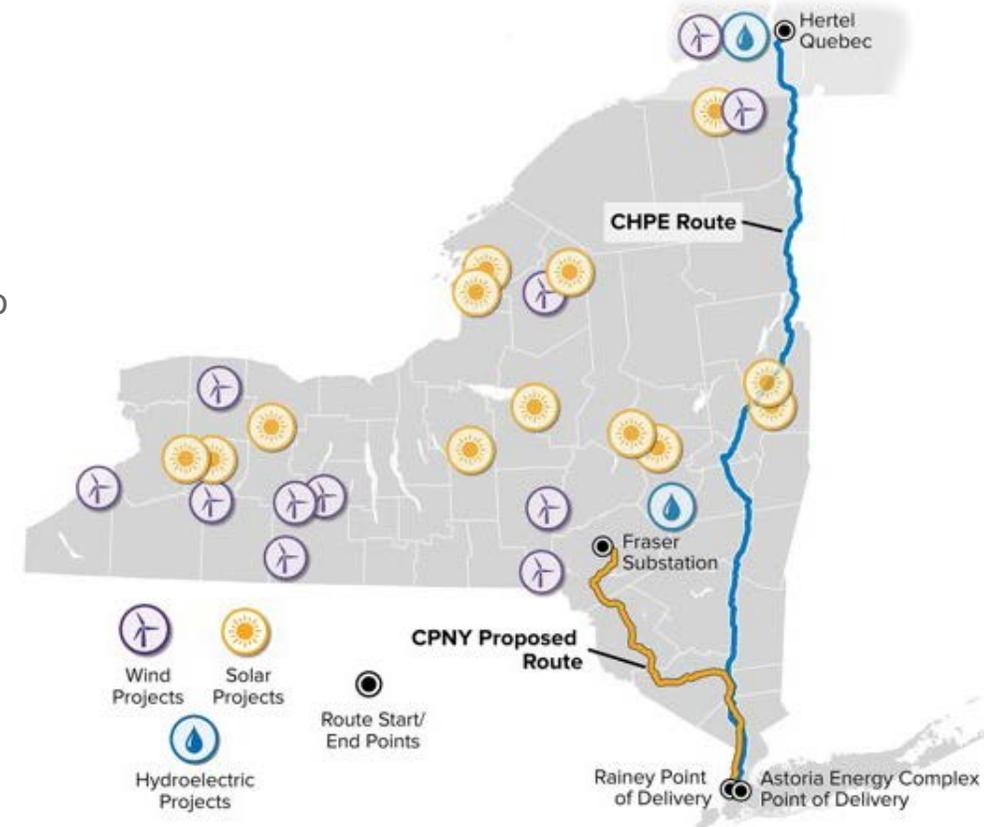
Sights and scenes from Glasgow at COP26



Tier 4 Contracts Submitted for Approval

Tier 4 of the Clean Energy Standard was established to overcome the challenge of New York City's reliance on fossil fuels and to help accelerate achievement of New York's target of 70% renewable energy by 2030.

- Today, contracts with Clean Path NY and Champlain Hudson Power Express were signed and submitted to the PSC for stakeholder comment and approval
- Tier 4 is unique in combining new transmission and renewable generation
 - Portfolio of solar, wind and hydropower from Upstate New York and Canada into New York City
 - Largest transmission projects in New York in the last 50 years
- Topline Metrics
 - Will deliver 18 TWh per year, or almost 12% of New York State's annual electric consumption
 - When combined with other renewable energy, expected to reduce New York City's fossil fuel use for electricity by more than 80% by 2030
- Benefits
 - \$7.4 billion in net societal benefits, including carbon reduction and air quality improvements
 - \$8.2 billion in economic development in New York, including investments in Disadvantaged Communities



New York State Climate Action Council

Jobs Study and Integration Analysis Updates

November 30, 2021



**Climate Action
Council**

Contents

- > Integration Analysis Updates
- > Clean Energy Industry Report
and *Preliminary* Just Transition Work Group (JTWG) Jobs Study
- > Appendix

Integration Analysis Updates

More Information

> For more information visit:

- <https://climate.ny.gov/Climate-Resources>
- <https://climate.ny.gov/Climate-Action-Council/Meetings-and-Materials>



<https://www.nyclimatescience.org/>



<https://nysclimateimpacts.org/>

Resources

Advisory Panel/Working Group Recommendations

- [Compiled Advisory Panel/Working Group Recommendations \[PDF\]](#)

Technical Analysis

Integration Analysis

To inform and support the Climate Action Council's Scoping Plan, an integration analysis was developed to estimate the economy-wide benefits, costs, and GHG emissions reductions associated with pathways that achieve the Climate Act GHG emission limits and carbon neutrality goal. This integration analysis incorporates and builds from Advisory Panel and Working Group recommendations, as well as inputs and insights from complementary analyses, to model and assess multiple mitigation scenarios. Key results, drivers, and assumptions are available below.

- [Integration Analysis - Benefits and Costs Presentation \[PDF\]](#)
- [Integration Analysis - Initial Results Presentation \[PDF\]](#)

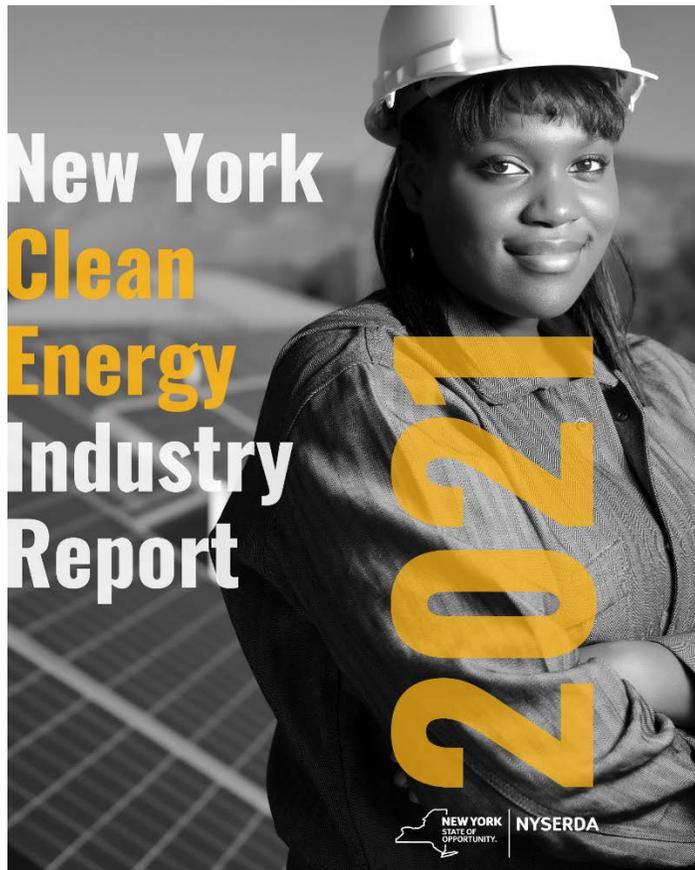
Integration Analysis: Forthcoming Updates

Planned Integration Analysis Updates

- > Benefits and Costs of Scenario 4: Beyond 85% Reduction
- > Ground Source/District Heat Pump sensitivity analysis
 - Exploring the system benefits and cost implications of a transition where ground source and district heat pumps are a vast majority of heating appliance sales
- > Additional flexible end-use electric load sensitivity analysis
- > Additional detail on scenario development and representation of Advisory Panel recommendations
- > Updates to Benefits and Costs Analysis (e.g. updated cost uncertainty analysis)

Clean Energy Industry Report and Preliminary JTWG Jobs Study

Clean Energy Industry Report Overview



The 5th edition of the annual New York Clean Energy Industry report:

- > Measures, characterizes, and analyzes clean energy and traditional energy employment trends across technology sectors
- > Highlights the impacts of COVID-19 on clean energy employment, by technology, sub-technology, and value chain
- > Explores specific sectors, including:
 - offshore wind
 - clean and alternative transportation supply chain potential
 - priority populations

Preliminary JTWG Jobs Study

Just Transition Working Group

Roberta Reardon,
Co-Chair
Commissioner:
Department of Labor

Doreen Harris,
Co-Chair
President & CEO:
NYSERDA

**RuthAnne
Visnauskas**
Commissioner: Homes
& Community
Renewal

Rory Christian
Chair: Public Service
Commission

Gary LaBarbera
President: Building
and Construction
Trades Council of
Greater New York

Vincent Albanese
Director of Policy and
Public Affairs: LIUNA

Omar Freilla

Henry Garrido
Executive Director: DC
37

Patrick Jackson
Director of Global
Energy Management:
Corning, Inc.

Michael Padgett
Vice President of
Energy: Alcoa

Brian Raley
Principal Staff
Engineer: Global
Foundries

James Shillitto
President: Utilities
Workers Union of
America Local 1-2

**Maritza Silva-
Farrell**
Executive Director:
ALIGN

Ted Skerpon
Chair: IBEW Local 97

Lara Skinner
Executive Director:
The Worker Institute
at Cornell University

Candis Tolliver
Political Director: 32BJ
SEIU

Randy Wolken
President: MACNY &
Manufacturers
Alliance

Jobs Study

Direction from Climate Act

This study is meant to:

- Measure “***the number of jobs created to counter climate change***, which shall include but not be limited to the ***energy*** sector, ***building*** sector, ***transportation*** sector, and ***working lands*** sector”
- Examine the “***projection of the inventory of jobs*** needed and the skills and training required to meet the demand of jobs to counter climate change” as well as the “***workforce disruption due to community transitions*** from a low carbon economy”

Jobs Study

Direction from Climate Act (cont'd)

- “Advise the council on ***issues and opportunities for workforce development and training*** related to energy efficiency measures, renewable energy and other clean energy technologies, with specific focus on training and workforce opportunity for ***disadvantaged communities***, and segments of the population that may be underrepresented in the clean energy workforce such as veterans, women and formerly incarcerated persons”

Sectors and Sub-sectors

Primary Sectors

I. Energy Supply

1. Electricity (11 sub-sectors)
2. Fuels (5 sub-sectors)

II. Energy Demand

1. Buildings (6 sub-sectors)
2. Transportation (5 sub-sectors)

Methodology Overview

Working Lands Study

Parallel Research from the US Climate Alliance

Economic Impacts of Investing in Climate Mitigation in New York Forests & Agriculture

Afforestation, Reforestation, and Manure Methane Capture throughout New York State

DRAFT



Methodology Overview

Overview of CAC Integration Analysis Scenarios

Methodology Overview

Summary of CAC Integration Analysis Scenarios

Both Scenarios

- Made considerable investments in Solar and Wind energy.
- Continued investments in transmission, distribution, and storage capacity.
- Invested in charging and hydrogen fueling stations.
- Made considerable investments in commercial and residential buildings.

Scenario 2 - Strategic Use of Low Carbon Fuels

- Considerable investments in low carbon fuels (including liquid biofuels)

Scenario 3 - Accelerate Transition Away from Combustion

- Greater early investments in grid and electrification

Methodology Overview

Approach to Initial Economic Impact Modeling

- Translate climate-related activities and policies into **societal investments** across scenarios
- Generate assumptions on **local content**
- **Calculate job and other economic indicators** related to the direct investments, local supply chains, and ripple effects of investments
- Identify **jobs that will grow, decline, or change** across industries and occupations over time

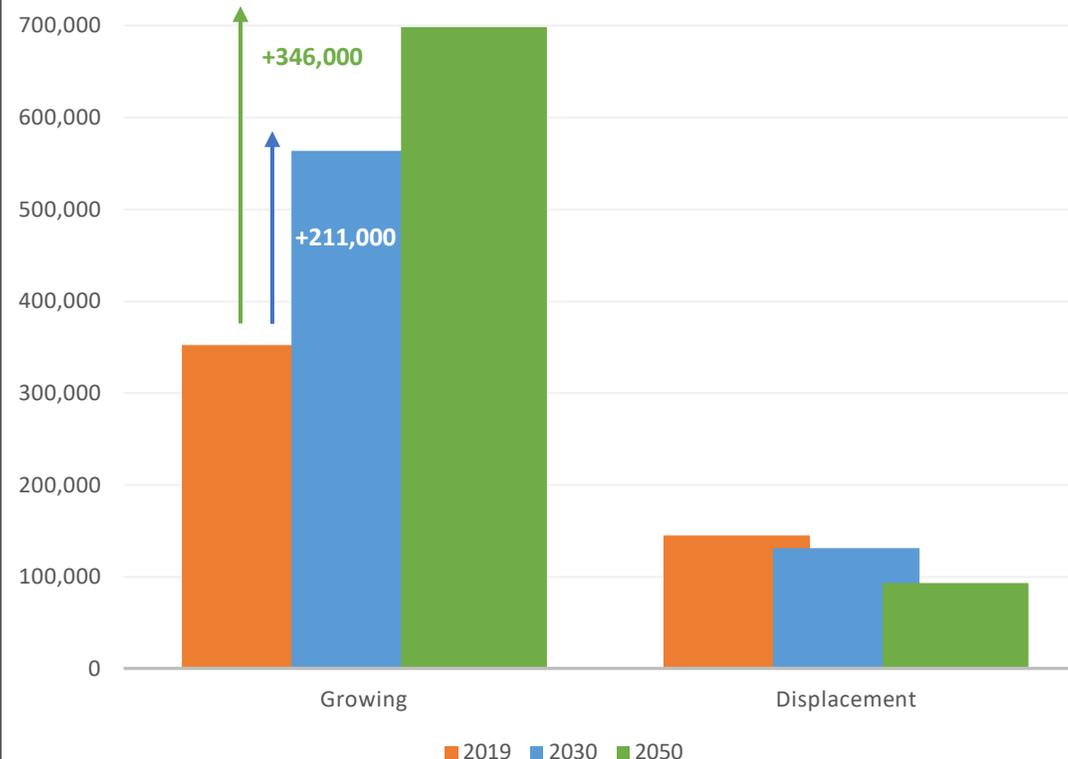
Preliminary Jobs Study

Key Employment Findings: Overall Growth Sub-Sectors

Investments spur hundreds of thousands of new jobs in coming decades

Employment in growth sub-sectors increases by at least **211,000 jobs by 2030**, a 60 percent increase in the workforce from 2019 to 2030.

