

Developing and Implementing a Climate Action Plan



KEY TAKEAWAYS

- Align with policies at local, regional, and state levels to enhance compliance and impact.
- Develop a roadmap with clear strategies, actions, and responsibilities for net-zero goals.
- Follow a hierarchy of interventions prioritizing prevention, reduction, substitution, and offsets.
- Foster inclusive engagement to ensure equitable climate benefits and stakeholder collaboration.



INTRODUCTION

Developing and implementing a climate action plan is a pivotal step for utilities committed to reducing greenhouse gas (GHG) emissions and strengthening climate resilience. A climate action plan provides a structured roadmap, outlining the strategies, initiatives, and actions the organization will undertake to mitigate climate risks and transition to a low-carbon future. By detailing specific projects, timelines, and responsibilities, the plan becomes the foundation for achieving climate objectives and ensuring that actions are aligned with broader organizational goals. While the focus of this discussion is on advancing efforts to reduce emissions, many of the principles that drive emissions reductions also apply to developing adaptation strategies.



ACTIVITIES AND ACTIONS

Developing a climate action plan must be a comprehensive and inclusive process. This involves identifying key sources of emissions, selecting appropriate mitigation measures, prioritizing actions, and setting timelines for implementation. Effective climate action planning requires collaboration across all departments and should be informed by data-driven insights and stakeholder input.

Assessing Emissions and Setting Priorities

The foundation of any emissions reduction plan is a comprehensive GHG inventory that provides a clear picture of the utility's emissions profile across direct operations, purchased energy, and supply chain activities. Understanding these sources enables utilities to identify significant emission sources and prioritize reduction efforts based on feasibility and impact.

***Tip:** Initial prioritization should focus on the most significant emissions sources and those where mitigation measures present opportunities for co-benefits such as operational efficiency, cost savings, and enhanced resilience to climate-related risks.*



Hierarchy of Interventions

A well-structured plan follows a hierarchy of interventions, prioritizing the most impactful measures first:

- **Prevention:** Avoid emissions at the source through climate-aligned design and planning integrated into utility operations.
- **Reduction:** Minimize emissions through increased efficiency in resource use, energy consumption, and operational processes.
- **Substitution:** Replace high-carbon energy sources, products, and materials with lower-carbon alternatives such as renewable energy and sustainable construction materials.
- **Insetting/Offsetting:** Address residual emissions through local carbon removal projects or community-based climate initiatives before relying on external offsets.

This structured approach ensures that utilities maximize direct emissions reductions before turning to offset strategies.

Defining Strategies and Mitigation Measures

Once priority emission sources are identified, the next step is to define the specific emissions reduction actions that will be implemented. These strategies may include transitioning to renewable energy sources, increasing energy efficiency across operations, electrifying vehicle fleets, or adopting low-carbon technologies for critical processes. The plan should also identify opportunities to integrate nature-based solutions and circular economy practices such as wetland restoration, urban tree planting, energy recovery, and resource recovery to enhance emissions reductions and environmental benefits. The plan should include a combination of short- and long-term initiatives.

***Tip:** To ensure accountability, the plan should include progress evaluation measures and clear timelines for tracking emissions reductions.*

Integration and Implementation

A net zero transition plan should outline specific governance structures, monitoring mechanisms, and accountability frameworks to ensure successful execution. It should also define roles, oversight, and decision-making processes while identifying necessary resources such as funding, personnel, and technical expertise to achieve emissions targets. To maintain transparency and adaptability, the plan should specify reporting and performance review requirements to track emissions reduction progress, document lessons learned, and allow adjustments as operational and technological conditions evolve.

Tip: *Include a flowchart or diagram to visually illustrate the key processes and components of your net zero transition plan for clearer understanding and effective communication.*



Fairness and Community Alignment

Climate action plans should identify and mitigate potential negative impacts on all communities. The plan should ensure benefits are distributed evenly and that no group is disproportionately affected. Involving both internal stakeholders (such as employees and management) and external stakeholders (such as regulators, customers, and community groups) is essential during the development phase to gather input, set priorities, and build trust. This collaborative approach ensures that diverse perspectives are considered, leading to a more comprehensive and effective plan.

Additionally, integration with local, regional, and state-level policies should be explicitly addressed to align with regulatory requirements and broader climate commitments. This ensures that emissions reduction strategies are compatible with external mandates, incentives, and long-term development goals. This focus on fairness and collaboration enhances the plan's effectiveness, builds support, and promotes coordinated efforts to lower GHG emissions.

Tip: *Host a “GHG strategy hackathon” where employees, partner agencies, customers, and community groups collaborate to identify priorities, uncover policy alignment opportunities, and shape an effective emissions reduction plan.*

KEY CHALLENGES AND SOLUTIONS

Mismatched Timelines Between Climate Goals and Infrastructure Cycles

Water and wastewater infrastructure have lifecycles of 30–50 years, making it difficult to align near-term emissions targets with slow capital replacement. Upgrading treatment plants and distribution systems for decarbonization requires significant investment and long planning horizons, creating tension between immediate needs and long-term goals.

