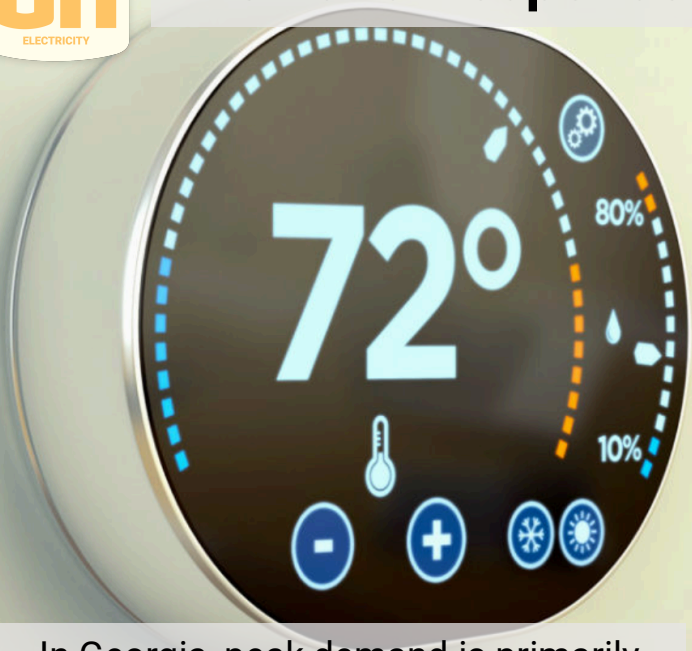
Demand Response



In Georgia, peak demand is primarily met with natural gas. Smart meter devices and rate designs can reduce peak loads.

Large-Scale Solar

Georgia ranks 7th among states in solar energy today. The 2022 Georgia Power Integrated Resource Plan calls for 2,100 MW of new utility-scale solar.

Electric Vehicles

The cost of a new EV is expected to be comparable to that of internal combustion engine vehicles over the next decade.

Rooftop Solar

Georgia ranks 43rd in installed rooftop solar systems; less than 0.2% of homes have solar panels.

Large-Scale Solar

#

MT CO_2 Achievable

Net Present Value: $

Georgia's large-scale solar capacity could surpass coal by 2030. This solution has a technical potential of 21.4 MT CO_2.

Demand Response

#

MT CO_2 Achievable

Net Present Value: $

Demand response can save Georgians millions of dollars on their electricity bills over the next decade. It has a technical potential of 1.4 MT CO_2.

Rooftop Solar

#

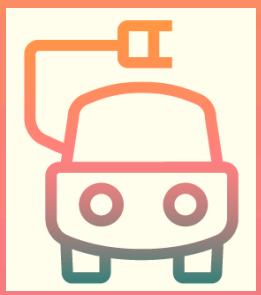
MT CO_2 Achievable

Net Present Value: $

2,580 GWh of zero-carbon electricity generated by 295,000 5-kW solar rooftops, would reduce 1.0 MT of CO2 by 2030. This solution has a technical potential of 12.1 MT CO_2.

Electric Vehicles

#



MT CO_2 Achievable

Net Present Value: $

EVs comprise about 5% of Georgia's new light-duty vehicle sales. Contributing **1.5MT/yr** in reductions compared to baseline. They have a technical potential of 2.3 MT CO_2.


DRAWDOWN
GA
ELECTRICITY
Cogeneration
Georgia has more than 40 cogeneration facilities. Because of Georgia's heavy industry, there are ample opportunities for more cogeneration.


DRAWDOWN
GA
ELECTRICITY
Landfill Methane
Landfills are a major source of methane emissions. Methane can be captured and used to generate electricity or fuel trucks.


DRAWDOWN
GA
TRANSPORTATION
Energy-Efficient Cars
The vast majority of the 8.5 million registered cars in Georgia have traditional internal combustion engines meaning a big opportunity for energy-efficient vehicles.


DRAWDOWN
GA
TRANSPORTATION
Energy-Efficient Trucks
Increasing fuel efficiency for both new and existing trucks can lead to significant emission reductions.

Landfill Methane

#

MT CO_2 Achievable

Net Present Value: $

Georgia has ~92 landfills producing about 500 million tons of methane-producing waste. This solution has a technical potential of 1.5 MT CO_2.

Cogeneration

#

MT CO_2 Achievable

Net Present Value: $

Millions can be saved from using cogeneration in Georgia industries. This solution has a technical potential of 13 MT CO_2.

Energy-Efficient Trucks

#

MT CO_2 Achievable

Net Present Value: $

1 MtCO2e = net reduction of 100 million gallons of diesel fuel consumption or a 25% reduction in truck fuel consumption. This solution has a technical potential of 4.2 MT CO_2.

