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Act local to mitigate climate change

ReScape Principle: **Act Local**

Act Local recognizes that our landscapes, whether commercial, institutional, residential or open space, are part of a larger ecosystem. A regenerative landscape designed and maintained to respond to these local and regional attributes can reduce fossil fuel inputs and help to mitigate climate change.

Problem

Historically, landscape planning and design have often focused more on economic and social needs rather than reflecting local ecology and culture. New construction often removes existing mature vegetation, releasing stored carbon into the atmosphere, utilizes materials sourced and/or manufactured from great distances, adding to fossil fuel consumption, and ignores the needs and benefits of protecting local flora and fauna.

Solution

Assess the site context to understand the inherent climate, soils, vegetation and wildlife. Work with these natural processes, cultures, and regional influences. Create and manage a site appropriate landscape that inherently requires fewer energy inputs and can result in a reduced carbon footprint.

Research Shows:

- Evapotranspiration and shading from trees, can help reduce peak summer temperatures by 2–9°F/1–5°C. [1]
- In 2017, global land use changes, mostly deforestation, added four billion tons of CO2 emissions, or 10%, to the global total of 41 billion tons of CO2. [2]
- The CO2 emissions from California’s 2020 wildfires alone have been estimated at 112 million metric tons (MMT), 8 times greater than the 14 MMT average annual CO2 emissions from 2000-2019 wildfires. [3]
- In the US, the largest share of GHG emissions (28%) is from the transportation sector, which are primarily from the fossil fuels used by cars, trucks, ships, trains and planes. [4]



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.



Climate change combined with other factors, such as development at the wildland urban interface and historic wildfire suppression activities, has already contributed to more frequent and severe forest wildfires in the western U.S. [5] Photo reproduced with permission by Unsplash

Ways to Act Local + Mitigate Climate Change

- **Select and evaluate your site thoroughly** to gain an understanding of the natural systems and processes. Evaluate climate, exposure and topography to reveal both the opportunities and limits of the site. Consider regional, local and site-specific influences.
- **Assess the soil and drainage** which will help you determine the soil quality, and types of plants that can be best supported and to minimize the any need for amendments, or other inputs.
- **Survey, protect and enhance existing flora and fauna.** Large mature trees store carbon, provide shading to reduce heat gain on pavements and moderate building temperatures. Use local, natural plant communities as models, to determine the vegetation most suited to the setting.
- **Prepare and implement a fire protection plan** when in a fire-prone area and/or close to a Wildland Urban Interface. Integrate firescaping techniques such as creating a defensible space around your home and reducing potential fuel load from plants.
- **Purchase locally sourced materials and products** to reduce fossil fuel usage and carbon emissions from transporting over long distances.

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

More Resources

ReScape California Landscape Guidelines and Site Analysis. These and other documents and tools, available at www.rescapeca.org can assist professionals and land managers in evaluating their project site early in the planning and design process to identify best practices to mitigate climate change.

Natural Resources Conservation Services (NRCS) - Soils. Part of the National Cooperative Soil Survey which focuses on providing science-based soil information to the public, professional practitioners and educators.

Firescaping: Protecting Your Home with a Fire-Resistant Landscape 2nd Edition, by land management expert Douglas Kent, outlines strategies and approaches to mitigate fire risk and increase safety for you and your community.

International Society of Arboriculture (ISA). Promotes the professional practice of arboriculture and raises awareness of the benefits of trees through research, technology and education.

1. <https://www.epa.gov/heatislands/using-trees-and-vegetation-reduce-heat-islands>
2. <https://www.bbc.com/future/article/20200521-planting-trees-doesnt-always-help-with-climate-change>
3. California Air Resources Board, "Greenhouse Gas Emissions of Contemporary Wildfire, Prescribed Fire, and Forest Management Activities", Public Comment Draft (December 2020): 9-10; accessed 1.5.2021: <https://ww2.arb.ca.gov/wildfire-emissions>
4. <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>
5. California's Fourth Climate Change Assessment Statewide Summary Report: 28; accessed 1.8.2021: https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf