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Reduce Waste to Decrease Greenhouse Gas Emissions



ReScape Principle: Reduce Waste

ReScape's Reduce Waste principle aims to reduce waste by not creating it in the first place. ReScape practices such as choosing the right plants, avoiding invasive plant species, using recycled and salvaged products, and composting, mulching and grasscycling, can collectively decrease landscape waste and reduce greenhouse gas emissions (GHG).

✘ Problem

Traditional construction and maintenance methods of our landscapes often produce tons of waste that end up in our landfills. Green waste, in particular, releases potent GHG emissions into our atmosphere, contributing to increased levels of CO2, methane and other greenhouse gases. [1]

✔ Solution

Reusing any plant trimmings as mulch, grasscycling, and to make compost, not only keeps these materials out of the landfill, but also recycles nutrients back into our landscapes and can help sequester carbon. Choosing recycled, durable or local materials can reduce the amount of embodied energy that is consumed by the landscape.

Research Shows:

- When landfilled, organic waste materials such as leaves, grass, agricultural crop residues, and food scraps generate methane, a super pollutant with a heat-trapping effect about 80 times greater than carbon dioxide. [1]
- In 2016, organic waste, which directly contributes to climate change in California, comprised about a third of our waste stream. [2]
- Compost, when applied to the soil, has demonstrated multiple benefits including improving soil health and microbial function, reducing eliminating the use of man-made fertilizer and pesticides, diverting green waste from landfill, and helps mitigate climate change through sequestering carbon in the soil. [3]
- Worm composting, using household food scraps, can very quickly produce a nutrient-rich organic fertilizer for indoor and garden plants. Just one pound of red worms can consume 65 pounds of food scraps in less than three months! [4]
- Plastic and composite lumber products vary greatly in percent recycled content, post-consumer recyclability, as well as toxic contents, including fiberglass, PVC, heavy metals and fire retardants. In a study conducted by the Healthy Building Network, fewer than 25% of the products reviewed met their criteria for a safe and environmentally preferred material. [5]



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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What About Weeds?

There are many simple, non-toxic solutions to preventing or managing weeds and not turning them into green waste. Healthier soils, amended with compost and/or sheet mulched, are less likely to be overrun by weeds in the first place. Goats will eat many weeds that are otherwise very difficult to control, and in locations that are too steep for human crews. As the goats graze, they also return nutrients to the soil and eliminate the need to haul off plant debris.

Reduce Waste & Mitigate Climate Change

- **Select appropriate plants** that are suited to the specific microclimate, and space to allow growth to full size without shearing
- **Keep plant debris on-site as mulch and/or compost;** compost food scraps at home with worm bins
- **Prune selectively and properly,** avoid topping trees
- **Water and fertilize judiciously** to prevent excess growth
- **Use salvaged items and recycled content materials** throughout the landscape

More Resources

California Department of Resources Recycling and Recovery (CalRecycle) is a national leader in waste reduction and recovery through innovation and creativity, advancements in science and technology, and efficient programs. CalRecycle will be enforcing SB 1383, which mandates a significant reduction of organic waste disposal and related methane gas releases; contractors will need to comply by 2022 – more information will be available soon.

StopWaste, an Alameda County public agency, helps county businesses, residents, and schools waste less, recycle properly, and use water, energy, and other resources efficiently.

US Composting Council advances compost manufacturing, compost utilization and organics recycling which are central to creating healthy soils, clean air and water, a stable climate, and a sustainable society.

ReScale Landscape Guidelines provide specific, actionable steps to the design, installation and maintenance of landscapes that maximize waste reduction, reduce GHG emissions, and sequester carbon.

Materials for Sustainable Sites by Meg Calkins, provides solid research and data comparing the resource efficiency, embodied energy and carbon, and toxicity of commonly used construction materials and products in the landscape industry.

ReScale 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.

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2. CalRecycle. n.d. "Recycling Organics to Combat Climate Change". Accessed 12.15.2020 <https://www.calrecycle.ca.gov/AboutUs/WhatWeDo/>
3. Koplwicz, Sarah R., "Utilizing Compost for Carbon Sequestration: A Strategy for Climate Goals and Land Use Management" (2019). Master's Projects and Capstones. 945. Accessed 1.14.2021 <https://repository.usfca.edu/capstone/945>
4. Stopwaste. n.d. "Worm Composting". Accessed 1.14.2021. <https://www.stopwaste.org/at-home/home-gardening/all-about-compost/worm-composting>
5. Healthy Building Network, "Guide to Plastic Lumber", pages 5-6. October 2005 (second edition). Accessed 12.14.2020. <https://www.yumpu.com/en/document/read/6635982/guide-to-plastic-lumber-healthy-building-network>