Solutions:

- Align climate actions with infrastructure upgrade cycles to phase in low-carbon technologies during scheduled replacements, avoiding stranded assets and reducing cost burdens.
- Design a phased transition framework that outlines how emissions reductions will be prioritized over time, ensuring feasibility within existing infrastructure cycles.
- Evaluate the role of modular and flexible infrastructure in climate planning to allow for adaptable, incremental upgrades rather than full system overhauls.
- Identify financial and policy mechanisms early to ensure the climate plan accounts for funding sources, regulatory requirements, and cost-effective pathways for emissions reductions.

Securing Resources for Implementation

A net zero transition plan must clearly define the financial, technical, and human resources required to achieve emissions reduction goals. Without a detailed assessment of funding needs, workforce capacity, and regulatory constraints, plans may be overly ambitious without a viable pathway for execution or too conservative to drive real progress. Additionally, utilities

must navigate evolving and sometimes conflicting regulations that impact resource availability and implementation timelines.

Solutions:

- Define specific resource requirements by estimating the financial, technical, and staffing needs to ensure alignment with operational realities.
- Build a business case for major initiatives by quantifying cost savings, operational benefits, and risk mitigation.
- Evaluate workforce capacity and expertise to determine training, role adjustments, or process improvements needed for implementation.
- Leverage peer utility best practices to refine cost estimates, funding strategies, and staffing plans.

Bridging Departmental Silos in Plan Development

Developing a climate action plan requires cross-departmental coordination, but siloed decision-making, competing priorities, and misaligned incentives can slow progress. If departments view climate initiatives as outside their core responsibilities, planning efforts may become fragmented, uncoordinated, or misaligned with broader utility operations.

Solutions:

- Form an interdepartmental climate planning team to integrate expertise and ensure a coordinated approach.
- Secure leadership buy-in across departments to embed climate goals into core decision-making.
- Define clear accountability structures to assign roles, responsibilities, and decision-making authority.
- Establish structured engagement processes to align priorities, improve communication, and reduce resistance.

Valley Water—A Pragmatic Approach to Climate Action Planning

Valley Water has taken a pragmatic approach to climate action planning by aligning emissions reductions with existing operational processes rather than creating separate, overly complex frameworks. This practical mindset has allowed the agency to steadily reduce its GHG emissions, integrate emissions tracking into its management systems, and adopt a flexible approach to addressing scope 3 (indirect emissions from value chain activities) emissions.

Valley Water's journey began in response to the 2006 California energy crisis, prompting the agency to begin exploring ways to optimize energy use. However, obtaining reliable emissions data proved challenging, which limited early progress. To address this, Valley Water joined the California Climate Registry (now The Climate Registry) to begin formally tracking scope 1 (direct emissions from facilities and equipment) and 2 emissions (indirect emissions from purchased energy).

By 2008, the agency's board of directors took decisive action, implementing a progressive policy to drive carbon reductions and directing staff to report on energy optimization efforts semi-annually. This commitment laid the foundation for Valley Water's long-term emissions reduction strategy, linking climate goals with operational decision-making.

"Our board's leadership was instrumental in pushing us to be ahead of the curve," says Sarah Young, Senior Project Manager at Valley Water

Key Insight: Integrating emissions tracking into existing management systems allows utilities to embed climate action into routine operations, avoiding unnecessary complexity.

Leveraging Existing Systems to Drive Continuous Improvement

Rather than developing a standalone climate change mitigation plan from scratch, Valley Water built upon existing ISO 14001 environmental management frameworks, embedding GHG tracking, energy efficiency, and emissions reductions into daily operations. This approach ensured that climate action remained a core part of utility management rather than an isolated initiative.

This incremental, problem-solving approach helped Valley Water launch several key initiatives, including:

- Energy optimization planning: Reducing scope 1 and scope 2 through efficiency upgrades
- Alternative energy exploration: Researching additional low-carbon energy sources to reduce operational reliance on fossil fuels
- Solar carports and renewable energy procurement: By prioritizing these, Valley Water became one of the first utilities to install solar carports on water utility campuses

"We were already reducing emissions before we had a formal plan," said Sarah from Valley Water. "It was integrated into what we do as part of our management systems, starting with ISO 9000 and then ISO 14001."

Key Insight: Starting where you have the most influence and embedding climate initiatives into operational decision-making creates momentum and ensures lasting impact.

Benchmarking and Strategic Planning for the Future

Valley Water recognizes that continuous improvement requires data-driven benchmarking to evaluate progress and to learn from industry peers. Comparing emissions data with other California water utilities has provided valuable insights into challenges and opportunities—particularly in addressing residual emissions.