Employment grows in these sub-sectors by at least **346,000 jobs through 2050**.

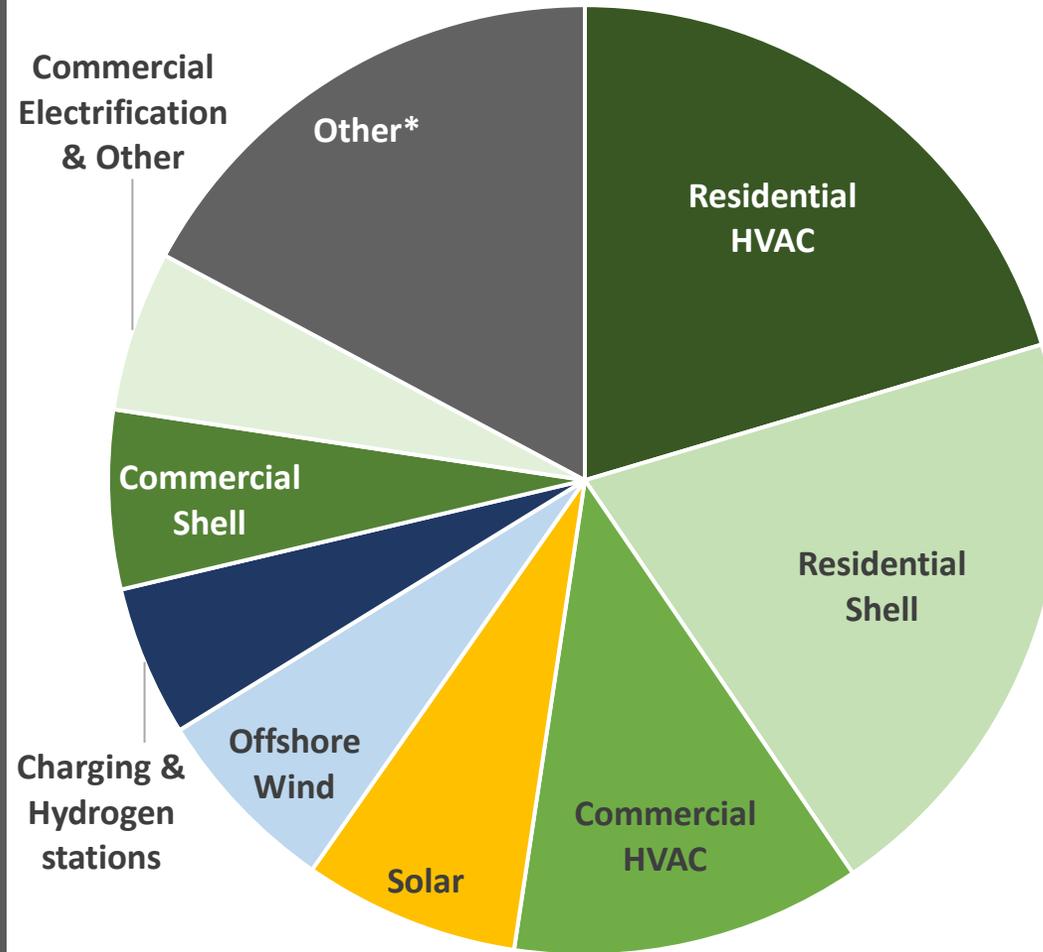


- Clean energy jobs, in their comparable sub-sectors, are expected to **grow at more than twice the rate** of annual growth from 2021 through 2030 as they experienced between 2016 through 2020, in the state of New York.
- By 2050, growth sub-sectors, in the state of New York will reach **nearly 700,000 jobs**.

Preliminary Jobs Study

Key Employment Findings: Scenario 2

Sub-Sectoral Breakdown of 211,000 jobs Added by 2030



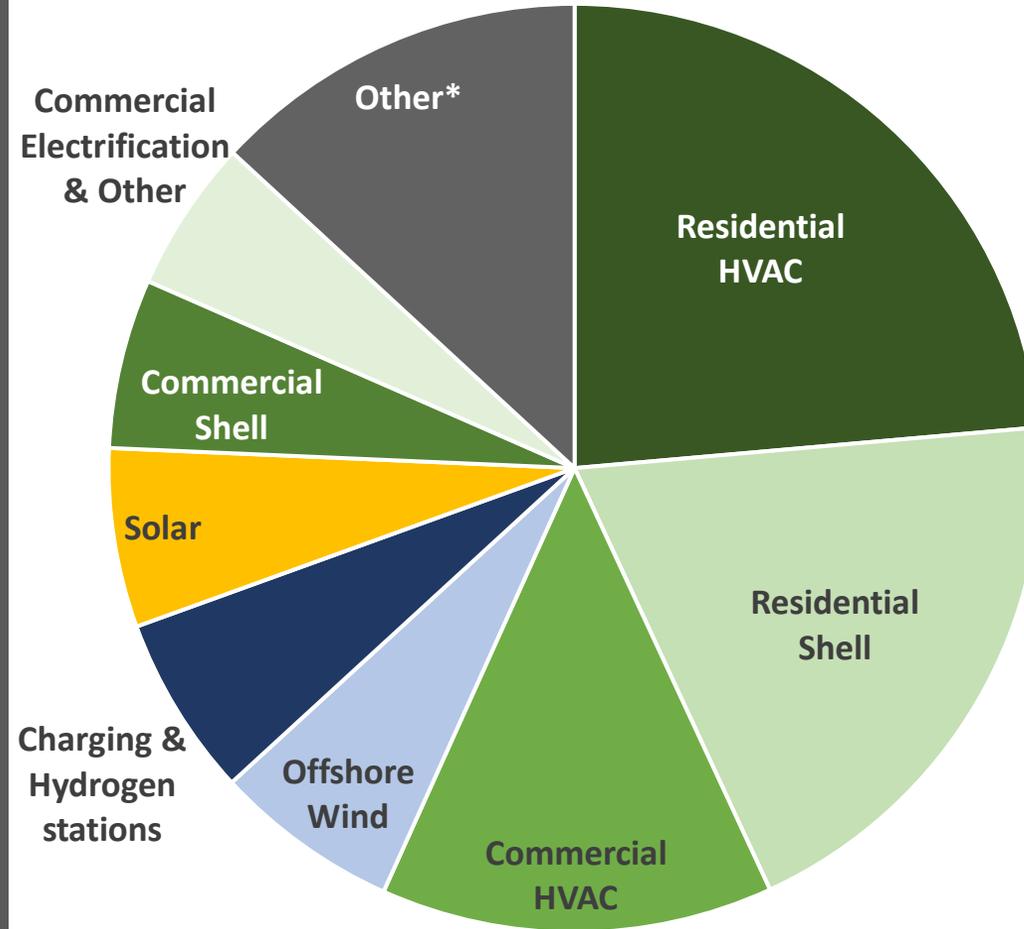
- Over half of the new jobs, in the growth sub-sectors, from 2019 to 2030, will be found in the buildings sub-sectors (shaded green)
- The next largest growth sub-sectors are solar and offshore wind electricity generation, and electric vehicle charging and hydrogen fueling stations

* Includes Distribution (Electricity), Transmission, Storage, Other Generation, Bioenergy, Residential Other, Hydrogen, Onshore Wind, & Vehicle Manufacturing

Preliminary Jobs Study

Key Employment Findings: Scenario 3

Sub-Sectoral Breakdown of 220,000 jobs Added by 2030



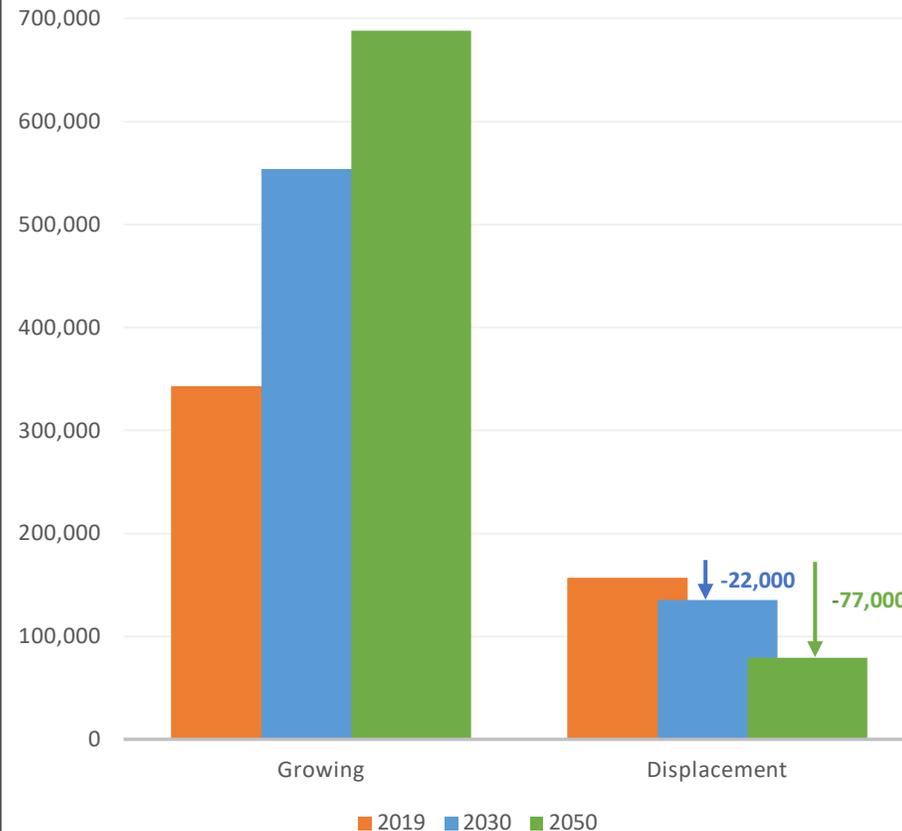
- With higher levels of investment in 2030, the buildings sector shows slightly more growth in the third scenario (S3:AT), compared to the second (S2:LCF)
- Offshore wind is one of the fastest growing sub-sectors, increasing from less than 1,000 jobs to almost 15,000 by 2030

* Includes Distribution (Electricity), Transmission, Storage, Residential Other, Bioenergy, Onshore Wind, Hydrogen, Other Generation, Wholesale Trade, and Vehicle Manufacturing ²⁷

Preliminary Jobs Study

Key Employment Findings: Overall Displaced Sub-Sectors

For every job displaced, 10 jobs are added by 2030 under the Scoping Plan scenarios

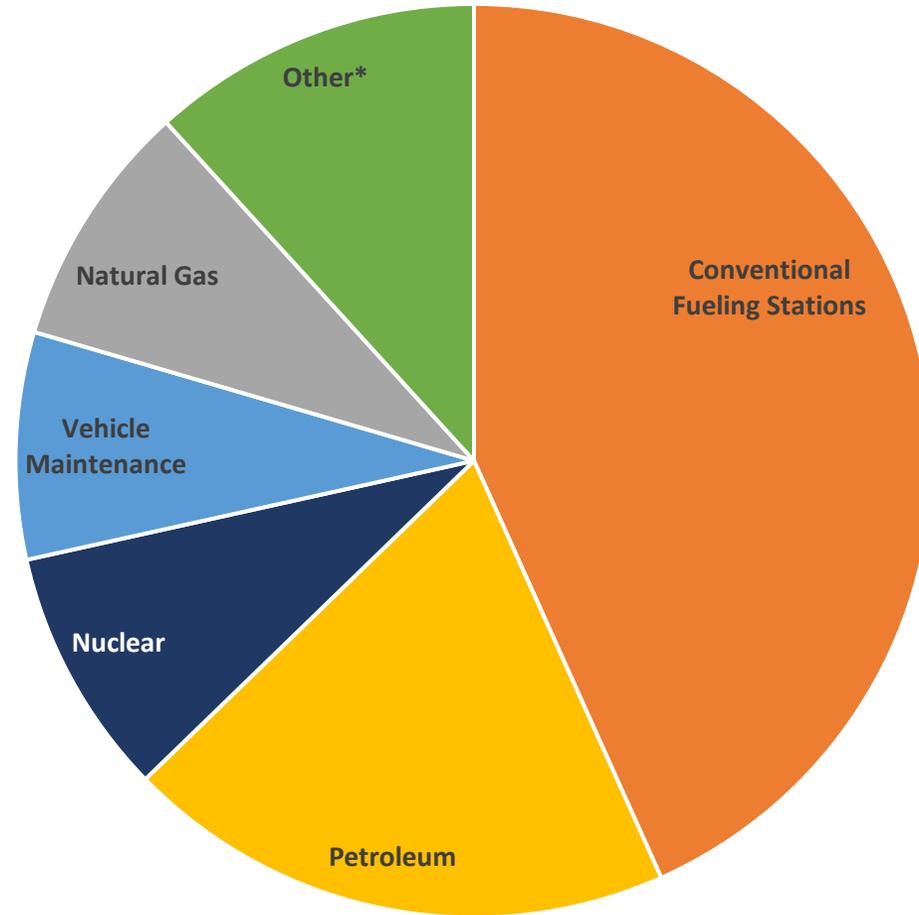


- Employment in the displaced sub-sectors **decreases by at least 22,000 jobs by 2030**, a 14 percent decrease in the workforce from 2019 to 2030.
- Employment **declines in these sub-sectors by at least 77,000 jobs through 2050**.
- In the displaced sub-sectors, from 2019 to 2030, one worker may be lost for every seven current workers, which **could be offset by retiring workers coupled with job transitions**

