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Protect Water & Air to Mitigate Climate Change

ReScape Principle:
Protect Water & Air

ReScape landscapes maximize permeable surfaces and minimize stormwater runoff, use Integrated Pest Management strategies, minimize the use of synthetic pesticides and avoid overuse of fertilizers. Fossil fuel consumption is also reduced and trees are planted to remove CO2 and absorb air pollutants.

Problem

Conventional landscaping practices—specifically applying synthetic nitrogen fertilizer and using gas powered maintenance equipment—emit significant amounts of greenhouse gases.[1] Climate change is causing floods to become more frequent and extreme [2], and water quality is impacted by runoff and erosion.

Solution

Regenerative landscaping practices can reduce greenhouse gas emissions and drawdown carbon dioxide already in the atmosphere. Landscapes can be designed to capture and hold water, which will help urban areas adapt to climate change and protect watersheds.

Research Shows:

- Applications of synthetic nitrogen fertilizer increase emissions of nitrous oxide, a greenhouse gas that is 300 times more potent than carbon dioxide. [3]
- Operating a leaf blower for one hour emits the same amount of smog-forming pollution as driving a car 1100 miles from LA to Denver. [4]
- Gasoline-powered lawn and garden equipment produce high levels of hazardous emissions that are linked to serious respiratory ailments such as asthma and lung cancer. [5]
- California's existing urban forests reduce greenhouse gas emissions by about 6.3 million metric tons per year, with 1.8 million metric tons of that coming from emissions avoidance via energy conservation. [6]
- Because of impervious surfaces like pavement and rooftops, a typical city block generates 5 times more runoff than a woodland area of the same size. [7]

ReScape
8 Principles

ReScape and PG&E are partnering to offer eight webinars about landscaping practices that address climate change, with a focus on carbon sequestration. This Speaker Series is a part of ReScape's Climate Change Consortium Demonstration Projects to educate about climate change landscaping challenges and the solutions available using regenerative practices.

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Techniques to Protect Water and Air:

- **Avoid using synthetic fertilizers, pesticides and herbicides**, which require a large amount of energy to produce. Applications of synthetic nitrogen fertilizer increase emissions of nitrous oxide, a greenhouse gas that is 300 times more potent than carbon dioxide.
- **Protect mature trees and plant large stature trees**. Trees store carbon in their leaves, branches and other parts of the tree when they absorb CO2 from the atmosphere. They also conserve energy by protecting buildings from cold winter winds and shading buildings and paved areas (lessening the heat island effect).
- **Choose and maintain equipment carefully**. Switch to electric maintenance equipment. Inspect and maintain all equipment to keep it performing optimally.
- **Integrate Green Stormwater Infrastructure (GSI)**. Minimize impervious surfaces and incorporate design measures, such as bioretention planters and tree filters, that promote infiltration and reduce stormwater runoff.

More Resources

Climate Positive Design provides resources to designers of the built environment in order to help reduce carbon footprints and increase sequestration.

American Green Zone Alliance provides a directory for electric alternatives to gas lawn and garden equipment.

Project Drawdown is a global research organization that identifies, reviews, and analyzes the most viable solutions to climate change, and shares these findings with the world.

Green Stormwater Infrastructure Design Guidelines that outline control measures are available, check with your local city and county for resources.

The University of California Statewide IPM Program helps pest managers prevent and solve pest problems with the least unintended impacts on people and their surroundings.

ReScape is a non-profit organization that advocates for a regenerative, whole systems approach to landscaping education and advocacy, addressing earthscape climate change issues.
www.rescapeca.org

As a provider of gas and electricity to millions of Californians, **PG&E** strives to be an environmental leader, demonstrating this commitment through action. Doing so is integral to their ongoing efforts to provide safe, reliable, affordable and clean energy.
www.pge.com

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