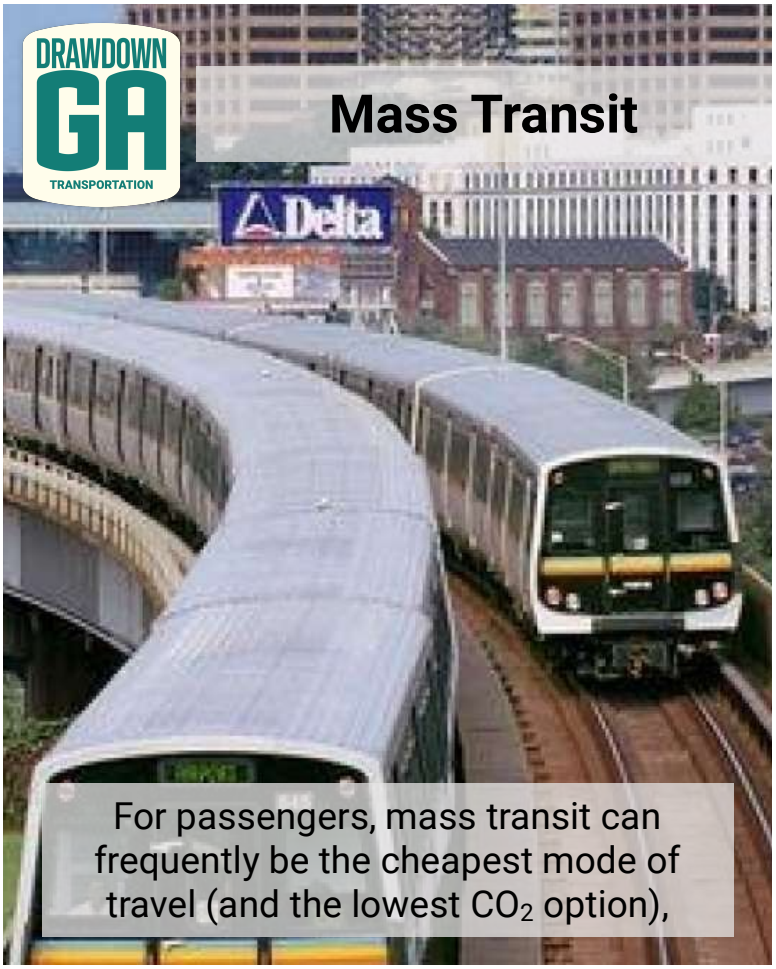
Energy-Efficient Cars

#

MT CO_2 Achievable

Net Present Value: $

Fuel-efficient cars offer a relatively low-cost solution for significant GHG reduction. This solution has a technical potential of 4.1 MT CO_2.


DRAWDOWN
GA
TRANSPORTATION
Mass Transit
Delta
For passengers, mass transit can frequently be the cheapest mode of travel (and the lowest CO_2 option),


DRAWDOWN
GA
TRANSPORTATION
Alternative Mobility
87% of trips in the US occur in personal vehicles and prior to the pandemic, adults spent 1 hour driving every day. Bikes, walking, tele-work and tele-shopping can displace these trips.


DRAWDOWN
GA
BUILDINGS & MATERIALS
Retrofitting
Retrofitting existing buildings can reduce energy demand, cut energy bills, and lower GHG emissions. Rebates are available for heat pumps and other building improvements.


DRAWDOWN
GA
BUILDINGS & MATERIALS
Recycling &
Waste Management
A report from the Georgia Dept. of Community Affairs found Georgians throw away 1.9M tons of paper, 1M tons of plastics, 0.36M tons of metal, and 0.24M tons of glass annually.

Alternative Mobility

#

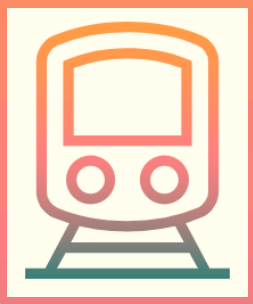
MT CO_2 Achievable

Net Present Value: $

Telecommuting and replacing short trips with walking, biking, and micro e-mobility can all reduce CO2 emissions. This solution has a technical potential of 21.5 MT CO_2.

Mass Transit

#



MT CO_2 Achievable

Net Present Value: $

Transit options in Georgia released ~0.245 lbs of CO2 per passenger mile, compared to 0.891 lbs for a single occupancy vehicle. This solution has a technical potential of 1.1 MT CO_2.

Recycling & Waste Management

#

MT CO_2 Achievable

Net Present Value: $

Many cities in Georgia, including Atlanta, have active recycling programs. Stanford University estimates that one ton of recycled plastic saves about 5,800 kWh of energy. This solution has a technical potential of 7.7 MT CO_2.

Retrofitting

#

MT CO_2 Achievable

Net Present Value: $

Retrofitting includes improving insulation, installing LED lighting, replacing conventional HVAC systems with high efficiency heat pumps, and installing high-efficiency windows. It has a technical potential of 13.7 MT CO_2.