Preliminary Jobs Study

Key Employment Findings: Scenario 2

Sub-Sectoral Breakdown of 22,000 jobs Displaced by 2030



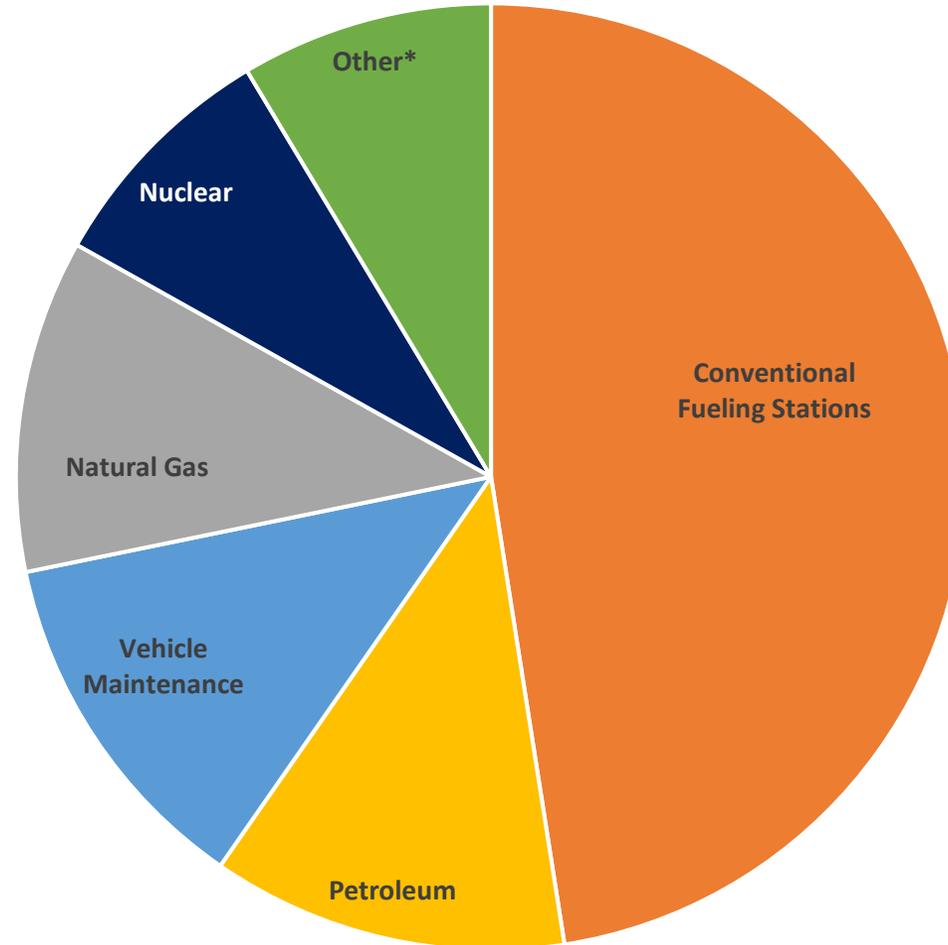
- **Conventional Fueling Stations represent over one-third of the displaced employment**
- **About one-quarter of displaced employment is in conventional fuel industries (Petroleum & Natural Gas)**

* Includes Natural Gas Generation, Natural Gas Distribution, and Other Fossil Generation

Jobs Study

Key Employment Findings: Scenario 3

Sub-Sectoral Breakdown of 22,000 jobs Displaced by 2030



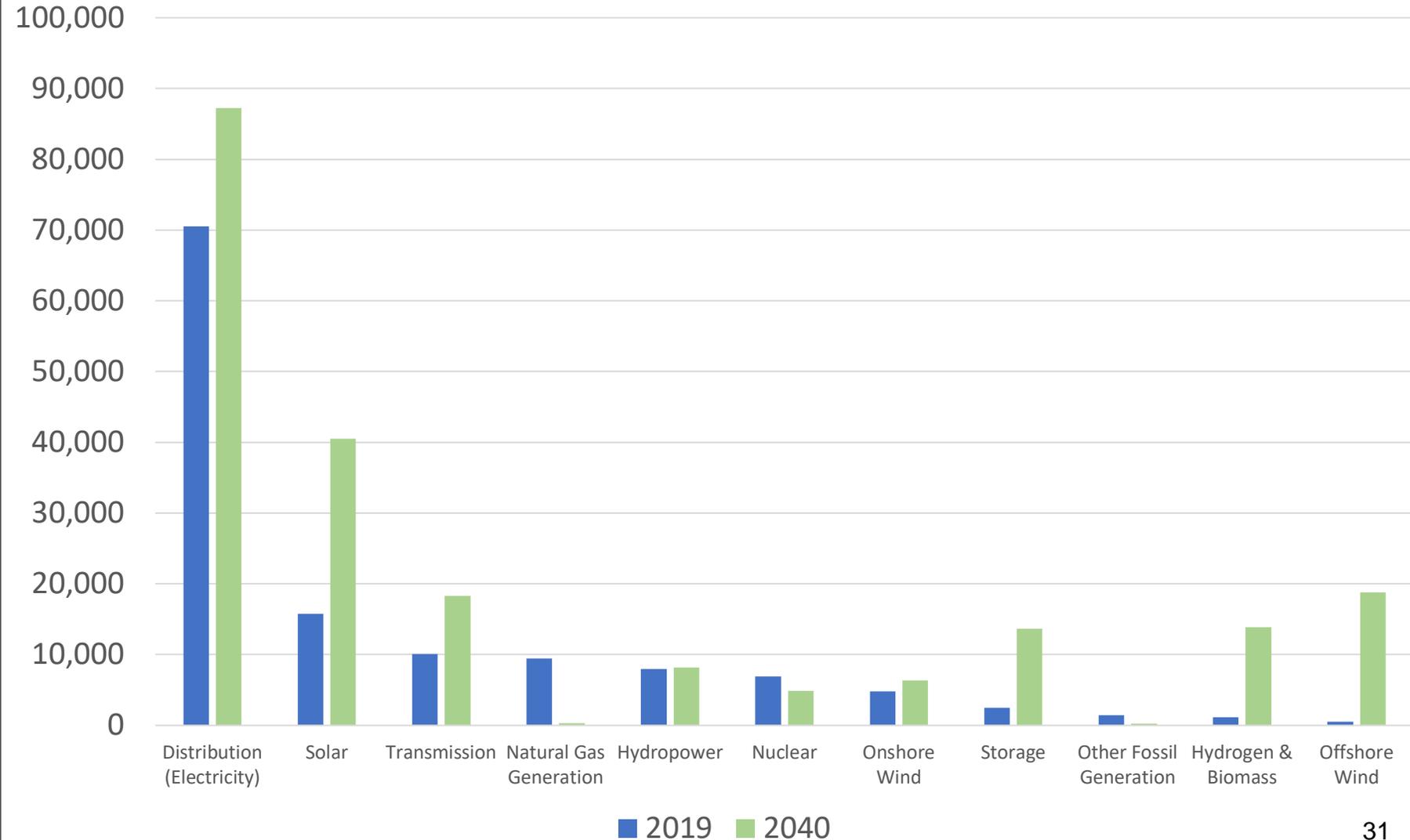
- **Displaced employment from Conventional Fueling Stations represents almost half of all displaced jobs in the third scenario (S3:AT)**

* Includes Natural Gas Generation, Natural Gas Distribution, and Other Fossil Generation

Preliminary Jobs Study

Electricity Sector Jobs Changes: Scenario 2

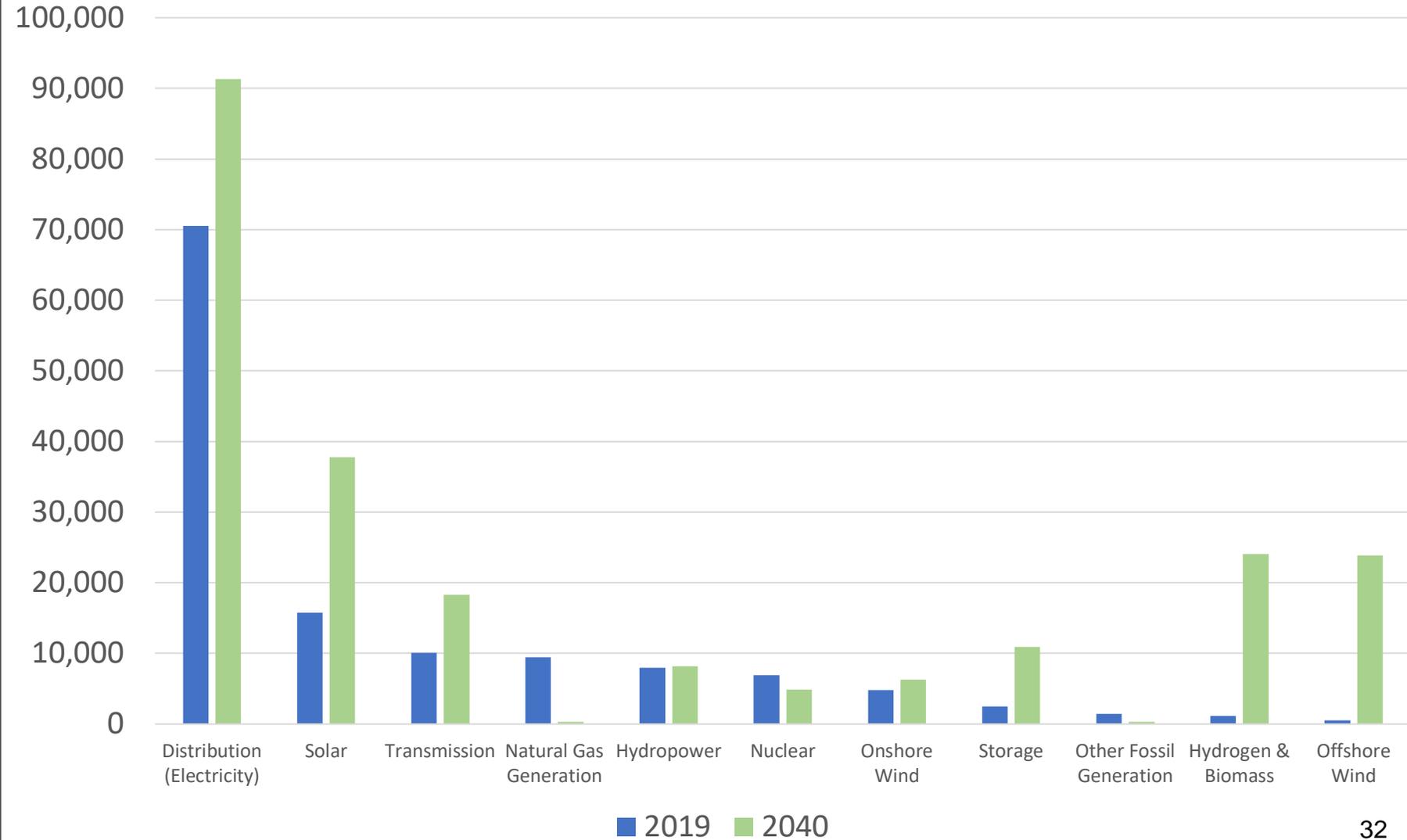
Distribution (Electricity) and Solar sub-sectors, the two largest sub-sectors in electricity in 2019, will see considerable growth through 2040, Offshore Wind, the smallest in 2019, will grow the most proportionally through 2040.



Preliminary Jobs Study

Electricity Sector Jobs Changes: Scenario 3

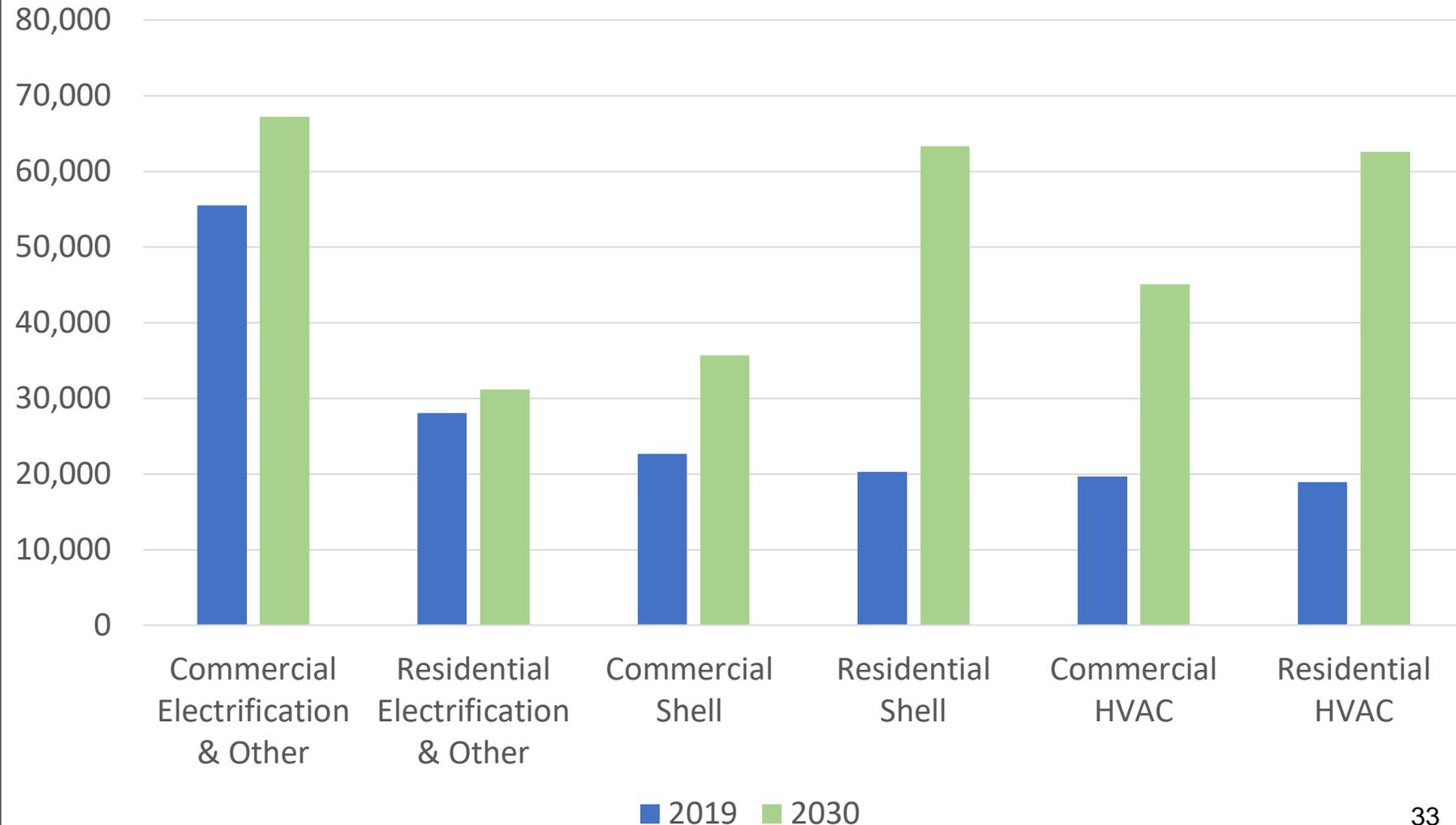
In the third scenario (S3:AT), employment growth increases more in Offshore Wind and Hydrogen & Biomass compared to the second scenario (S2:LCF).