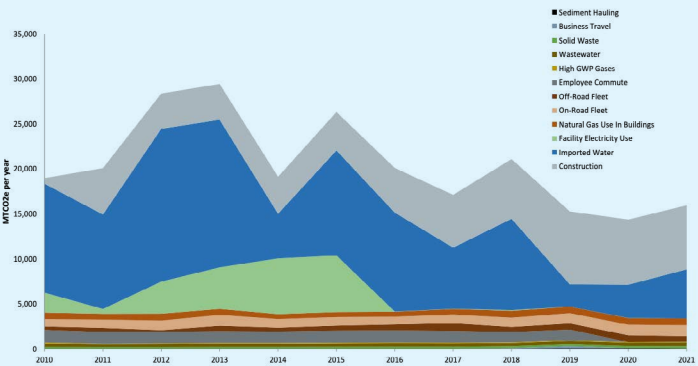
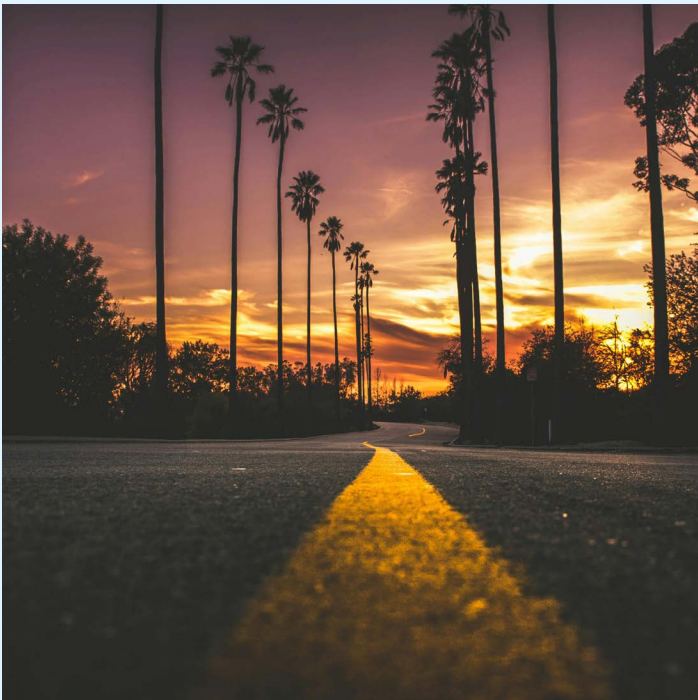
“It’s about focusing on where we can make the most impact,” Sarah noted. “Having a fancy plan isn’t necessary—progress comes from year-over-year improvements.”

Focusing on Continuous Improvement: Lessons in Planning

Moving forward, Valley Water plans to:

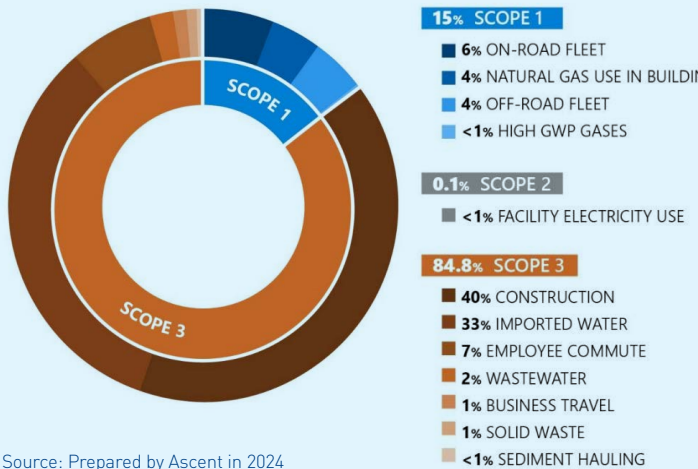
- Expand renewable energy integration at treatment plants
- Continue carbon budgeting as a long-term emissions-tracking method
- Explore co-benefits such as water conservation and ecosystem restoration to complement emissions reduction efforts

By prioritizing pragmatism, continuous improvement, and strategic flexibility, Valley Water demonstrates how utilities can achieve measurable emissions reductions without overcomplicating climate planning.



Notes: GHG = Greenhouse Gas, MT CO₂e = metric tons of CO₂ equivalent
Source: Prepared by Ascent in 2024

Figure 2: Valley Water Greenhouse Gas Emissions (2010 to 2021).
Graphic courtesy of Valley Water.



Source: Prepared by Ascent in 2024

Figure 1: Valley Water Greenhouse Gas Baseline Emissions (2017 – 2021 average).
Graphic courtesy of Valley Water.

ADDITIONAL RESOURCES AND REFERENCES

1. In addition to [Valley Water](#), review other agencies' climate action plans, including [Metropolitan Council's](#) and [Metropolitan Water Reclamation District of Greater Chicago's](#) for ideas that might work for your utility.
2. Visit C40 Cities Climate Leadership Group's Climate Action Planning Guide [resource page](#) for a step-by-step guide.
3. Determine if an [environmental management system](#) could provide structure for an integrated approach to climate action planning at your utility.

This paper is part of Net Zero Fundamentals, a collection of action-oriented briefs designed to help water and wastewater utilities cut climate pollution and chart a clear path to net zero. Each brief delivers practical insights, real-world utility examples, and implementation guidance for immediate impact. Access the collection of briefing papers on the US Water Alliance [website](#).



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