DRAWDOWN
GA
BUILDINGS & MATERIALS
Refrigerant Management
Hydrofluorocarbons (HFCs) – a class of refrigerant chemical – have an extremely high global warming potential, with thousands of times the heat trapping potential of CO_2.


DRAWDOWN
GA
FOOD & AGRICULTURE
Composting
Composting allows for organic matter to be broken down by microbes. The process sequesters carbon and produces fertilizer.


DRAWDOWN
GA
FOOD & AGRICULTURE
Reduced Food Waste
According to the USDA, between 30-40% of the nation's food supply is wasted each year.


DRAWDOWN
GA
FOOD & AGRICULTURE
Climate-Smart Agriculture
Climate-Smart Agriculture refers to agricultural practices that support reduced tillage and managing soil organic matter, including cover crops.

Composting

#

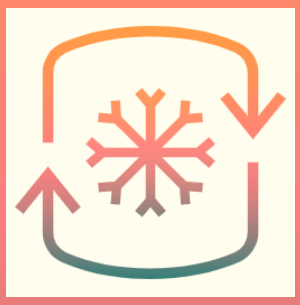
MT CO_2 Achievable

Net Present Value: $

Georgia currently operates about 38 composting facilities at various scales. Composting could reduce several landfills in Georgia and would potentially reduce methane emissions. This solution has a technical potential of 1.4 MT CO_2.

Refrigerant Management

#



MT CO_2 Achievable

Net Present Value: $

In December 2020, Congress passed legislation to phase down HFCs nationwide by 40% by 2024 and by 85% by 2036. The phase down will be administered by the U.S. EPA. This solution has a technical potential of 2.8 MT CO_2.

Climate-Smart Agriculture

#

MT CO_2 Achievable

Net Present Value: $

Georgia has about 3.8 million acres of croplands. It's estimated that climate-smart agriculture practices increase the carbon sequestration rate at an average of 0.2 tons of carbon per acre per year. This solution has a technical potential of 0.7 MT CO_2.

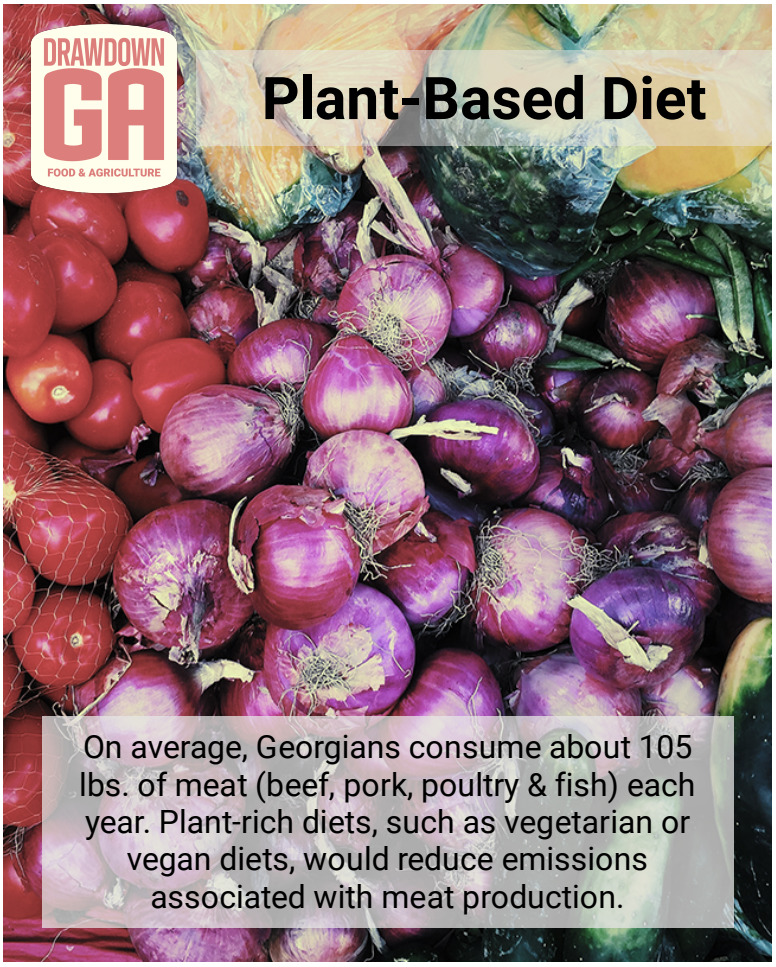
Reduced Food Waste

#

MT CO_2 Achievable

Net Present Value: $

It's estimated that each year Georgians contribute about 2 million tons of food waste. An additional 1 Mt of CO_2 could be reduced by preventing 12% of the state's current food waste. This solution has a technical potential of 4.3 MT CO_2.


DRAWDOWN
GA
FOOD & AGRICULTURE
Plant-Based Diet
On average, Georgians consume about 105 lbs. of meat (beef, pork, poultry & fish) each year. Plant-rich diets, such as vegetarian or vegan diets, would reduce emissions associated with meat production.