Preliminary Jobs Study

Buildings Sector Jobs Changes: Scenario 2

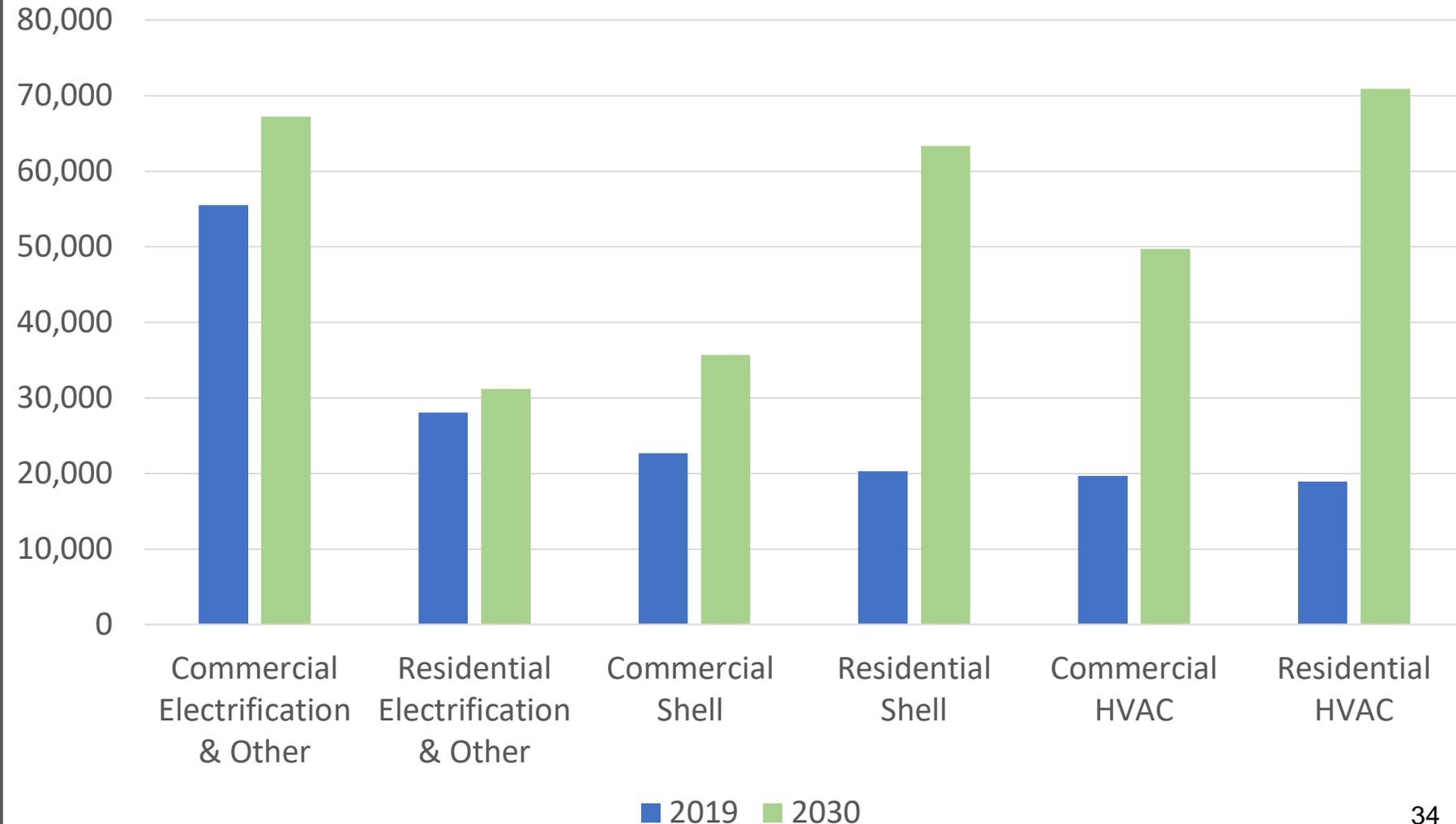
Employment in each of the Buildings sub-sectors increases from 2019 to 2030, with the largest increases found in Residential Shell, Commercial HVAC, and Residential HVAC.



Preliminary Jobs Study

Buildings Sector Jobs Changes: Scenario 3

Due to accelerated investments, the third scenario (S3:AT) sees even larger employment increases in the Buildings sub-sectors compared to the second scenario (S2:LCF).

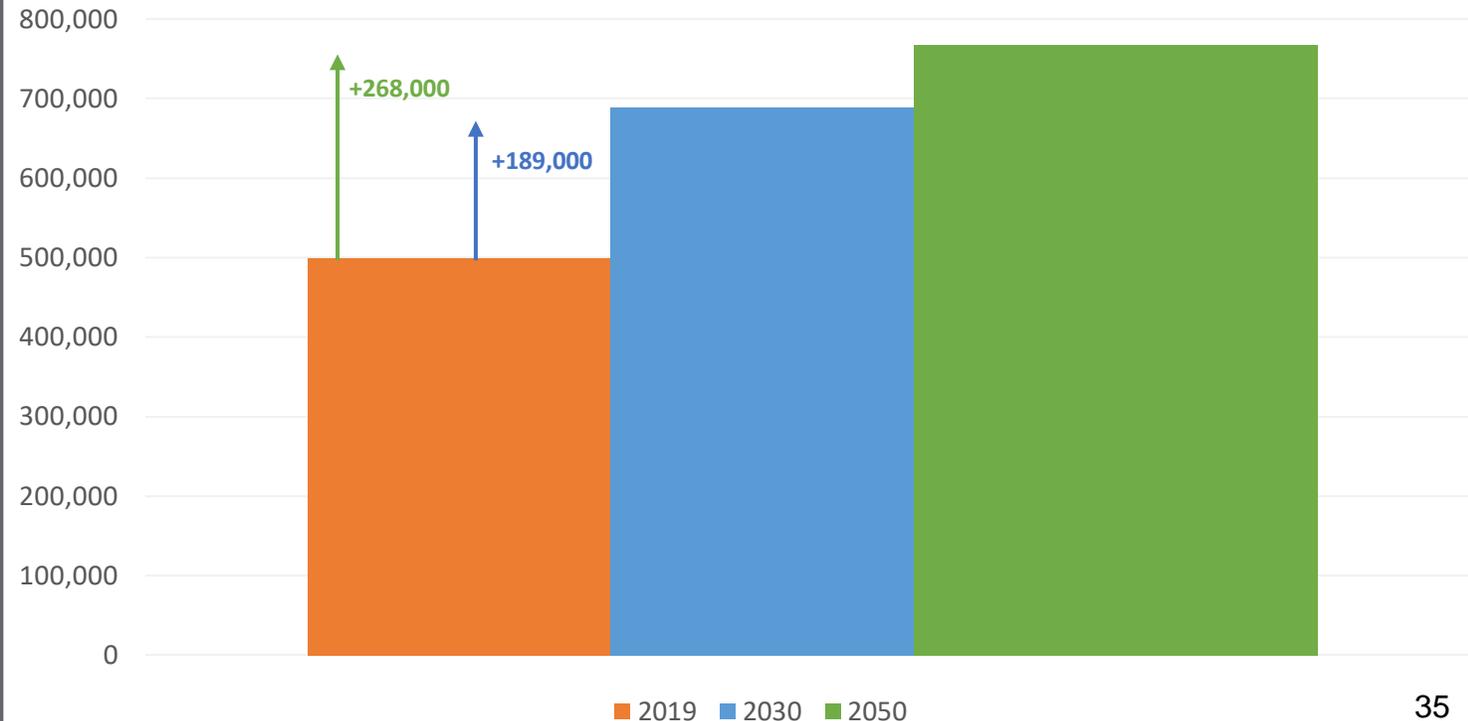


Preliminary Jobs Study

Key Employment Findings: Overall

All four sectors, electricity, fuels, buildings, and transportation, will grow faster annually, from 2021 through 2030, than clean energy grew, annually, from 2016 to 2020, in the State of New York.

On net, overall employment in the four sectors grows by at least 189,000 jobs by 2030, a 38 percent increase from the 2019 workforce. Employment continues to grow in the four sectors by at least 268,000 jobs through 2050.



Preliminary
Jobs Study

Model
Sensitivities
(Upcoming)

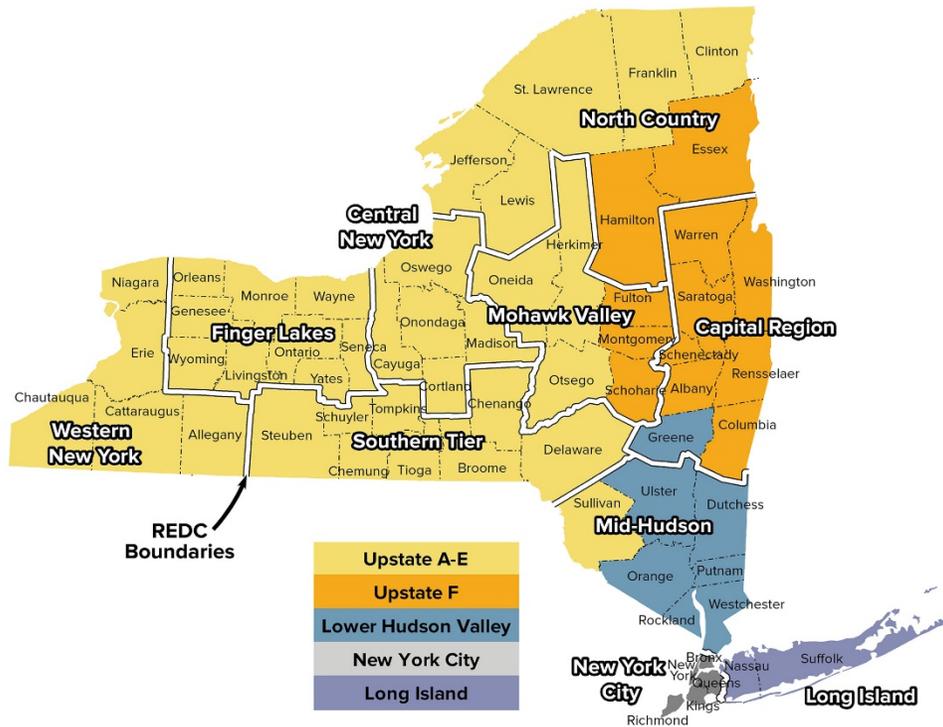
1. Develop an analysis that examines if ***in-state manufacturing*** increased in the relevant sub-sectors, how would it impact employment and the economy.
2. Describe the key assumptions that were done for ***gas station closings***, and how changes to those assumptions would impact the model outcomes.

Preliminary Jobs Study

Workforce Analyses

(Upcoming)

1. Describe impact on **employment and the economic landscape** for NY & 5 Regions from CAC Integration Analysis.
2. Provide a qualitative assessment of how those in **declining industries and occupations can transition to growing or emerging industries** and what those transitions could look like.
3. Evaluate how the model findings impact **sustainable wages** and complete a secondary analysis that examines how a prevailing wage policy could impact these findings. This analysis would essentially evaluate the cost impact of a policy that increases wages to at least a sustainable wage.



Preliminary Jobs Study

Workforce Analyses (Upcoming)

4. Describe how employment opportunities for underserved populations will be impacted under each scenario.
5. Examine how occupational pathways could change the demand for skills, certificates, education, experience, apprentice able standards, and other workforce requirements based on industry and occupational employment changes.

Preliminary
Jobs Study

Next Steps

1. Continue to seek feedback from the JTWG
2. Complete the IEO model sensitivities & workforce analyses
3. Publish the 2021 JTWG *Jobs Study Report*

Appendix

Preliminary Jobs Study

Key Employment Findings: Electricity Sector

Employment in the ‘Electricity Sector’, specifically in the Solar, Offshore Wind, Onshore Wind, Other Generation, Distribution, Transmission, and Storage sub-sectors will grow to at least **207,000** by **2040**, an 83 percent increase from the 2019 workforce, and 94,000 jobs added. These growing electricity sub-sectors will also experience employment increases to at least 165,000 total jobs by 2030, a 46 percent increase (52,000 jobs added) from the 2019 workforce.

Preliminary Jobs Study

Key Employment Findings: Electricity Sector (cont'd)

Employment in the 'Electricity Sector', specifically in the Natural Gas Generation, Other Fossil Generation, and Nuclear sub-sectors falls to 5,000 by 2040, a 70 percent decline compared to the 2019 workforce. Jobs continue to decline in these sub-sectors through 2050, reaching approximately 3,000 in the final year of the analysis.

On net, overall employment in the Electricity Sector grows to at least 212,000 by 2040, a 62 percent increase from the 2019 workforce, and 81,000 jobs added.

