



**Metropolitan Water
Reclamation District
of Greater Chicago**

MAY 4, 2023

CLIMATE ACTION PLAN



**Transforming Water,
Recovering Resources**

The MWRD takes climate action

The MWRD prides itself as an environmental leader, keeping the Chicago region and its water environment safe and secure for future generations. But climate change threatens to disrupt the way we deliver these essential services. Rising temperatures and increasing concerns for flooding have significant consequences on the work of the MWRD. To address these challenges and meet the MWRD's mission and principles laid out by our Strategic Plan, the MWRD strives to address climate change through various ways, beginning by mitigating our greenhouse gas (GHG) emissions.

After four years of interdepartmental task force research and collaboration, interaction between MWRD commissioners and staff, evolving international methodologies for GHG inventories, an informative public comment period and multiple drafts, the MWRD released a highly ambitious climate action plan (CAP) following its adoption by the commissioners on May 4, 2023. The plan presents a roadmap that helps illustrate how the MWRD will take various steps to lower its carbon footprint over the first half of the 21st century.

How the CAP fits the MWRD

The CAP anticipates future changes in wastewater treatment and stormwater management capacity requirements and water quality goals to

- (1) guide future infrastructure planning
- (2) support "climate resiliency infrastructure investment" decisions
- (3) guide mitigation of the MWRD's GHG emissions that contribute to climate change
- (4) adapt to climate change-related impacts.

Following updates to the MWRD's Strategic Plan, this living document will be updated on an annual basis to document progress and align with changing

conditions and international standards set forth by the Intergovernmental Panel on Climate Change and Paris Agreement. By following the blueprint unfolded in the CAP, the MWRD aspires to take multiple actions that can preclude future extreme weather events, protect the water environment and engage and educate the residents and businesses the MWRD serves through climate action and climate justice initiatives.

Preparing for climate change, adapting today

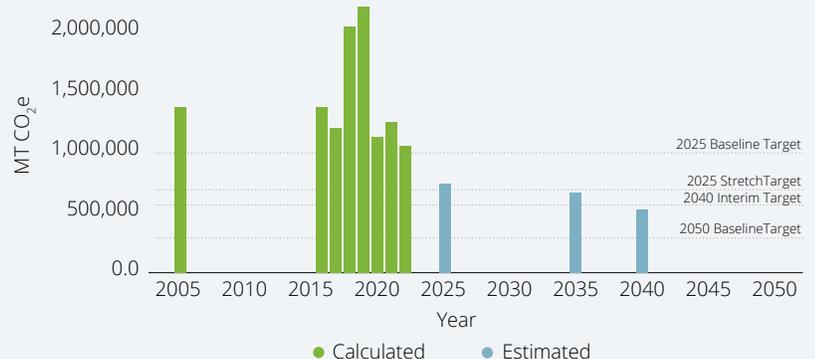
As the CAP suggests, we can prepare for climate change, but some of its impacts are already being felt today. Even if global and local GHG emissions decrease dramatically, many climate impacts are now being experienced. That is why the MWRD is working across Cook County to adjust to new rainfall levels. The CAP highlights climate change impacts, ongoing responses, and priority actions, along with long-term direction.

The MWRD staff works around the clock to protect the water environment, mitigating flooding, managing waterway elevations, and keeping operations moving at its seven water reclamation plants. The MWRD's Tunnel and Reservoir Plan (TARP) provides significant capacity to address storms and has been functioning as planned during recent storm events. But these storms demonstrate the need to invest in both gray and green infrastructure, to increase capacity for more storms. Between, local and regional stormwater management projects, green infrastructure partnerships and flood prone property acquisitions, we have more than 200 projects in some phase of design or construction aimed at flood reduction, and the totality of these projects are protecting more than 17,000 structures, and we have more work to do. That is how seriously the MWRD has taken on the challenge of flooding and the effects of climate change.

MWRD BLUEPRINT TO RESILIENCE

Target Reductions from 2005 Levels

Target	2025	2040	2050
Baseline	28%		80%
Interim		60%	
Stretch	50%		100%



Visit our GHG Dashboard at www.mwrdd.org/climateaction/ghg

The CAP demonstrates a series of initiatives that the MWRD began taking to lower its GHG emissions, find renewable energy sources and sequester carbon. The CAP outlines how we can meet these steps through a GHG emission hierarchy in a four-tiered approach. This pathway first acknowledges reduction actions, operational changes and streamlining efficiencies before taking larger steps and investments to produce renewable energy and acquire carbon credits and renewable energy credits.

TIER 1
Greenhouse gas reduction actions

Operational changes
Improve process efficiencies

Focus on reducing both direct emissions from the treatment processes and indirect emissions from purchased electricity. Improvements in progress include modernizing treatment infrastructure (new primary tanks, modern boilers) and advanced aerations technology and methodologies.

TIER 2
Renewable energy measures

Procurement of carbon-free energy
Self-generation for use and export

Concentrate on continued and improved energy production. Continued operation of the Lockport Powerhouse and installation of combined heat and power equipment will reduce reliance on external power sources.

TIER 3
Future greenhouse gas reduction actions

Study process emissions
Research new technology

Initiate studies to overcome and control the more difficult GHGs such as nitrous oxide and fugitive methane. While these gases can be easily studied and controlled in a laboratory environment, there remains significant uncertainties in measuring and controlling these on a large scale.

TIER 4
Carbon insets/offsets

Carbon sequestration within boundary
Retention of generated environmental credits
Purchase of credible carbon credits

Explore ways to sequester and focus on the carbon-lifecycle to build for a more resilient future. By evaluating additional carbon offsets, additional benefits beyond carbon sequestration can be provided to land use, biodiversity, water quality, natural flood management, recreation, and enhanced landscape aesthetics.

Overarching actions to contribute to regional climate resilience

Outside of MWRD specific actions, the CAP also identifies a set of actions to help change mindsets and contribute on a larger scale to make a difference.



BIOGAS

MWRD’s anaerobic digesters produce biogas which is used as a fuel for boilers to produce steam to heat the facilities’ buildings and treatment plant processes.

Internal use of biogas accounts for approximately a quarter of all energy used at MWRD facilities.

In 2021, the MWRD beneficially reused enough biogas to heat approximately 11,500 homes in Illinois and offset about 50,000 metric tons of carbon dioxide equivalents.



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Established in 1889, the MWRD is an award-winning, special purpose government agency responsible for wastewater treatment and stormwater management in Cook County, Illinois.



Visit our website for detailed
information on the MWRD
Climate Action Plan.

mwrdd.org/climateaction

COVER PHOTO: A monarch butterfly caterpillar peruses milkweed planted by the MWRD at Stickney Water Reclamation Plant to offer stormwater protection and a food source for the endangered monarch. Just as the caterpillar metamorphizes, the MWRD has evolved to adapt to climate change and outlines its plans to lower its carbon footprint in its first Climate Action Plan.