DRAWDOWN
GA
LAND SINKS
Planting Trees
Reverting degraded agricultural lands to forests, planting urban tree canopies, and adding trees to pastureland can sequester carbon and reduce urban heat islands.


DRAWDOWN
GA
LAND SINKS
Forest Management
Restoring and protecting temperate-climate forests has many benefits including carbon sequestration from trees, soil, and other vegetation.


DRAWDOWN
GA
LAND SINKS
Wetlands Protection
Coastal and inland wetlands, including mangroves, seagrasses, salt and freshwater marshes, are powerful carbon sinks. These ecosystems sequester carbon in plants and soils.

Planting Trees

#

MT CO_2 Achievable

Net Present Value: $

Planting trees in urban areas has multiple benefits. Georgia has about 2.8 million acres of pastureland. An additional 1 Mt of CO2e could be reduced by planting trees in 7% of current pasture lands. This solution has a technical potential of 14.3 MT CO_2.

Plant-Based Diet

#

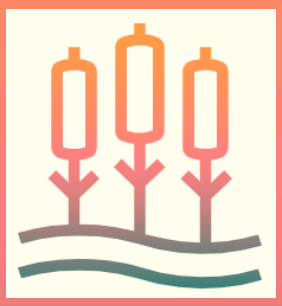
MT CO_2 Achievable

Net Present Value: $

Many restaurants offer grass-fed meats that produce less CO_2 emissions. Plant-rich diets have significant potential to further reduce these emissions. This solution has a technical potential of 3.4 MT CO_2.

Wetlands Protection

#



MT CO_2 Achievable

Net Present Value: $

According to the Georgia Department of Natural Resources, the state has 420,324 acres of tidal marshes, the largest of any state on the U.S. Atlantic seaboard. This solution has a technical potential of 0.2 MT CO_2.

Forest Management

#

MT CO_2 Achievable

Net Present Value: $

Georgia is the number one forestry state in the nation. Its forests currently offset about 8% of the state's CO_2 emissions and can sequester 1 - 4 tons of carbon per acre per year. This solution has a technical potential of 4.3 MT CO_2.

DRAWDOWN GA
ELECTRICITY

DRAWDOWN GA
BUILDINGS & MATERIALS

DRAWDOWN GA
FOOD & AGRICULTURE

DRAWDOWN GA
LAND SINKS

DRAWDOWN GA
TRANSPORTATION

DRAWDOWN GA

DRAWDOWN GA
ELECTRICITY

DRAWDOWN GA
BUILDINGS & MATERIALS

DRAWDOWN GA
FOOD & AGRICULTURE

DRAWDOWN GA
LAND SINKS

DRAWDOWN GA
TRANSPORTATION

DRAWDOWN GA

DRAWDOWN GA
ELECTRICITY

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BUILDINGS & MATERIALS

DRAWDOWN GA
FOOD & AGRICULTURE

DRAWDOWN GA
LAND SINKS

DRAWDOWN GA
TRANSPORTATION

DRAWDOWN GA

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ELECTRICITY

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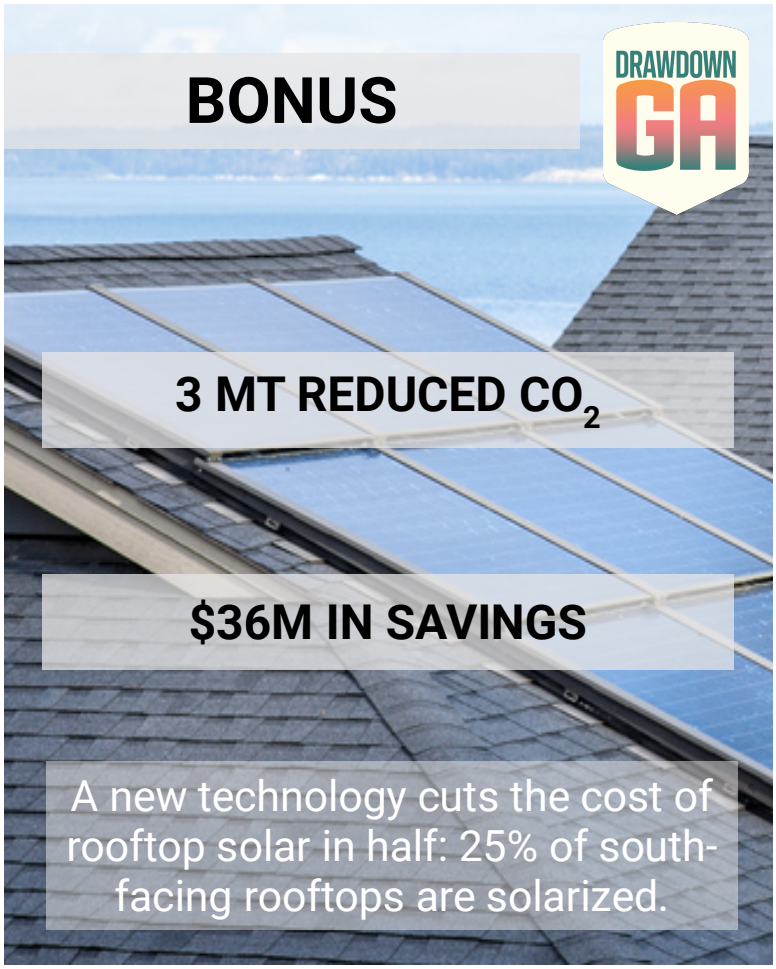
BUILDINGS & MATERIALS