Preliminary Jobs Study

Key Employment Findings: Fuels Sector

Employment in the ‘Fuels Sector’, specifically in the Hydrogen and Bioenergy sub-sectors will grow to as much as 11,000 by 2040, a four-fold increase from the 2019 workforce, and 8,000 jobs added. These growing Fuels sub-sectors will also experience employment increases to as much as 8,200 total jobs by 2030, over double (5,000 jobs added) the 2019 workforce.

Preliminary Jobs Study

Key Employment Findings:

Fuels Sector (cont'd)

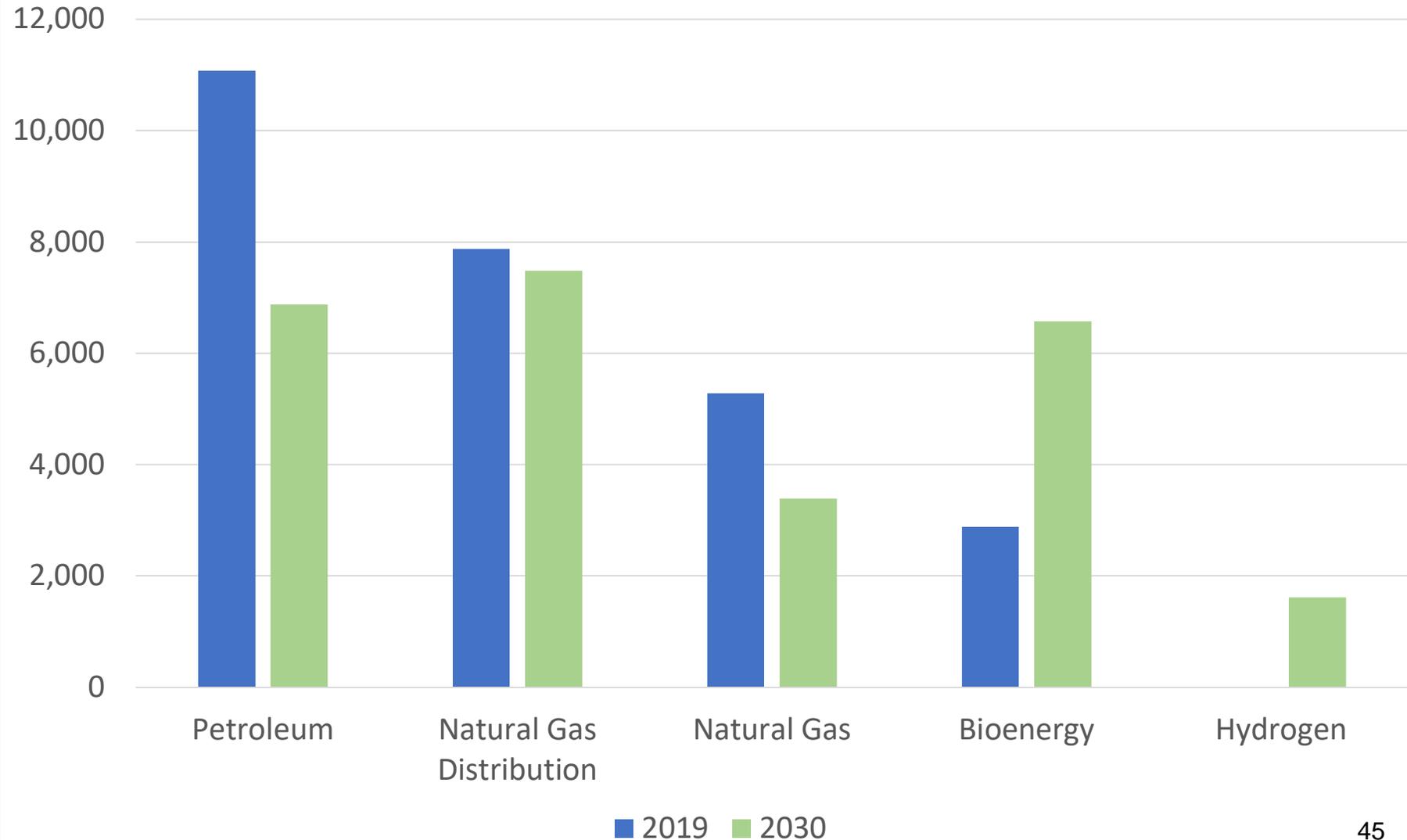
Employment in the 'Fuels Sector', specifically, in the Natural Gas, Natural Gas Distribution, and Petroleum sub-sectors falls to as much as 8,700 by 2040, a 64 percent decline compared to the 2019 workforce. Jobs continue to decline in these sub-sectors through 2050, reaching about 1,000 in the final year of the analysis.

On net, overall employment in the Fuels Sector declines to as low as 24,000 by 2030, a 13 percent decrease from the 2019 workforce, and 3,500 jobs lost. Total jobs in the Fuels Sector continue to decline through 2050, reaching just over 7,000.

Preliminary Jobs Study

Fuels Sector Jobs Changes: Scenario 2

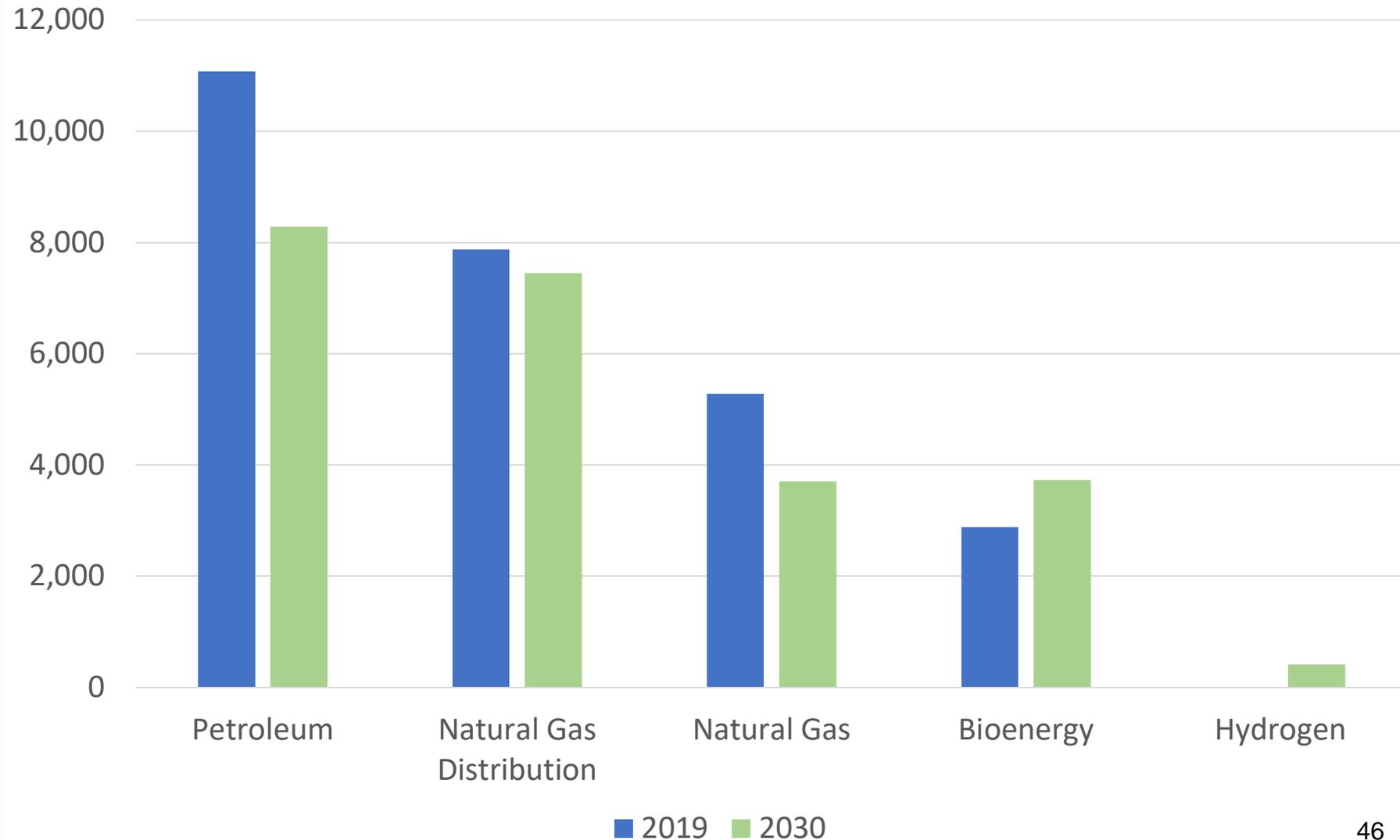
Displaced employment in the Petroleum and Natural Gas sub-sectors are largely offset by increased employment in Bioenergy and Hydrogen.



Preliminary Jobs Study

Fuels Sector Jobs Changes: Scenario 3

In the third scenario (S3:AT), the increased employment in Bioenergy and Hydrogen is considerably less than the second scenario (S2:LCF).



Preliminary Jobs Study

Key Employment Findings: Buildings Sector

Employment in the ‘Buildings Sector’ will grow to over 305,000 by 2030, an 85 percent increase from the 2019 workforce, and almost 140,000 jobs added.

On net, overall employment in the Buildings Sector grows to approximately 366,000 by 2040, more than doubling the 2019 workforce by adding almost 201,000 new jobs. Total jobs in the Buildings Sector continue to increase through 2050, reaching about 405,000.

Preliminary Jobs Study

Key Employment Findings: Transportation Sector

Employment in the ‘Transportation Sector’, specifically in the Vehicle Manufacturing, Wholesale Trade Parts, and Charging and Hydrogen Fuel Stations sub-sectors will grow to over 82,000 by 2040, a 34 percent increase from the 2019 workforce, and almost 21,000 jobs added.

Preliminary Jobs Study

Key Employment Findings: Transportation Sector (cont'd)

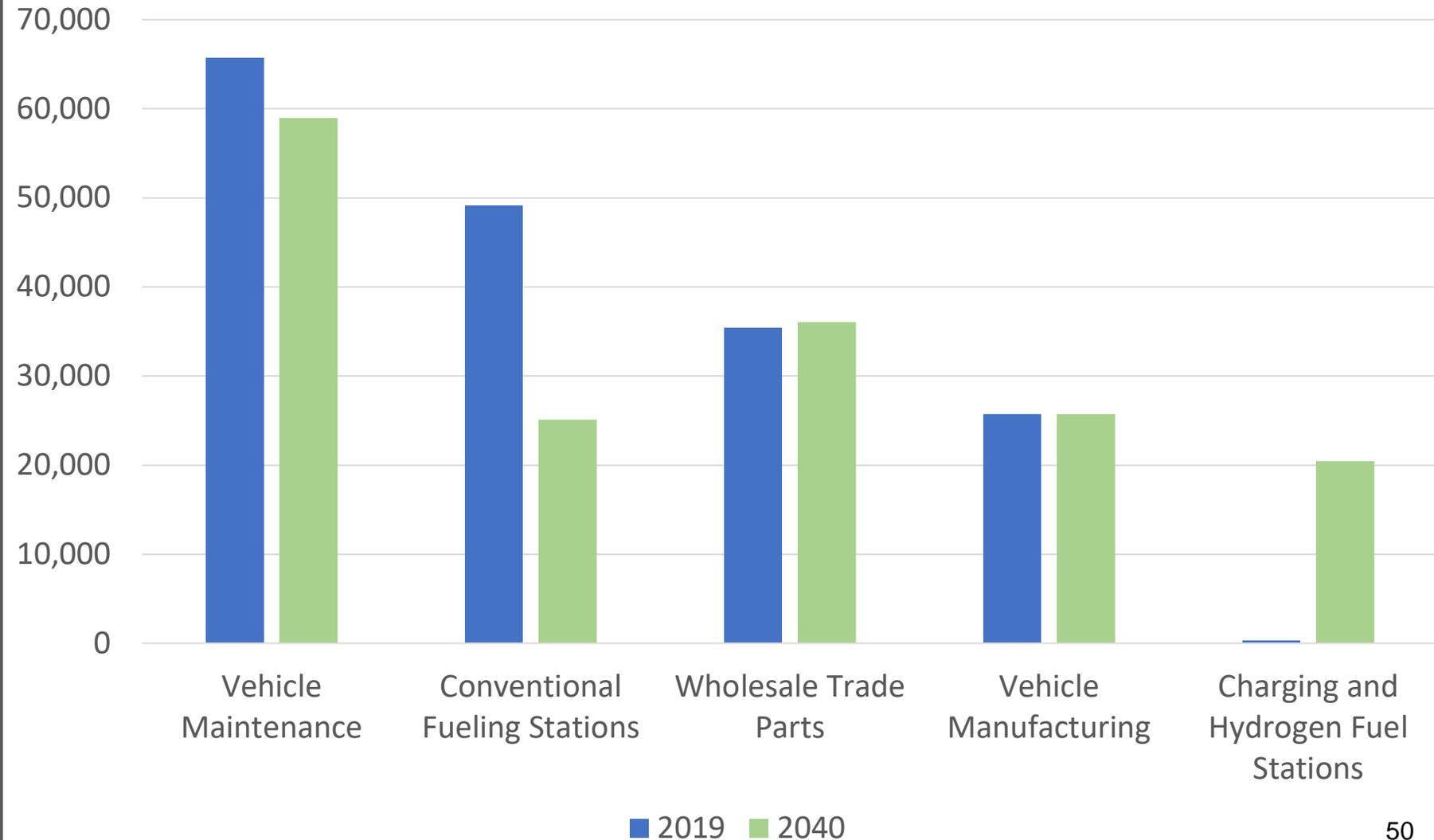
Employment in the 'Transportation Sector', specifically in the Conventional Fueling Stations and Vehicle Maintenance sub-sectors falls to 84,000 by 2040, a 27 percent decline compared to the 2019 workforce. Jobs continue to decline in these sub-sectors through 2050, reaching about 75,000 in the final year of the analysis.

On net, overall employment in the Transportation Sector remains steady at approximately 176,000 by 2030, a decrease of less than 1 percent from the 2019 workforce, and 200 jobs lost. Total jobs in the Transportation Sector continue to decline through 2050, reaching about 165,000.

