CITY OF ELK GROVE
CITY COUNCIL STAFF REPORT

AGENDA TITLE:	**Receive information on the 2024 Climate Compass and provide direction as needed**
MEETING DATE:	**August 14, 2024**
PREPARED BY:	**Carrie Whitlock, AICP, Strategic Planning and Innovation Program Manager**
DEPARTMENT HEAD:	**Christopher Jordan, AICP, Development Services Director**

RECOMMENDED ACTION:

Staff recommends that the City Council receive information regarding the Climate Compass, the 2024 update to the City's Climate Action Plan, and provide direction on potential programs as needed.

BACKGROUND INFORMATION:

This report is the second in a series of three where staff will discuss the Climate Compass project and seek Council feedback on potential policy and program considerations, which will inform the ultimate plan. For more background information, please see the staff report for Agenda Item 9.4 from the July 24, 2024 City Council meeting. The presentation for that Council meeting focused on the greenhouse gas (GHG) emissions inventory and forecast, and sectors with a smaller GHG emission footprint.

This Council meeting presentation will focus on building and energy, a sector which accounts for 38.3% of community-wide GHG emissions from Elk Grove. A future Council meeting presentation will focus on transportation, the largest emissions sector. This series of Council sessions is intended to provide information and gauge interest in different approaches for reducing GHG emissions. Following the Council sessions, additional work will be done on analyzing the prospective actions, including quantification of GHG reductions, cost, and level of effort, to develop a final list for inclusion in the proposed Climate Compass.

This series of presentations is part of a larger community engagement effort, described later in this report, that has included residents and the business

community, development stakeholders, and related agencies (e.g., SMUD, Air District).

ANALYSIS/DISCUSSION:

The building energy sector makes up 38.3% of the City's GHG emissions. Of these emissions, 68% are from residential buildings and 32% are from nonresidential buildings. The emissions related to this sector come from three sources: electricity (to power buildings), natural gas (to heat buildings and water, cook, and for industrial processes), and backup generators. Of note:

- Within the residential building energy subsector, emissions are fairly evenly split between electricity generation (55%) and natural gas usage (45%).

- Within the nonresidential subsector, most emissions are from electricity generation (80%) with a smaller amount from natural gas usage (19.8%).

- Backup generation is primarily from nonresidential usage and makes up less than 0.1% of emissions in this sector.

Table 1: 2021 Elk Grove Community-wide Building Sector GHG Emissions Inventory (Existing Development)

Sector	GHG Emissions ($MTCO_2e$)	Percent
Residential Building Energy	**271,900**	**68% of all building**
Electricity	*150,260*	*55% of residential*
Natural Gas	*121,641*	*45% of residential*
Backup Generators	*N/A*	
Nonresidential Building Energy	**126,465**	**32% of all building**
Electricity	*101,296*	*80% of nonresidential*
Natural Gas	*25,096*	*19.8% of nonresidential*
Backup Generators	*73*	*<0.1% of nonresidential*
Total Building Energy (Includes Residential and Nonresidential)	**398,365**	**38% of total GHG emissions**

Notes: Totals may not sum exactly due to independent rounding.
$MTCO_2e$ = metric tons of carbon dioxide equivalent

State legislation will have a significant impact on electricity emissions. SMUD and other electricity providers across the state are working to implement Senate Bill 100 (SB 100), which requires all retail electricity sold in California

to be from renewable sources or zero-carbon by 2045, thereby eliminating the GHG effects of electricity. SMUD is also going further with its Zero Carbon Plan, which aims to eliminate all GHG emissions from electric generation by 2030. If this SMUD goal is achieved, it would significantly accelerate the reduction in GHG emissions from electricity usage within the building sector.

Natural gas usage, on the other hand, will continue to generate GHG emissions. As GHG emissions are eliminated from electricity generation, the percent share attributable to natural gas will become the dominant building emissions source. Continuing the installation of natural gas in residential and commercial buildings will contribute increasing amounts of GHG emissions over the coming decades.