DRAWDOWN GA
FOOD & AGRICULTURE

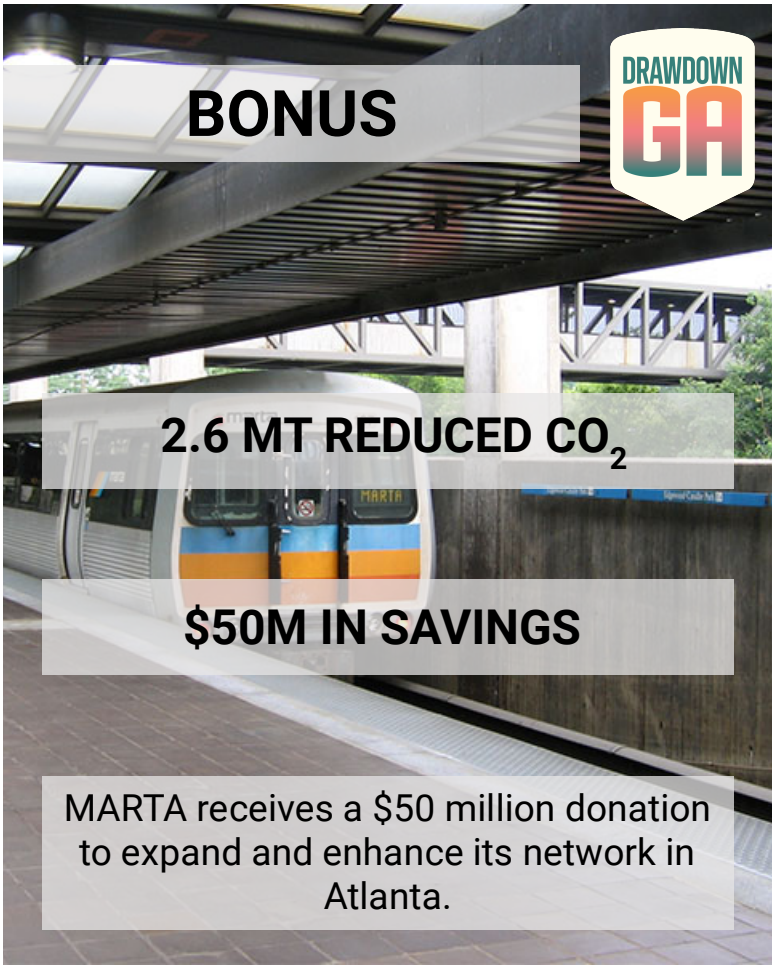
DRAWDOWN GA
LAND SINKS

DRAWDOWN GA
TRANSPORTATION

DRAWDOWN GA


BONUS
DRAWDOWN GA
3 MT REDUCED CO_2
$36M IN SAVINGS
A new technology cuts the cost of rooftop solar in half: 25% of south-facing rooftops are solarized.


BONUS
DRAWDOWN GA
2.3 MT REDUCED CO_2
High profile celebrities embrace a plant-forward diet, increasing its popularity and prevalence


BONUS
DRAWDOWN GA
2.6 MT REDUCED CO_2
$50M IN SAVINGS
MARTA receives a $50 million donation to expand and enhance its network in Atlanta.


BONUS
DRAWDOWN GA
2.1 MT REDUCED CO_2
A grocery store magnate invests in refrigerant management for all stores in the state.