Preliminary Jobs Study

Transportation Sector Jobs Changes: Scenario 2

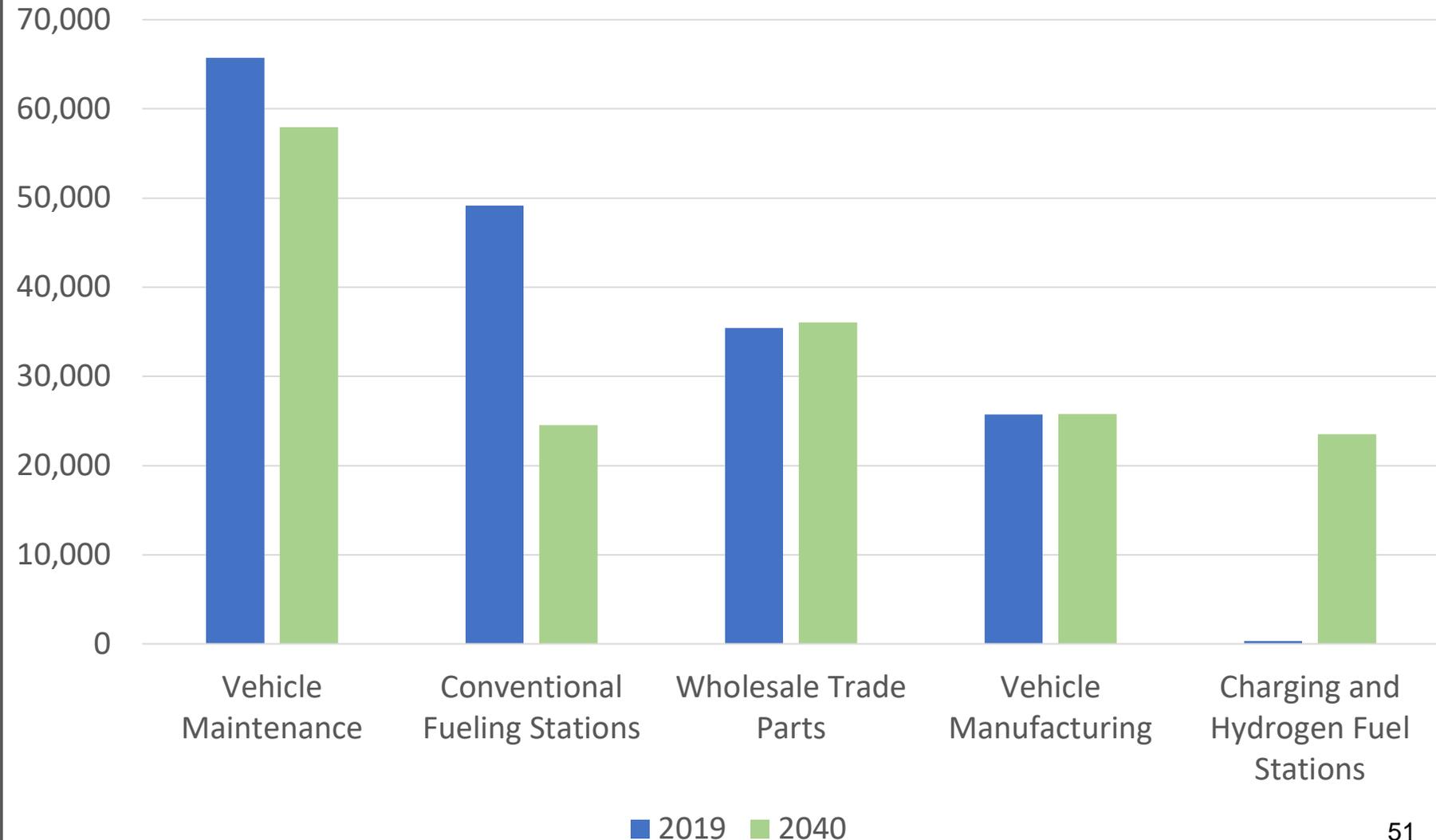
In this scenario, displaced employment in Conventional Fueling Stations and Vehicle Maintenance are somewhat offset by an increase in employment Charging and Hydrogen Fuel Stations.



Preliminary Jobs Study

Transportation Sector Jobs Changes: Scenario 3

The third scenario (S3:AT) is largely the same as the second scenario (S2: LCF), though does realize slightly greater employment in Charging and Hydrogen Fuel Stations due to accelerated investments in this infrastructure.



Initial Draft Scoping Plan Feedback and Proposed Resolutions

Goal of CAC Feedback on Initial Draft

- > **Working towards December CAC vote to release Draft Scoping Plan for public comment**
 - Bylaws require “decisions or actions” by simple majority vote
 - Not an endorsement of any or all strategies and actions contained in the Draft Scoping Plan
 - Throughout 2022, CAC will discuss and deliberate, and consider public comments, towards a Final Scoping Plan
- > **What adjustments are needed to get CAC members comfortable with issuing Draft Scoping Plan?**
 - Is it representative of the work that has come before the CAC?
 - Is the material presented objectively?
- > **Will summarize feedback and proposed resolution by topic**

CAC General Feedback

> Key Points to Incorporate

- Better show NY's climate leadership
- Provide more NYS specifics and examples on the need to take action
- Workforce development and job creation should be more strongly represented within the Pillars of the Plan
- Need more clarity on the process used to get to this draft Scoping Plan, including the source of the strategies, rationale for the multiple scenarios in the integration analysis, and how input from various groups has been incorporated, as well as the process going forward
- Economic development opportunities of actions needs to be integrated and include the value of the global climate market so that we take broader perspectives as to why "investing" in climate change positions NY as a green energy supply chain destination and potential leader
- Update text to reflect the recent COP26 and actions taken by state entities since the AP recommendations were delivered to the council
- A distilled summary of key info and priority recommendations should be incorporated
- Include Jobs Study information

CAC General Feedback

> Unresolved Issues

- Better integrate CJWG feedback (including rejection of certain recommendations and the need for more robust plans/efforts in transportation and waste) rather than merely stating this feedback.
 - Proposed resolution: Strategies were clarified to integrate CJWG feedback where possible, however some feedback requires Council discussion prior to incorporation.
- Need analysis on energy affordability and impacts to consumer pricing as part of the scoping plan scenarios.
 - Proposed resolution: The integration analysis does not make any assumptions about “who pays,” which will depend on forthcoming funding and policy mechanisms. For ratepayer cost impact, we anticipate that any analysis would be developed as part of subsequent implementation processes.
- Statement in support of or rejecting specific strategies or actions (e.g., hydrogen, carbon tax)
 - Proposed resolution: Requires additional Council discussion to develop a consensus position. Do not incorporate into draft Scoping Plan but allow members to make statements regarding their support for specific strategies at December meeting. Work towards consensus for final plan
- Integration Analysis modeling: Question of renewable energy capacity/storage required if GSHP vs ASHP used
 - Proposed resolution: Being examined as a sensitivity to the Integration Analysis. Results to be included in Draft Scoping Plan.

Gas System Transition

Role of a Gas System Transition Chapter

- > **Advisory Panel recommendations and Integration Analysis indicate the natural gas system will be different in 2050**
- > **A well-planned transition of the system is needed to ensure the transition is equitable and cost effective without compromising reliability and safety**
- > **Advisory panels made some recommendations that could inform the transition, but no panel covered the entirety of this**
- > **The gas system transition is an economy wide consideration because it requires coordination across multiple sectors**

Advisory Panel Recommendations

Power Generation

- > Analysis and Planning
 - Transitioning and decommissioning the gas system will require significant planning due to the complexity of the system, and the need to coordinate with building electrification while maintaining reliable and safe service
- > Gas Infrastructure, Transmission, and Methane Leakage
 - Address methane leakage and the infrastructure related to gas. Transition away from gas with a managed, phased, and just transition and decommission gas infrastructure to the maximum extent possible and as quickly as possible

Industry

- > Improved Oil and Gas Management Practices
 - During the transition, actions should be taken to minimize emissions from the oil and gas system, such as advanced leak detection and repair
- > Facilitate Transition from Oil and Gas
 - The transition should be carefully managed, phased and conducted with a focus on just transition principles

CAC Feedback on Gas System Transition

> **Key Points to Incorporate**

- We should include more information on what existing law requires (100-foot rule, gas is in the public interest, new gas customers must assure they are a reasonably permanent customer) because it limits what regulators can do and some would say is in contrast with the Climate Act
- Key Stakeholders should include power plant owners
- Make stronger ties to the criticality of new building codes to limit gas and provide a better sense of scale and scope of building conversions required to meet goals
- Ensure the gas system is included in the Reliability Needs Assessment

> **Unresolved Issues**

How do we balance decommissioning, leak detection, and decarbonization within the Scoping Plan and gas sector?

- Proposed resolution: Emphasize well planned and strategic decommissioning to protect consumers and address resiliency concerns. For further Council discussion in 2022

Electricity Chapter

Highlights from Electricity Chapter

> Electricity

- Overview of sector and vision
 - 2030:
 - 70% renewable electricity
 - 10 GW behind-the-meter solar installed
 - 3 GW energy storage installed
 - 2050:
 - 100% Zero Emissions Electricity by 2040
 - 9 GW offshore wind installed by 2035
- Key Sector Strategies → → →

Theme	Strategies
Transforming Power Generation	<ul style="list-style-type: none">• Retirement of Fossil Fuel Fired Facilities• Accelerate Growth of Large-Scale Renewable Energy Generation• Facilitate Distributed Generation / DERs• Support Clean Energy Siting and Community Acceptance• Promote Community Choice Aggregation
Enhancing the Grid	<ul style="list-style-type: none">• Deploy Existing Storage Technologies• Invest in Transmission and Distribution Infrastructure• Improve Reliability Planning and Markets• Advance Demand Side Solutions
Investing in New Technology	<ul style="list-style-type: none">• Explore Technology Solutions

CAC Feedback on Electricity

> Key Points to Incorporate

- Say more about the firm/dispatchable generation resources needed for reliability
- Better explain how existing renewable generation fits into the state's generation mix going forward
- Explain how the State will handle compliance with Section 7 of the Climate Act prior to regulations in 2024
- Better explain how we got to the estimate of 60-85% load growth by 2050
- Provide greater emphasis on the need to get renewable energy projects built and the challenges involved with the process
- Further address consumer energy reliability concerns and preparedness of electricity generation and transmission
- Expand battery storage to energy storage to include other forms of electric and thermal storage
- Indicate that point of use energy storage could be used to manage load utilization and mitigate distribution system upgrades

CAC Feedback on Electricity

> Unresolved Issues

- Treatment of nuclear facilities in draft is not sufficient. What the support could look like for nuclear facilities is important to know because the cost is important to consider
 - Proposed resolution: The Integration Analysis includes the relicensing of remaining nuclear facilities as part of its total resource cost assessment, as well as a sensitivity where these facilities are not relicensed. Further research will be needed to analyze and assess future policy options and implementation pertaining to these facilities.
- Treatment of hydrogen
 - Proposed resolution: Tie more closely to the analysis work and be specific about the scale of any potential use. For further Council discussion in 2022
- Consider recommending a mandate that renewable gas be used in non-distributed, non-combustion end uses only, such as fuel cell energy generation
 - Proposed resolution: For Council discussion in 2022
- Consider including dual-fuel heating solutions that combine gas and electric heating sources as a possible solution to mitigate winter peak demand impacts
 - Proposed resolution: For Council discussion in 2022

Buildings Chapter

Highlights from Buildings Chapter

> Buildings

- Overview of sector and vision
 - 2030:
 - Heat pumps become the majority of new purchases for space and water heating
 - 1-2 million households electrified with heat pumps
 - heat pumps provide space heating and cooling for 10-20% of commercial space
 - 2050:
 - 85% of homes and commercial building space statewide have electrified with heat pumps
- Key Sector Strategies → → →

Theme	Strategies
Adopt Zero Emissions Codes and Standards and Require Energy Benchmarking for Buildings	<ul style="list-style-type: none"> • Adopt Advanced Codes for Highly Efficient, All-Electric, and Resilient New Construction • Adopt Standards for Zero Emissions Equipment and the Energy Performance of Existing Buildings • Require Energy Benchmarking and Disclosure
Scale Up Public Financial Incentives and Expand Access to Public and Private Low-Cost Financing for Building Decarbonization	<ul style="list-style-type: none"> • Scale Up Public Financial Incentives • Expand Access to Public and Private Low-Cost Financing • Align Energy Price Signals with Policy Goals
Expand New York's Commitment to Market Development, Innovation, and Leading-by-Example in State Projects	<ul style="list-style-type: none"> • Invest in Workforce Development • Scale Up Public Awareness and Consumer Education • Support Innovation • Reduce Embodied Carbon from Building Construction
Transition from HFCs	<ul style="list-style-type: none"> • Advance a Managed and Just Transition from Reliance on HFC Use

CAC Feedback on Buildings

> Key Points to Incorporate

- Place more emphasis on how decarbonization activities and innovations lead to jobs; highlight new findings from the Climate Jobs Study that by 2030 the buildings sector will add another 100,000 clean energy jobs
- Place more emphasis on resiliency, especially related to heating
- Expand attention to community-scale district thermal solutions; relatedly, explore how the build out of heat pumps could be done in a managed way – street by street or neighborhood by neighborhood – to capture economies of scale via district thermal and to enable coordination with managed transition of the gas system
- For the proposal in the draft that the “PSC should prohibit utilities from providing new gas service to existing buildings,” identify how that information could be shared with and implemented into decision-making of municipal planning departments
- Expand discussion of pros and cons of different funding options to scale up public financial incentives (e.g., bond fund, utility ratepayer, utility socializes district thermal, State, federal); while federal funding seems critical, levels are uncertain
- Add a specific recommendation that the State should establish a 2030 target for the buildings sector that is commensurate with the level of electrification and efficiency needed to achieve the State’s climate goals and ensure that policies and programs are in place to achieve this target
- Explain the composition of fossil fuels (natural gas, kerosene, distillate fuels, etc.) used in buildings that accounts for the sector’s emissions from combustion
- Recommend expanding building codes R327.5 to increase levels of battery storage as well as where storage may be installed in a manner that provides true storage capability at the point of use to accommodate move toward EV Charging and electric heating/cooling
- Provide more specifics on how to electrify large buildings (e.g., NYC high-rise offices and apartments)
- Address whether district steam systems are part of the solution or need to be phased out
- Clarify and cite with supporting, peer-reviewed research the statement that "using combustion appliances ... - particularly fossil gas for cooking - has negative impacts on indoor air quality and ... health"

