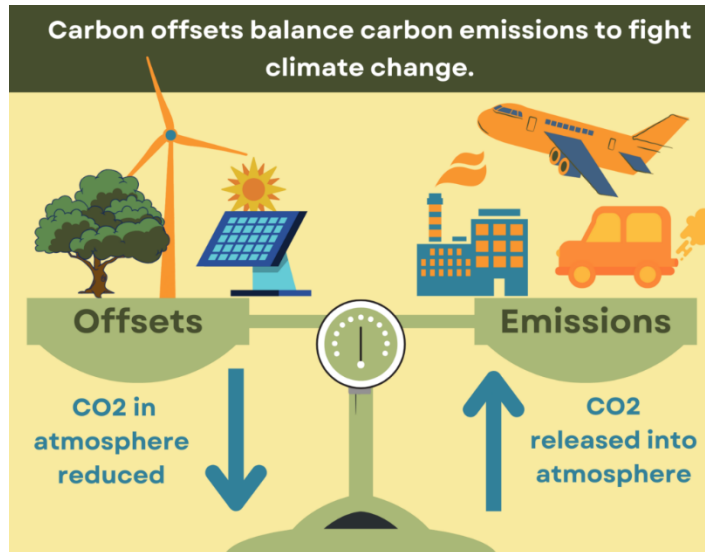


Question: What is a Carbon Offset?

Response: Carbon offsets or carbon offsetting refers to the action of funding projects that remove greenhouse gases from the atmosphere (*removal projects*) or reduce future emissions (*avoidance projects*). Carbon offset projects give rise to carbon credits.



Question: What is a Carbon Credit?

Response: A carbon credit represents an emissions reduction, with one credit equaling one metric ton of CO₂ avoided or removed.

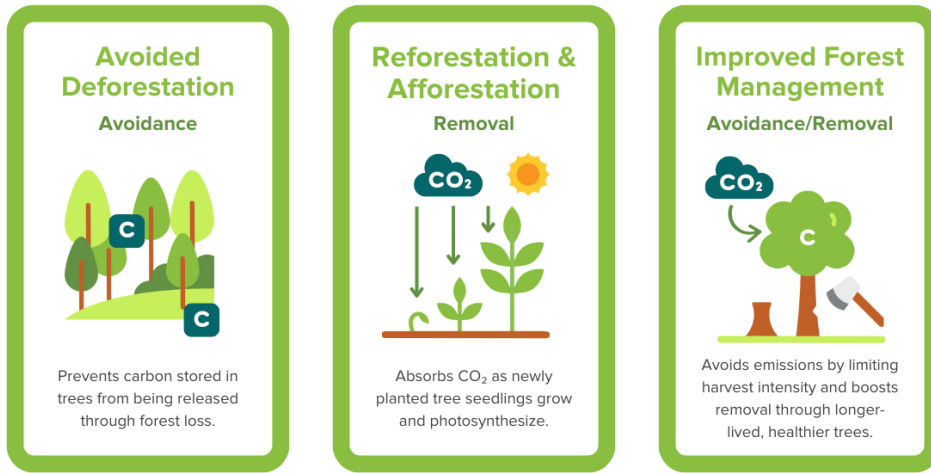
Question: What Types of Projects Could be Carbon Offset Projects?

Response: Common types of carbon offset projects include forestry, energy, waste disposal, industrial, coastal and freshwater protection, agriculture, and technological carbon removal projects.

Question: What Types of Forestry Offset Projects Exist?

Response: Forests help fight climate change by absorbing and storing carbon (*removal projects*), and forestry-based carbon offset projects tap into this power by either protecting, restoring, or improving the management of forests.

Types of Forest Carbon Offset Projects

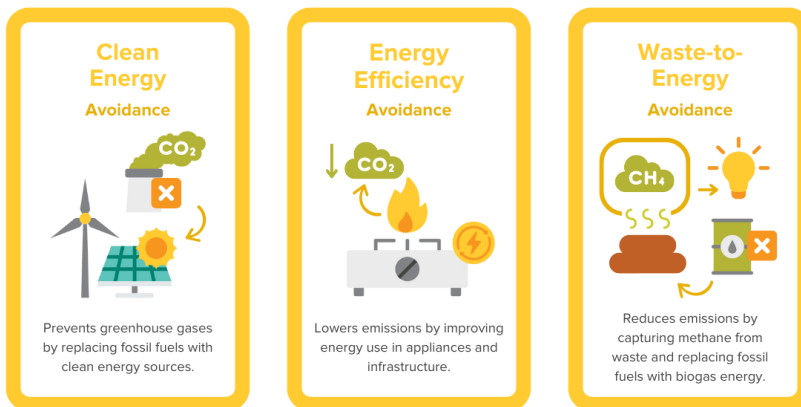


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Question: What Types of Energy Offset Projects Exist?