DRAWDOWN GA
ELECTRICITY
DRAWDOWN GA
BUILDINGS & MATERIALS
DRAWDOWN GA
FOOD & AGRICULTURE
DRAWDOWN GA
LAND SINKS
DRAWDOWN GA
TRANSPORTATION
DRAWDOWN GA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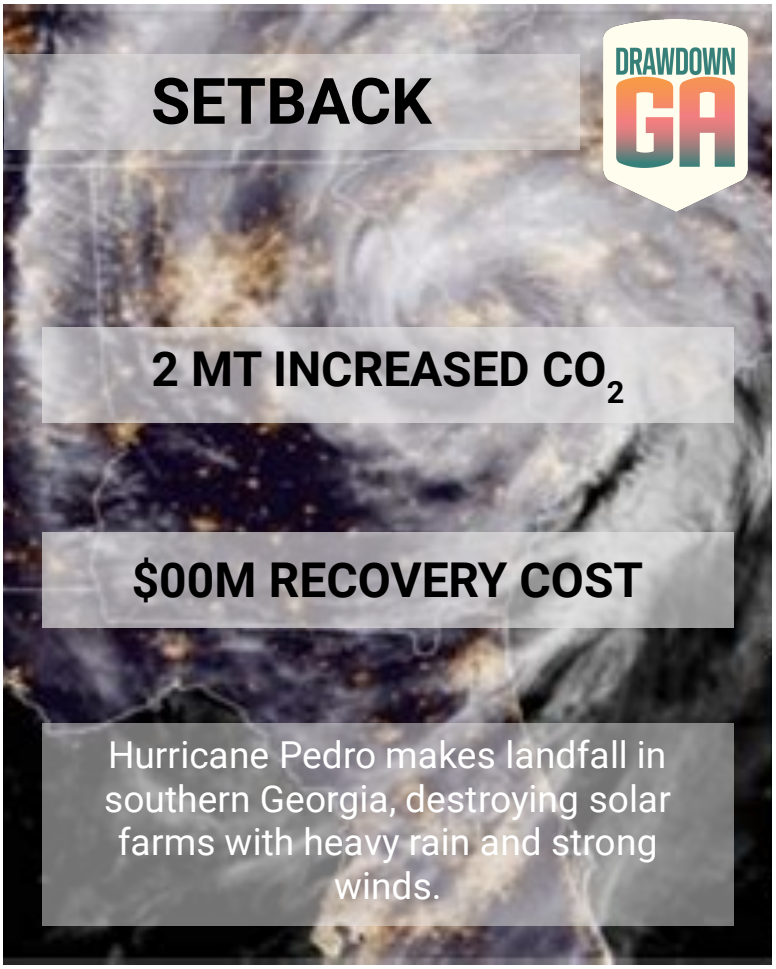
LAND SINKS
DRAWDOWN GA
TRANSPORTATION
DRAWDOWN GA


BONUS
DRAWDOWN GA
6.0 MT REDUCED CO_2
$148M IN SAVINGS
Cogeneration efficiency greatly increased due to research & supporting policies.


SETBACK
DRAWDOWN GA
2 MT INCREASED CO_2
$400M RECOVERY COST
Forest fires in North Georgia destroy 200,000 acres of forest cover destroying a carbon sink and releasing CO2 into the atmosphere.


SETBACK
DRAWDOWN GA
2 MT INCREASED CO_2
$00M RECOVERY COST
Hurricane Pedro makes landfall in southern Georgia, destroying solar farms with heavy rain and strong winds.


SETBACK
DRAWDOWN GA
2.0 MT INCREASED CO_2
A federal budget crisis puts carbon emission reduction spending on hold