CAC Feedback on Buildings

> Unresolved Issues

- Why no emphasis on dual-fuel path, using hybrid heating systems and existing gas infrastructure, comparable to the NYC pathways study?
 - Proposed resolution: For Council discussion in 2022. In this draft, clarify IA scenarios to date; in sum, even with significant deployment of RNG in the buildings sector, the scope of RNG use throughout the economy is limited due to the CLCPA emissions accounting conventions and the need to mitigate statewide emissions from all sectors, while the highest-value allocation of hydrogen is limited mostly to transportation, industrial purposes, and electricity reliability. Also discuss the role of: (1) Con Ed district system which is powered by green hydrogen in IA scenarios, (2) “resource efficient electrification” in certain building types like large commercial buildings, which likely will phase in electrification over time within a given building, hence a transition period of dual-fuel, and (3) some limited role for dual fuel systems in the coldest parts of the state, for a transitional period.
- Recommend ground source heat pumps (incl. community-scale thermal loops) vs. air source heat pumps because when it gets very cold, air source heat pump efficiency goes down and electricity demand increases; accounting for total system costs, ground source heat pumps may be the lower cost option.
 - Proposed resolution: A Ground Source/District Heat Pump Sensitivity Analysis is underway to explore the system benefits and cost implications of a transition toward a heating appliance sales share dominated by ground source and district heat pumps. Meeting the speed and scale of transformation needed to achieve NY’s climate goals, and as fit for individual buildings, suggests a mix of heat pump solutions.
- Need more consideration of the distribution/demand side and to think about integrated system solutions including heat pumps, advanced metering infrastructure, time of use rates, and energy storage. Are there ways to consider the overall costs to consumers and package solutions in ways that minimize infrastructure upgrades?
 - Proposed resolution: The importance of advancing flexible/grid-interactive demand in the buildings sector, including battery/thermal storage and price signals, is currently included under a strategy to Support Innovation (i.e., “Support NextGen grid-interactive buildings solutions”), as well as noted in the upfront narrative. While narrative description can be expanded, it will not be possible to quantify overall cost to consumers and for infrastructure for the initial draft.

Transportation Chapter

Highlights from Transportation Chapter

> Transportation

- Overview of sector and vision
 - 2030:
 - Zero-emission vehicle (ZEV) sales of ~100% for light-duty and 40% or more for medium- and heavy-duty vehicles
 - Shift of personal transportation in urbanized areas to public transportation or other low-carbon modes
 - Multiple pathways, one shifts diesel vehicle use to renewable diesel in the short term; another would require accelerated ZEV adoption and early retirement of internal combustion engines
 - 2050:
 - ZEV sales of ~100%
 - Substantial increase in use of low-carbon transportation modes
 - Some segments of hard-to-electrify sectors (aviation, freight rail) will rely on hydrogen and renewable biofuels, as needed
 - Early action and investment required to ensure availability and affordability of future fuels and technologies
- Key Sector Strategies → → →

Theme	Strategies
Transitioning Cars, Trucks and Buses to ZEVs	<ul style="list-style-type: none"> • Sales mandates • Purchase incentives • Investment in charging
Enhancing Public Transportation and Mobility Alternatives	<ul style="list-style-type: none"> • Community-Based Service Enhancements • Customer Convenience and Service Connectivity • Fleet Modernization and Electrification
Smart Growth and Mobility Oriented Development	<ul style="list-style-type: none"> • Mobility-Oriented Development • Smart Growth Public Education and Awareness • Expanding the Availability of Low-Carbon Active Transportation Alternatives • New Technology Integration
Market-Based Solutions and Financing	<ul style="list-style-type: none"> • Transportation Sector Market-Based Policies • Unlock Private Financing • Lower Carbon Renewable Fuels

CAC Feedback on Transportation

> **Key Points to Incorporate**

- Add recommendation that the state fleet should commit to a 100% electrified fleet by a date certain.
- Need more of a highlight on off-road vehicles
- Emphasize educating the public about how EVs work, the role they play (related to storage), and how they would be part of the larger grid (distribution grid/larger).
- Specifying need for particular types of charging infrastructure, including highway based fast-charging and charging in multifamily homes and urban areas
- Should revise language around ZEV cost-effectiveness to be up-to-date and less pessimistic

CAC Feedback on Transportation

> Unresolved Issues

- There is debate over the inclusion of low carbon fuels for hard-to-electrify vehicles and equipment, including renewable diesel and hydrogen
 - Proposed resolution: Seek direction from CAC members regarding multiple scenarios for public comment
- Consider utilities owning distributed charging stations as an extension of metered services
 - Proposed resolution: New York State does not see evidence to date of market failure or of a benefit from utility ownership, but we continue to monitor and welcome evidence to suggest the issue should be revisited. Note that PSC is planning to review this matter in its Jan 2023 mid-term review of its EV Make Ready Order.

Industry Chapter

Highlights from Industry Chapter

> Industry

- Overview of sector and vision
 - 2030:
 - Continued energy efficiency investments
 - Switching to low carbon resources, including electrification to limited extent
 - Heterogeneity of sector calls for customized solutions to meet needs
 - 2050:
 - Carbon neutrality plays more significant role
 - Where electrification of high temperature heat processes is not feasible, decarbonization could be achieved via green hydrogen or other low carbon fuels, and carbon capture
 - Requires research, development, and demonstration to prove technologies at scale
- Key Sector Strategies → → →

Strategies

- Financial and Technical Assistance
- Low Carbon Procurement
- Workforce Development
- Research, Development, and Demonstration
- GHG Reporting
- Economic Incentives

CAC Feedback on Industry

> Key Points to Incorporate

- Identify key stakeholders, consistent with format used in other chapters
- Provide additional emphasis on the need to focus investments and their benefits in DACs, as well as the importance of doing so
- Emphasis on clean economy industries important, but retention of existing industries should also be highlighted
- Recommend adding guidelines on how certain lower emission technologies should be pursued or incentivized
- Should clarify recommended uses for carbon capture and storage; cement manufacturing appears to be highlighted as an example
- Should address issues arising from cryptocurrency mining and similar activities

CAC Feedback on Industry

> Unresolved Issues

- Make a recommendation or put forward a position on whether the DEC should exercise the alternative compliance option under CLCPA for particular industries to achieve local emissions reductions through offsets
 - Proposed resolution: Revise the Vision for 2050 paragraph to include: “In some limited instances, industrial sources might be able to qualify for the use of an alternative compliance mechanism if DEC has established such a mechanism and if the source can meet the stringent requirements set out in the Climate Act to govern its use.”
- Ensure the chapter addresses concerns of local manufacturing companies that rely on fossil fuels to make sure they will still be comfortable investing in the state.
 - Proposed resolution: The specific strategies set out in the chapter, including the possible use of low carbon fuels, carbon capture and alternative compliance mechanisms, should all give comfort to manufacturing companies. Highlight this point by mentioning the use of incentive-based strategies.

Agriculture and Forestry Chapter

Highlights from Agriculture and Forestry Chapter

> Agriculture and Forestry

- Overview of sector and vision
 - 2030:
 - Reduce methane and nitrous oxide emissions in the agricultural sector livestock operations and cropland management
 - increase carbon storage and sequestration in agricultural and forestry products through the avoided conversion of farm and forest lands, afforestation and reforestation, improved forest management practices, cropland management practices and harvested wood products
 - 2050:
 - Deeper emissions reductions in the agricultural sector through innovation, research, technology, and market solutions
 - Substitution and sequestration benefits from a strong bioeconomy
 - 60 MMT CO₂e net sequestration in the Agriculture and Forestry sectors
- Key Sector Strategies → → →

Theme	Strategies
Sustainable Forest Management	<ul style="list-style-type: none"> • Prevent Forest Pests, Diseases, and Invasive Species and Restore Degraded Forests • Maintain and Improve Sustainable Forest Management Practices and Mitigation Strategies • Support Local Communities in Forest Protection and Management • Create a New York Forest Carbon Bank • Monitor Progress and Advance Forestry Science and Technology • Conduct Education and Outreach on Forest Management
Livestock Management	<ul style="list-style-type: none"> • Advance Alternative Manure Management • Advance Precision Feed, Forage, and Herd Management
Soil Health, Nutrient Management, and Agroforestry	<ul style="list-style-type: none"> • Advance Agricultural Nutrient Management • Adopt Soil Health Practice Systems • Increase Adoption of Agroforestry • Develop AEM Planning for Climate Mitigation and Adaptation • Establish a Payment for Ecosystem Services Program • Bolster Local Agricultural Economies
Climate-Focused Bioeconomy	<ul style="list-style-type: none"> • Expand Markets for Sustainably Harvested Durable Wood Products • Develop a Sustainable Biomass Feedstock Action Plan • Provide Financial and Technical Assistance for Low-Carbon Product Development • Advance Bio-Based Products RDD • Advance Deployment of Net Negative CO₂ Removal

CAC Feedback on Agriculture and Forestry

> Key Points to Incorporate

- Note that emissions from ag equipment (tractors) is covered in transportation non-road
- Ensure consistent treatment of biofuel combustion (across chapters)
- Many of the proposals are already being worked on by agency staff. Need to be specific about scale of change needed to make lasting carbon sequestration impacts and as well as specifics for funding sources.
- Should recommend expanding forest management programs eligibility to smaller holdings while shifting focus from lumber management to forest sequestration.
- Should emphasize the link between nutrient management and water quality, especially the impact of nitrogen pollution on New York's watersheds. Discuss overlapping practices for sequestration and soil health/pollution prevention.

CAC Feedback on Agriculture and Forestry

> Unresolved Issues

- Should recommend providing funding to measure methane emissions from New York State farms.
 - Proposed resolution: There are several references to funding, incentives, and providing greater technical and financial assistance to New York State farms. Specifically, the first component of Monitor and Benchmark Ag GHG Emissions Strategy (AF15) states that AGM and DEC should establish funding for an agricultural benchmarking and monitoring program. The intent is to provide funding to farms and potentially other service providers, based on available resources, to collect data where feasible, monitor, and model emissions to gauge mitigation performance across applicable areas of farm management. This information would be used by policymakers and industry for continued research and development, refinement of existing and development of new programs and incentive structures for continued emission reductions.

Economywide Strategies

- **Considerations and Options**

Role of Economywide Strategies

- > **Ensure compliance with Statewide GHG emission limits**, as required by section 75-0109 of the Climate Act, which requires that DEC regulations shall “[e]nsure that the aggregate emissions of greenhouse gases from greenhouse gas emission sources will not exceed the statewide greenhouse gas emissions limits.”
- > **Establish a source of funding** to implement other policies identified in this plan, particularly policies that require state investment or state funding of incentive programs, after accounting for other funding streams
- > **Provide a market signal** that will yield additional emission reductions as individuals and businesses make decisions that reduce their own emissions

Consideration of Potential Approaches

Potential Economywide Approaches

- **Carbon tax or fee:** sets a fee on greenhouse gas emissions that may increase over time
- **Cap-and-Invest:** establishes a cap on emissions that declines over time; auctions allowances that emitters/fossil fuel providers would purchase to cover their emissions
- **Clean energy supply standard:** tradeable performance standard requiring reduction in carbon intensity of energy carriers, including fuels and electricity

> Policy Considerations

- Does the policy ensure compliance with emission limits as required by 75-0109?
- Does the policy provide price certainty?
- How would the policy prioritize emission reductions of GHGs and co-pollutants in disadvantaged communities and alleviate and prevent the formation of pollution hotspots?
- How affordable is the policy to the average New Yorker? Can it be designed to avoid regressive impacts?
- Any difference in the sufficiency of funding or use of proceeds?
- Can the policy be designed to minimize leakage and economic disadvantage to New York's economy?
- Can the policy be designed to stimulate economic development and innovation?
- Should it be adopted economywide or for selected sectors? How would it apply economywide?
- How does the policy interact with applicable regulatory standards?
- Is the policy equitable across regions of the state?
- Can and should the policy integrate multistate regional policies like RGGI?

