

Carbon Management: An Introduction

Carbon sequestration and ecosystem services:

1. [Sucking CO2 out of the atmosphere. explained](#) (5 minutes)
2. [The Introduction to Ecosystem-based Carbon Management](#) provides an overview of the key concepts, terms, and principles that provide a foundation for developing local carbon management strategies. (15 minutes).
3. [Background Research: Relationship between Climate Action Plans, Carbon Management, and Ecosystem Services](#) (15 minutes)
4. [Benefits of Restoring Ecosystem Services in Urban Areas](#) (20 minutes): Addresses the need for ecosystem services in urban areas and shows the link that ecosystem services are economically advantageous for cities to increase.
5. *For a deep dive:* Walter Jehne [The Soil Carbon Sponge. Climate Solutions and Healthy Water Cycles](#) (2 hours)

Why carbon management and why now?

6. [Appendix A from Boulder City Council memo: Overview of a Systems based Approach to Climate Action](#) (5-20 minutes)
7. [Green Economics and Decent Work: A Viable United Framework](#) (5 minute intro/conclusion, 15 minute read): Review of the World Employment and Social Outlook 2018: Greening with Jobs Report which is largely successful in describing such a climate stabilization agenda. Its broad themes include the relationship between climate stabilization, economic growth and jobs; the quantity and quality of work opportunities that could be created through the stabilization project; and a range of ways, in the areas of labour market regulation and skills development, to promote decent work in all aspects of the project.

Urban Trees:

- [How cities can lead the fight against climate change using urban forestry and trees](#) (5 minutes): Brief discussion of the role urban forestry plays in carbon sequestration and the limitations and opportunities cities face in this area.
- [Carbon storage and sequestration by trees in urban and community areas of the United States, Environmental Pollution](#) (15 minutes): Peer-reviewed study of the potential size of carbon storage and sequestration capacity in U.S. urban trees.
- [Planting a mix of tree species 'could double' forest carbon storage](#) (5 minutes): Addresses the benefits provided by planting trees of various species and how it draws more carbon out of the atmosphere than simply planting one type of tree species in a given area

Soil:

- [Soil Food Web Video](#) (5 minutes): A brief explanation of how carbon is stored in soil and a back-of-the-envelope calculation of potential carbon sequestration potential of soil carbon storage worldwide.
- [Why Communities Should Invest in Regenerative Agriculture and the Soil Sponge](#) (15 minutes): Explanation of what the soil sponge is, how its health affects human and environmental health and suggests multiple opportunities for land managers, communities and investors to help create the conditions for healthy, functional soil.
- [The Secret History of Dirt](#) (10 minute video): A synopsis of the history of farming practices and how that has damaged the microfauna in dirt. It also addresses how to reverse these impacts through earthworms and healthy farming practices in order to sequester more carbon.

Organic Waste Management:

- [Redesigning Municipal Organic Materials Systems for Climate & Community Resilience & Equitable Economic Revitalization](#) (5 minutes for introduction, 30+ minutes for full report).
- [How San Francisco turned its waste problem into a climate solution](#) (4 minute read): Short case study of San Francisco's project to address food waste and create a composting initiative within the city. Explores the carbon benefits of the project and what other cities can do too.
- [Reducing the Impact of Wasted Food by Feeding the Soil and Composting](#) (5 minute read): Overview of organic waste its benefits and how individuals and businesses can easily begin composting to reduce their carbon footprint.

Agriculture:

- [Carbon Farming Video](#) (2 minutes): Explains various carbon farming practices, what it is and how it's utilized in modern-day farming.
- [Carbon Farming in agricultural contexts video](#) (5 minutes): A brief and high-level overview of the carbon storage impact associated with using compost to enhance the carbon storage capacity of soils using the [Marin Carbon Project](#) as an example.
- [Maximizing the Environmental Benefits of Carbon Farming through Ecosystem Service Delivery](#) (10 minutes): Discusses how revegetation not only increases carbon sequestration these areas can provide additional financial, social, and environmental co-benefits that provide different levels of private and public net benefit.