Legal/Regulatory Context

The state and local governments are exploring options to address the remaining GHG emissions from natural gas activities. The following describes some recent events.

California Restaurant Association v. City of Berkeley

In 2019, the City of Berkeley passed an ordinance prohibiting the installation of natural gas piping in new construction. The California Restaurant Association (CRA) sued Berkeley, arguing that the ordinance was void as preempted by the federal Energy Policy and Conservation Act (EPCA). The Ninth Circuit Court of Appeals agreed, concluding that EPCA preempts state and local governments from regulating the quantity of natural gas used by an appliance at the point of use. (*California Restaurant Assn. v. City of Berkeley ("CRA")*, 89 F.4th 1094 (9th Cir. 2024) [opinion as amended].). The City of Berkeley declined to seek review by the United States Supreme Court, and the CRA decision by the Ninth Circuit is now final.

The CRA decision only addresses one type of approach to building decarbonization: a non-building code prohibition on gas infrastructure in new construction. Other approaches not addressed by the decision include air quality standards that regulate pollution emissions, reach codes that encourage all-electric construction (for example, electric-preferred ordinances), and policies that require reductions in GHG emissions or air pollution from buildings but provide for flexibility on how to achieve those requirements. Staff continues to explore the practical and legal viability of these other approaches in developing the City's Climate Compass.

Potential Future State Legislation
The California Building Standards Code is updated on a triennial cycle, with the 2025 Code currently being finalized and scheduled for adoption by the state later this fall. The final draft regulations include the following requirements for all new construction and remodels in California as of January 1, 2026:

- For all new single family residential construction, prescriptively require both space and water heating appliances to be heat pumps for all climate zones (the 2022 Code required only one to be heat pump).
- For additions or alterations of single family residential that require an additional water heater, prescriptively require heat pump.
- For all new nonresidential office and school occupancies, prescriptively require heat pump space heating.
- For nonresidential additions or alterations, prescriptively require heat pump for small packaged unit replacements, or furnaces would have to meet additional efficiency requirements.
- For existing single family, prescriptive requirement for heat pump space conditioning when replacing an air conditioner, or standard air conditioners allowed with additional efficiency measures.

These proposed regulations follow the state's trend over the last decade of increasing energy efficiency and emissions reductions with each Code cycle. However, this trend is not sufficient to address the City's GHG reduction obligation alone.

Potential Strategies
As mentioned, the City will need to establish programs in the Climate Compass that reduce GHG emissions from buildings beyond those required by the State. Staff has identified a number of candidate options and is seeking Council feedback at this initial stage to help inform the scope of the review and evaluation before a final selection must be made. Additional analysis will consider a variety of factors, including relative implementation costs for property owners, implementation costs to the City, and the potential for incentives to offset costs.

In considering how GHG emissions from buildings can be reduced, it can be helpful to consider in smaller categories: residential/non-residential and new development/existing development. Table 2 outlines an initial brainstorming of ideas for these categories conducted by staff to date; additional ideas can

be added to this list going forward. This list has been informed by the current draft of the 2025 Building Code (which will be effective as of January 1, 2026); the final adopted version could increase or decrease the effectiveness of these measures. It has also been informed by research into actions being undertaken by other jurisdictions.

Table 2: Brainstorm of Building GHG Reduction Ideas

Land Use/ Development Type	Idea	Considerations
Residential Development		
New Development	***Idea Res-New-1*** Adopt a reach code requiring all new residential construction and major renovations to meet or exceed a specific metric above the minimum building code obligations.	• Likely to have greater impact on GHG emission reduction than Res-New-2. • Consistent with approach taken by City of Sacramento and County of Sacramento. • Allows flexibility in fuel source.
	Idea Res-New-2 Increase the minimum percentage of new residential development that must be all electric. The City's current standard is for a minimum of 10%. A review of recent residential building permits indicates that approximately 43% of new units over the past 18 month are all electric. For example, the minimum could be increased to 80%.	• Depending on the percentage identified, could have a significant impact on GHG emission reduction from new development. • Is less flexible on fuel source than Res-New-1 as a specific number of units would be required to be all electric. • More difficult to implement as it requires tracking on a building permit level for developments. • Could be legally questionable given the Ninth Circuit Court decision.
Existing Development	***Idea Res-Ex-1*** Adopt a reach code requiring higher efficiency requirements. At time of retrofit (or other compliance trigger mechanism) existing residential buildings would need to include energy efficiency measures that meet a target cost-effectiveness score (with flexibility on selection of measures to include).	• Likely able to implement more quickly than Res-Ex-2. • Allows flexibility on fuel source and flexibility on what measures to implement. • Consistent with approach taken in County of Sacramento draft CAP. • Unclear on staff resources needed to ensure compliance.