DRAWDOWN GA
ELECTRICITY

DRAWDOWN GA
BUILDINGS & MATERIALS

DRAWDOWN GA
FOOD & AGRICULTURE

DRAWDOWN GA
LAND SINKS

DRAWDOWN GA
TRANSPORTATION

DRAWDOWN GA

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ELECTRICITY

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ELECTRICITY

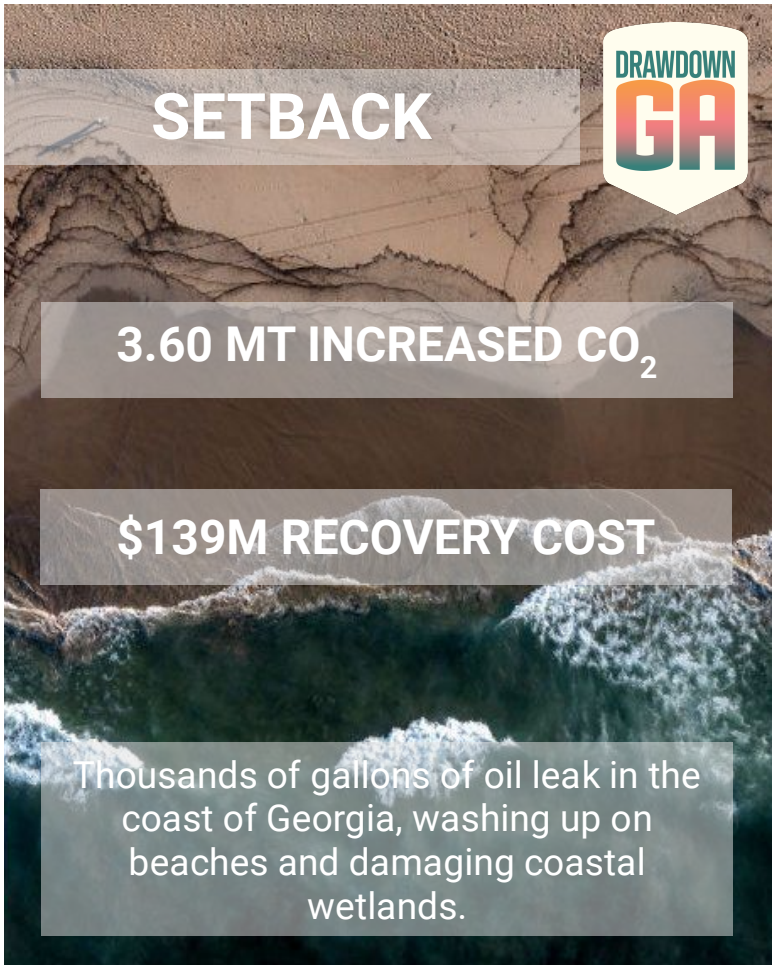
DRAWDOWN GA
BUILDINGS & MATERIALS

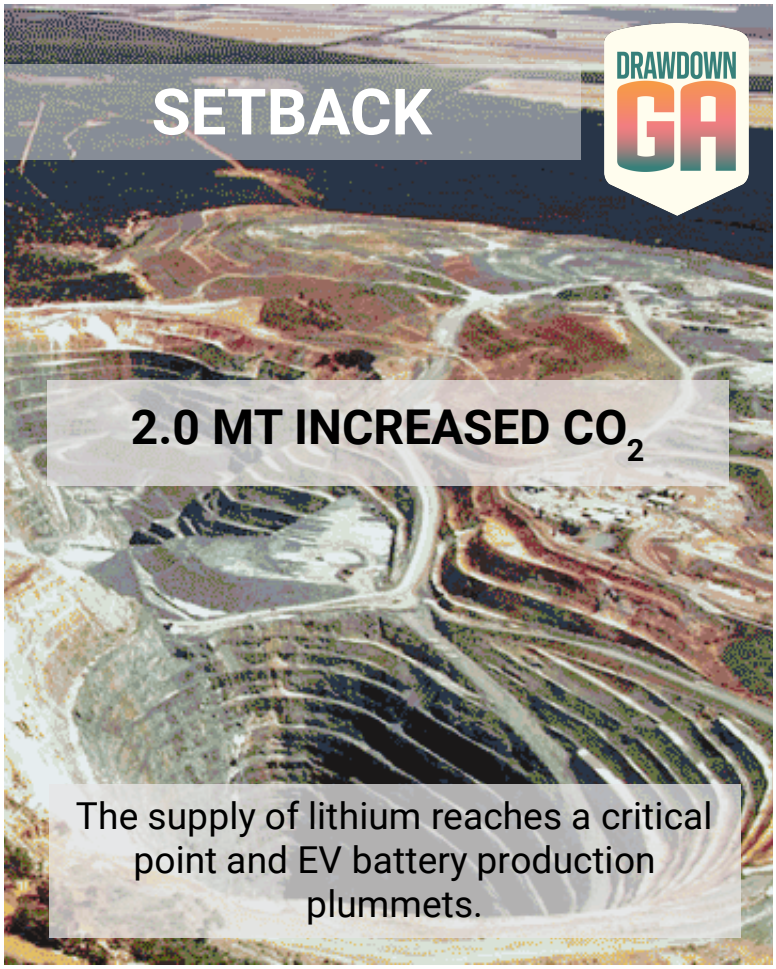
DRAWDOWN GA
FOOD & AGRICULTURE

DRAWDOWN GA
LAND SINKS

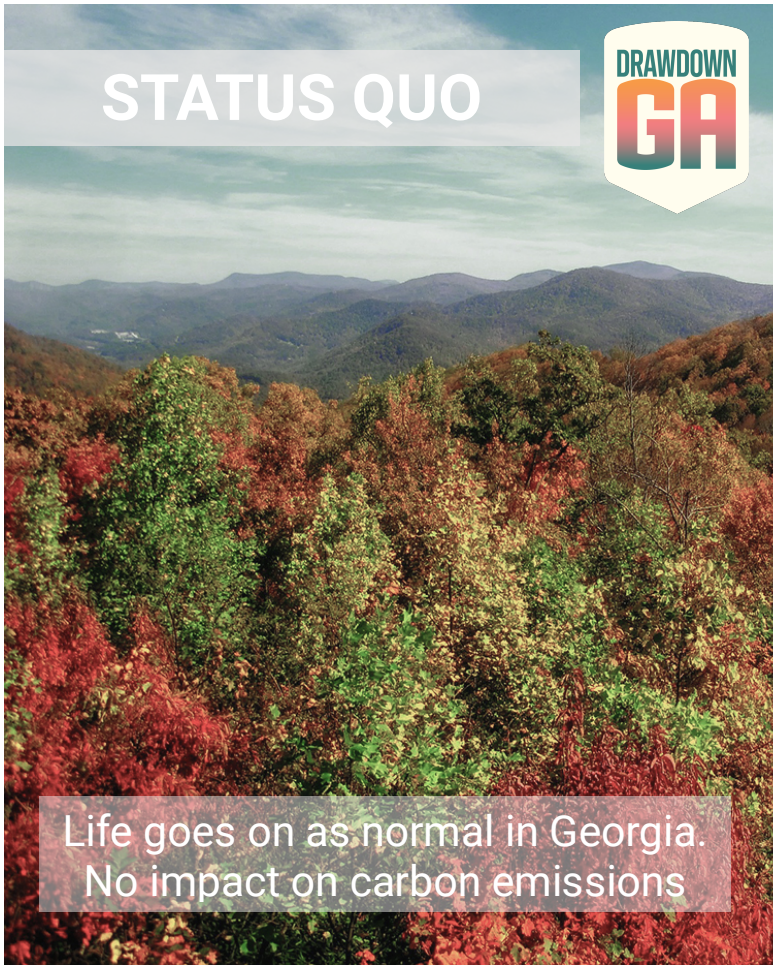
DRAWDOWN GA
TRANSPORTATION

DRAWDOWN GA


SETBACK
DRAWDOWN GA
3.60 MT INCREASED CO_2
$139M RECOVERY COST
Thousands of gallons of oil leak in the coast of Georgia, washing up on beaches and damaging coastal wetlands.


SETBACK
DRAWDOWN GA
2.0 MT INCREASED CO_2
The supply of lithium reaches a critical point and EV battery production plummets.