Response: Energy carbon offset projects are those that reduce greenhouse gas emissions by changing how energy is produced, used, and/or sourced (*avoidance projects*). These projects either replace fossil fuel-based power with renewable energy, recover energy from organic waste, or reduce demand through energy efficiency.

Types of Energy Carbon Offset Projects



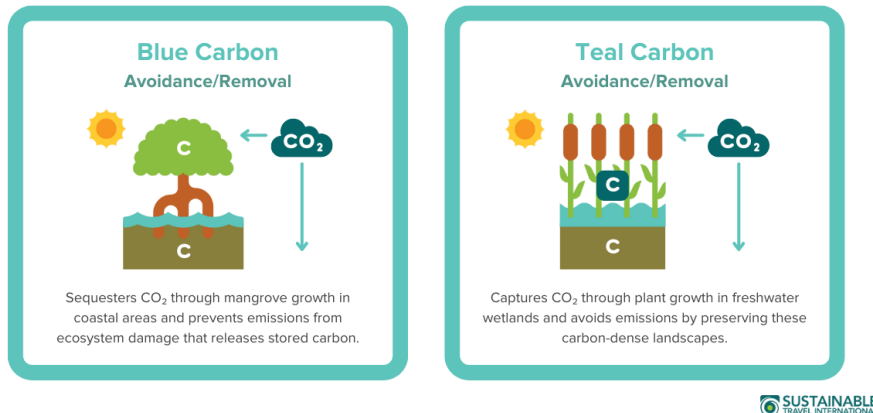
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Question: Are There Other Types of Carbon Offsets?

Response: Yes. There are carbon offset projects associated with industrial process emissions reductions, sustainable agricultural practices, methane avoidance, carbon removal, and even blue and teal carbon offset projects – which are those that protect and

restore coastal and freshwater ecosystems like mangroves and wetlands (blue and teal offsets, respectively).

Blue and Teal Carbon Offset Projects



Question: Why is the City Pursuing Carbon Offsets?

Response: Carbon offsets offer a practical way to balance emissions that have not yet been eliminated with emissions reductions in other locations. Carbon offsets do not replace the need to reduce emissions here in Ann Arbor, but provide immediate global greenhouse gas emission reductions while also giving the city time to continue work to reduce local emissions.

Question: What Types of Offsets is the City of Ann Arbor Pursuing?

Response: The City has not decided yet. Currently, the City is undertaking a public engagement process to determine which types of carbon offset projects, if any, the public would like the City to invest in.

Question: Will the City Always Use Carbon Offsets?

Response: Hopefully not. The city is implementing a series of strategies to reduce local greenhouse gas emissions in Ann Arbor. Those actions make an immediate difference (see the city's greenhouse gas emissions tracker and our annual reports). Moreover, state policy, such as a series of laws mandating more clean energy on the electricity grid, will help reduce Ann Arbor's greenhouse gas emissions. However, there are many sources of emissions that cannot be fully eliminated before 2030 (e.g., space heating, vehicle emissions). As such, the city will continue to implement strategies that reduce local emissions, lowering the amount of carbon offsets needed year over year to meet our climate goals until we hit zero (or near zero) greenhouse gas emissions locally.

Question: Do Carbon Offsets Replace Local Emission Reduction Efforts?

Response: No! Carbon offsets help reduce global greenhouse gas emissions immediately while the city continues to implement and develop new strategies to lower local greenhouse gas emissions. Since it is not possible to eliminate all emissions from Ann Arbor immediately, carbon offsets provide a practical way to take responsibility for our impact while supporting climate solutions in another location, providing immediate climate benefits.

Question: What Are Important Characteristics of Carbon Offsets?

Response: Not all offsets are created equal. The strongest offsets programs follow strict verification standards and are additional, minimize leakage risk, are permanent (e.g., 15-100 years), and deliver benefits in addition to greenhouse gas reductions.