	Idea Res-Ex-2 Develop a comprehensive building energy retrofit plan to decarbonize existing residential buildings. The plan should address end-of-life recycling and disposal of gas appliances and should implement policies and/or programs that provide financial incentives to replace gas-powered appliances with electric alternatives (e.g., heat pumps HVAC, electric/hybrid/heat pump water heaters, induction stoves) and that cover the costs of electrical panel upgrades and other necessary infrastructure improvements. The result of this retrofit plan may be a reach code, similar to Res-Ex-1.	• Would allow for a more comprehensive approach to decarbonizing existing buildings. • Since the specific obligations/standards would be undefined, the reduction potential of this option is variable as the level of reduction benefit has higher uncertainty. • Likely to delay implementation of decarbonization of existing buildings during plan development.
Non-Residential Development		
New Development	***Idea NonRes-New-1*** Adopt a reach code requiring all new non-residential construction and major renovations to meet or exceed a specific metric above the minimum building code obligations..	• Consistent with approach taken by City of Sacramento and County of Sacramento. • Allows flexibility in fuel source.
	Idea NonRes-New-2 Encourage (or require) new construction projects to comply with CALGreen Tier 1 standards	• Consistent with current 2019 CAP • Unclear how much GHG emission reduction would result. • The reduction potential of this option is less than in NonRes-New-1, based upon how the CalGreen code is currently structured.
Existing Development	***Idea NonRes-Ex-1*** Adopt a building energy performance ordinance for existing nonresidential buildings. Existing nonresidential buildings must reduce their non-electricity-related emissions by a specified percentage over a set timeframe.	• Likely able to implement more quickly than NonRes-Ex-2. • Consistent with approach taken by City of Sacramento and County of Sacramento. • Allows flexibility on achieving emission reductions. • Unclear on staff resources needed to ensure compliance.

	Idea NonRes-Ex-2 Develop a comprehensive building energy retrofit plan to decarbonize existing nonresidential buildings. The plan should address end-of-life recycling and disposal of gas appliances and should implement policies and/or programs that provide financial incentives to replace gas-powered appliances with electric alternatives (e.g., heat pumps HVAC, electric/hybrid/heat pump water heaters, induction stoves) and that cover the costs of electrical panel upgrades and other necessary infrastructure improvements.	• Would allow for a more comprehensive approach to decarbonizing existing buildings. • Since the specific obligations/standards would be undefined, the reduction potential of this option is variable as the level of reduction benefit has higher uncertainty. • Likely to delay implementation of decarbonization of existing buildings during plan development.

Input/initial reactions from the Council on these potential strategies will allow staff to undertake further analysis needed for final consideration. The Climate Compass is anticipated to be completed in the spring of 2025 and returned to the City Council for consideration. This anticipated completion date is subject to adjustment depending on the progress of the development of the Climate Compass and the associated environmental review.

FISCAL IMPACT:

The current and prior fiscal year budgets included costs associated with preparing the Climate Compass. Implementing the Climate Compass will include actions for the City and private development. For private development, these costs are the responsibility of the developer and/or property owner. However, several local, state, and federal incentives are available for certain requirements, including design funding and construction incentives from SMUD, and tax credits. The Climate Compass will discuss funding strategies and costs for near-term actions.

ATTACHMENTS:

None