STATUS QUO
DRAWDOWN GA
No new environmental legislation passed in Georgia. No impact on carbon emissions.


STATUS QUO
DRAWDOWN GA
Life goes on as normal in Georgia. No impact on carbon emissions

DRAWDOWN GA
ELECTRICITY

DRAWDOWN GA
BUILDINGS & MATERIALS

DRAWDOWN GA
FOOD & AGRICULTURE

DRAWDOWN GA
LAND SINKS

DRAWDOWN GA
TRANSPORTATION

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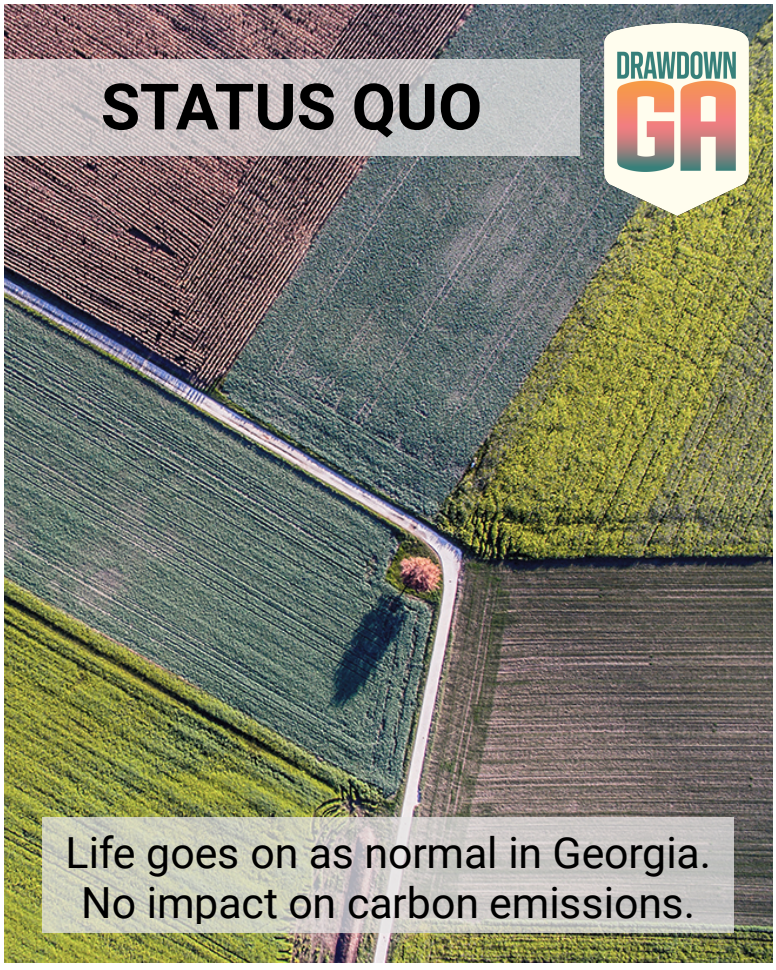
DRAWDOWN GA
FOOD & AGRICULTURE

DRAWDOWN GA
LAND SINKS

DRAWDOWN GA
TRANSPORTATION


STATUS QUO
DRAWDOWN GA
No environmental catastrophes in Georgia. No impact on carbon emissions.


STATUS QUO
DRAWDOWN GA
No climate related events occur in Georgia. No impact on carbon emissions.


STATUS QUO
DRAWDOWN GA
Life goes on as normal in Georgia. No impact on carbon emissions.