Land Use Chapter

Highlights from Land Use Chapter

> Land Use

- Cross cutting topic with recommendations from Agriculture and Forestry, Transportation, and Land Use and Local Government Panels
- Land use decisions affect the state’s carbon emissions, sequestration, and storage.
- Balance the protection and restoration of natural and working lands, development, and clean energy siting
- How to arrange and design development and conservation
 - Dense and targeted development patterns
 - Strategic open space conservation
 - Maximize natural and working lands
 - Aligned with transportation and infrastructure investments

Theme	Strategies
Protection, Restoration, and Monitoring of Natural and Working Lands	<ul style="list-style-type: none"> • Mitigate Carbon Emissions by Protection of Forest Lands • Afforestation and Reforestation • Avoid Agricultural and Forested Land Conversion • Protect and Restore Wetlands • Mapping, Research, Planning, and Assistance
Forests and Farmland in Municipal Land Use Policies	<ul style="list-style-type: none"> • Provide Guidance and Support for Afforestation and Reforestation to Local Communities • Increase Forest and Farmland Protection in Municipal Comprehensive Plans • Provide Guidance and Support on Clean Energy Siting to Localities
Smart Growth	<ul style="list-style-type: none"> • Regional and County Planning and Technical Assistance • Direct Planning, Zoning, and Pre-Development Grants • Align State Funding Priorities • Accelerate TOD

CAC Feedback on Land Use

> **Key Points to Incorporate**

- Need to discuss the specifics of proposals for scale of investment needed or level more than status quo.
- When discussing land use and renewable energy use “wind, solar, storage and electric vehicle charging”

CAC Feedback on Land Use

> Unresolved Issues

- Incentives should be based on proximity of generation to current load centers and/or economic development sites that could combine infrastructure planning to incorporate renewable energy, storage, increase electric capacity and/or need for infrastructure to both achieve CLCPA goals and to ensure site readiness of select locations for economic growth
 - Proposed resolution: This language could be included in LU8 strategy and/or under the first recommendation “Develop new planning tools and resources”. Also, we may want to briefly tie in considerations of current land use practices into the above (ag, wetland, forest, etc.) for additional consideration
- Add recommendation placing a moratorium on deforestation for the purpose of renewable energy and/or reject State subsidy, tax credits, RECs, etc. for projects involving deforestation of any level
 - Proposed resolution: Although not a moratorium, there is already a recommendation to mitigate the impact from renewable energy projects on forests. Propose to add the following language to this recommendation: “In some cases, this may include the rejection of State subsidy, tax credits, and RECs in forests with high carbon, climate, and other related benefits”. A full moratorium on deforestation could pose challenges to meeting statewide energy goals. However, limiting deforestation of natural, mature forests to prevent high GHG emissions should certainly be considered.
- Should encourage cities to adopt moratoriums while they adopt comprehensive plans and zoning updates that are consistent with the Climate Act
 - Proposed resolution: Add language under Direct Planning, Zoning, and Pre-Development Grants related to providing guidance and assistance to munis to adopt moratoriums. Revise the strategy to read a little more broadly by replacing “Grants” with “Assistance” to be inclusive of technical assistance and grants
- Expand funding in the EPF to allow for the critical mass of smart growth comp plans and zoning to truly impact development patterns and land use/transportation-based greenhouse gas emissions
 - Proposed resolution: There is a LU recommendation to “expand” the smart growth program at DOS and Climate Smart Communities at DEC for more comp planning/zoning grants and technical assistance and LU 10: Direct Planning, Zoning, and Pre-Development Grants supports that comment. The recommendation could be clearer and outright by stating “increase funding” to further accelerate the development of smart growth plans and zoning ordinances.

Local Government Chapter

Highlights from Local Government Chapter

> Local Government

- Taking significant action and contributing directly to meeting Climate Act goals
- Partnerships between the State and local governments help drive rapid adoption, widespread participation, and big impact
- Partnerships help ensure access to benefits of clean energy, adaptation and resilience, and GHG mitigation strategies for all New Yorkers
- Lead by example to help increase the priority of clean energy and sustainability for residents, businesses, and institutions
- Increasingly engaged in providing education and training, outreach, and technical assistance

Strategies

- Clean Energy Community Dashboard
- Local Energy Policies
- Planning Support for Local Governments
- Community Initiatives
- State Support and Guidance

CAC Feedback on Local Government

> Unresolved Issues

- Several towns and cities have voted to electrify their buildings or fleets, suggested these specific examples be added and include discussion on how the state will fund and support the replication of these efforts.
 - Proposed resolution: Fleet and building electrification efforts can be supported through technical assistance and funding from the Climate Smart Communities and Clean Energy Communities programs. Current initiatives, such as the City of Ithaca's building electrification plans, can be highlighted and discussed as relevant case studies.
- The council should consider using the state's permitting and registration powers to avoid fossil fuel development while cities and local governments update their comprehensive plans.
 - Proposed resolution: Since state permitting powers can't anticipate local government action, this chapter can recommend that guidance on local government moratoriums be expanded to reference fossil fuel infrastructure (e.g., gas stations) during comprehensive plan and zoning updates.
- The local government strategy to prioritize methane recovery from wastewater treatment and landfills should extend beyond just on-site energy production. While certainly useful in this regard, biofuels generated from methane recovery, like RNG, can and should be used in a more comprehensive way
 - Proposed resolution: Seek direction from CAC members regarding multiple scenarios for public comment and ensure consistency with the Waste Chapter recommendation (W9 biogas use).

Waste Chapter

Highlights from Waste Chapter

> Waste

- Overview of sector and vision
 - 2030:
 - Significant increase in organics diversion from landfills
 - Existing landfill emission reduced through capping, emissions monitoring and leak reduction
 - Waste reduction, reuse, and recycling initiatives are put in place, including EPR
 - 2050:
 - Solid waste and water resource recovery facilities are dramatically changed
 - Landfills are only used sparingly for specific waste streams
 - Reduction and recycling are robust and ubiquitous
- Key Sector Strategies → → →

Theme	Strategies
Waste Reduction, Reuse, and Recycling	<ul style="list-style-type: none"> • Organic Waste Reduction and Recycling • Waste Reduction, Reuse, and Recycling • Extended Producer Responsibility (EPR)/Product Stewardship • Water Resource Recovery Facility (WRRF) Conversion • Refrigerant Diversion
Fugitive Emissions Monitoring, Detection, and Reduction	<ul style="list-style-type: none"> • Reduce Fugitive Emissions from Solid Waste Management Facilities • Reduce Fugitive Emissions from WRRFs
End Markets and Biogas Utilization	<ul style="list-style-type: none"> • Recycling Markets • Biogas Use

CAC Feedback on Waste

> Key Points to Incorporate

- Review the language and tone of the section to encourage the continued use of recycling programs and recognize the limitations of individuals and ongoing success of individual efforts

> Unresolved Issues

- There should be consideration of whether the CLCPA bans the use of waste combustion as a market player or disposal technique. It remains unclear how incinerators remain in operation after 2040 for electricity generation.
 - Proposed resolution: The applicability of the zero-emission electricity requirement and the specifics of how it will be implemented, will be addressed by the PSC, including how waste combustion for electricity generation will be handled.
- Should clarify how to address the treatment of the remaining waste for disposal after existing recommendations are adopted.
 - Proposed resolution: DEC to track technology developments to inform further evaluation by the CAC in future Scoping Plan review, utilizing the best technologies for limiting emissions of GHGs and co-pollutants.
- Should prioritize regular measurement and monitoring of methane emissions from landfills.
 - Proposed resolution: Direction to DEC to track technology developments re monitoring landfill emissions and require use of new technologies that are proven.

Climate Justice

Chapter

Highlights from Climate Justice Chapter

> Achieving Climate Justice

- Climate Justice and the Climate Act
 - Climate Justice Working Group
 - Defining disadvantaged communities
 - Directing benefits to disadvantaged communities
 - Community Air Monitoring
- Climate Justice engagement in developing the draft Plan
 - Summarizes high level CJWG feedback, points to sectoral/strategy sections for more specific feedback
- Highlights some specific example strategies prioritizing emissions reductions in DACs

CAC Feedback on Climate Justice

> **Key Points to Incorporate**

- Need stronger statements on disadvantaged communities' definition and associated 40% of benefits and what it means for State decision-making and the Scoping Plan.
- Emphasize a “whole government approach” with interagency coordination on the approach to climate justice in a way that solves common problems
- More emphasis needed on prioritizing reductions of co-pollutants, especially in Disadvantaged Communities
- Emphasize avoiding disproportionate burden (Section 7(3))
- Add language about affordable housing programs within the list of components table.

CAC Feedback on Climate Justice

> Unresolved Issues

- Need guidance for agencies to prioritize emissions reductions in disadvantaged communities, prevent placing additional burdens on disadvantaged communities, and keep in line with greenhouse gas emissions reductions goals
 - Proposed resolution: With input from EJ community representatives, DEC is developing draft guidance for public comment, which could serve as model for other agencies. Consider interagency coordinating
- Should include a specific discussion on gender and climate and the need to include a gender lens for women, femmes and girls on the front line of the climate crisis.
 - Proposed resolution: For Council discussion.

Just Transition Chapter

Highlights from Just Transition Chapter

> Just Transition

- Just Transition principles – 10 principles in support of a fair and equitable transition
- Workforce Impacts and Opportunities - strategies to help ensure NY's workforce is prepared and stands to benefit
 - Direct Displaced Worker Support
 - Evaluation of labor standards
 - Targeted Financial Support for Businesses
 - Training Curriculum and Programs
 - Comprehensive Career Pathway Programs
 - Community Engagement, Stakeholder Input, and Market Assessments
 - General Considerations
- Measures to Minimize Carbon Leakage Risk and Anti-Competitiveness Impacts
- Power Plant Retirement and Site Reuse
- Jobs Study

CAC Feedback on Just Transition

> **Key Points to Incorporate**

- Should state how the just transition work will be implemented within the Final Plan
- Need a more forward view on future job types that is illustrative of the new economy
- Specificity of recommendations should be increased where possible and get to action beyond examining and studying

CAC Feedback on Just Transition

> Unresolved Issues

- Should include a focus on economic development opportunities and the potential to solve multiple challenges at once – like how we can retain and add new economic growth throughout the state.
 - Proposed resolution: Utilize results from the Jobs Study to identify specific sub-sectors and portions of the supply chain especially ripe for growth in New York State and therefore presenting strong economic development opportunities.
- Information on evaluation of labor standards is too broad; need to say something stronger on equal pay standards.
 - Proposed resolution: Refine language to include strengthened embrace of labor standards (prevailing wage, project labor agreements) in sectors and use-cases that are appropriate and practicable (e.g., OSW, LSR, transmission)
- Need to engage the business community more to bring forward creative solutions that benefit themselves, have replicable attributes and global implications; in other words, find a way to invite them to be investors in New York's growing climate economy.
 - Proposed resolution: Agency staff, including ESD, will work with members of the Just Transition Working Group to craft augmented language along these lines.
- Communities with prior plant closures (e.g., coal) should be prioritized ahead of natural gas plant closures given the greater environmental impact and legacy.
 - Proposed resolution: Will work to incorporate in the draft Scoping Plan chapter a general/illustrative list of factors that should be taken into consideration: vintage/age of the facility, time since closure, percent of localities' annual tax revenues affected, number of jobs displaced, etc.

Health Chapter

Highlights from Health Chapter

> Health

- Principles of the State's health improvement plan – to improve health outcomes, enable well-being, and promote equity across lifespan
- Describes both direct and indirect human health impacts of climate change and the health co-benefits of mitigation and adaptation strategies
- Calls out where DACs are likely to have greater health inequities

CAC Feedback on Health

> Key Points to Incorporate

- Highlight how much we have learned about the health effects of climate change and how much there is to gain from mitigation efforts
- Better highlight challenges DACs face (e.g., health disparities) and how we will address them
- Highlight use of parks/ green spaces for stress reduction, storm and heat island mitigation, etc. to revitalize and improve health outcomes in disadvantaged communities.
- Highlight the COVID link with impaired air quality and community health disparities
- Mention mental health effects and health effects of Superstorm Sandy
- Expand discussion of health issues relevant for rural areas, like wood burning
- Better identify the benefits we will see from electrification (e.g., improvements to indoor air quality (AQ) and emphasize that AQ impacts are near the source (traffic, chimneys, wood boilers, etc.)
- Ensure consistent treatment of biofuel combustion (across chapters)
- Include the health effects of inadequate energy reliability (e.g., system failures)

Adaptation and Resilience

Chapter

Highlights from Adaptation and Resilience Chapter

- > Prepare for the impacts of present and future climate change
 - Actions that provide the leadership, direction and resources necessary for New York to fully address its substantial vulnerabilities, while prioritizing equitable treatment
 - Ensure availability of information, financial resources, and regulatory authority to adapt to reduce risks associated with climate hazards

Theme	Strategies
Building Capacity	<ul style="list-style-type: none"> • Comprehensive and Equitable State Climate Change Adaptation and Resilience Plan • Equitable Adaptation and Risk-Reduction Considerations in State Programs, Projects, and Policies • Strengthen Meaningful Community Engagement and Public Education and Build Adaptive Capacity across All Sectors • Equitable Adaptation and Resilience Practices and Projects, and to Enhance Insurance Protection
Communities and Infrastructure	<ul style="list-style-type: none"> • Planning and Technical Support for Equitable Regional Local Adaptation and Resilience Plans and Projects • Equitable Consideration of Future Climate Conditions in Land-Use Planning and Environmental Reviews • Reduce Risks Associated with Coastal and Inland Flooding • Reduce Human Risks Associated with New Patterns of Thermal Extremes • Ensure the Reliability, Resilience, and Safety of the Energy System
Living Systems	<ul style="list-style-type: none"> • Reduce Risks Threatening Ecosystems and Biodiversity • Enhance Climate Resilience and Adaptive Capacity of the Agricultural Community • Preserve and Protect the Ability of Forest Ecosystems to Sequester Carbon

CAC Feedback on Adaptation and Resilience

> Key Points to Incorporate

- Discuss need for enhanced inter-governmental coordination regarding installation of infrastructure in disadvantaged communities, especially of water and sewer infrastructure
- Expand on need for flood insurance, especially for renters
- Acknowledge disproportionate effect of higher insurance premiums in disadvantaged communities and need for intentional approach to address
- Emphasize need for managed-retreat strategy
- Emphasize need for interagency green infrastructure strategy, especially for disadvantaged communities
- Chief state resilience officer should consider regional needs and coordinate with disaster response agencies

Next Steps

Next Steps

- > **Now: Staff implement Council-approved changes to initial draft Scoping Plan**
- > **Dec 10: Revised draft Scoping Plan distributed to Council members**
- > **Dec 20: Public CAC meeting**
 - **Discussion of changes made to draft Scoping Plan**
 - **Formal vote on release of draft Scoping Plan for public comment**
 - Requires a simple majority (12 members)
 - Not an endorsement of any or all strategies and actions contained in the Draft
 - Throughout 2022, CAC will discuss and deliberate, and consider public comments, towards a Final Scoping Plan
- > **Jan 1: Release of Draft Scoping Plan (if approved at Dec 20 meeting)**
 - **Public comment period to last a minimum of 120 days**
 - **A minimum of 6 public hearings will be held**
 - **More details to come at December CAC meeting**

Appendix