- **Additionality** – Verifies that the carbon offset project's reductions or removals would not have happened without an investment in that carbon offset credit.
- **Minimize Leakage** – Ensures that projects don't reduce emissions in one area but increase them elsewhere.
- **Permanence** – Ensures the carbon removed or avoided stays out of the atmosphere for the agreed upon and reasonable lifetime of the project, usually a period between 15 and 100 years.
- **Additional Benefits** – Strong carbon offset projects do more than just reduce emissions, they may lower energy bills for families in need, provide habitat for species, purify the air and water, improve quality of life, minimize soil erosion, buffer against flooding, create jobs in the green economy, address inequities, or provide a myriad of other benefits. (SEE IMAGE BELOW – GET PERMISSION TO UES)

Co-Benefits of Carbon Offset Projects

	 Wildlife & Biodiversity	 Water Quality	 Soil Health	 Air Quality	 Resource Access	 Disaster Reduction	 Jobs & Livelihoods	 Education & Skills	 Crop Yields & Food Security	 Energy Access	 Health	 Indigenous Rights	 Gender Equality	 Tourism & Recreation
 Renewable Energy				✓			✓	✓		✓	✓			
 Community Energy Efficiency				✓	✓		✓	✓		✓	✓		✓	
 Industrial Energy Efficiency														
 Waste-to-Energy		✓		✓	✓		✓	✓		✓	✓		✓	
 Reforestation & Afforestation	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓
 Avoided Deforestation	✓	✓	✓		✓		✓	✓	✓		✓	✓	✓	✓
 Improved Forest Management	✓	✓	✓		✓		✓							✓
 Blue Carbon	✓	✓				✓	✓	✓	✓		✓			✓
 Teal Carbon	✓	✓				✓	✓	✓			✓			✓
 Waste Disposal		✓					✓				✓			
 Industrial Processes														
 Agriculture		✓	✓						✓					
 Soil Carbon Sequestration			✓											
 Biochar		✓	✓				✓		✓					
 Direct Air Capture														
 Carbon Mineralization			✓											
 Enhanced Weathering			✓	✓										

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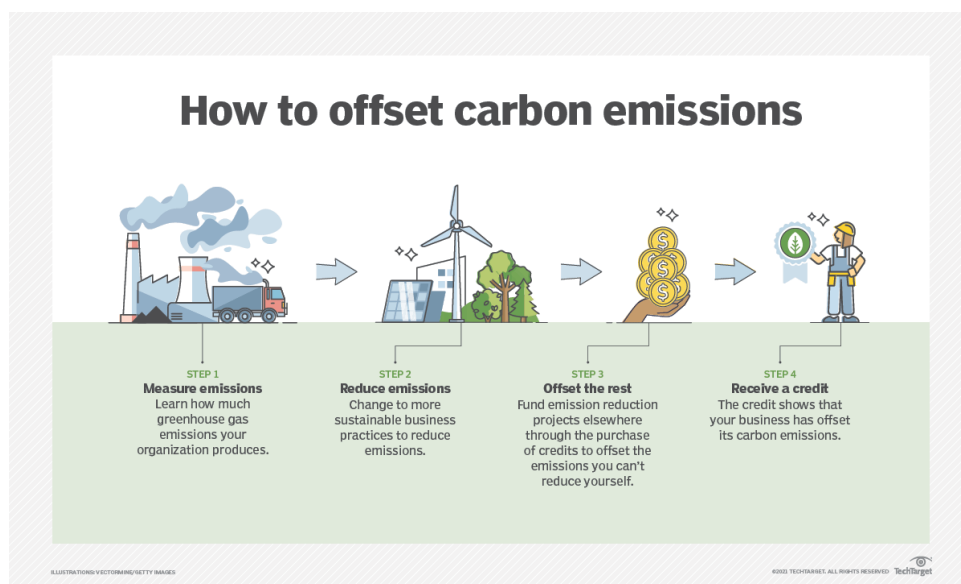
Question: Can You Verify the Impact of a Carbon Offset?

Response: Yes. Independent verification standards are available to help ensure the integrity of the voluntary carbon market by establishing clear rules for how projects generate, measure, and verify emission reductions. Using a third-party assessor/assessment to ensure compliance with these rules helps prevent fraud and fosters transparency in the market.

Question: How Does Carbon Offsetting Work?

Response: Broadly, there are 5 steps in carbon offsetting:

1. An entity calculates its carbon footprint (you can see the City's annual greenhouse gas emissions on our [dashboard](#))
2. The entity then buys carbon offsets from a reputable provider.
3. Carbon offsets fund projects that avoid or capture greenhouse gas emissions.
4. The impact of a project is verified, often by third party sources.
5. Carbon credits are retired.



Question: Are Carbon Offsets Expensive?

Response: The price of carbon offsets varies, often with the quality of an offset. How much carbon offsets cost will depend on how many benefits the project has, the cost of the technology or practice, its geographical location, and a series of other factors. For example, a study conducted by Ecosystem Marketplace found that carbon credits certified for delivering social and environmental co-benefits, sell for a 37% premium compared to those without those benefits.

Question: Are Carbon Offsets Part of Ann Arbor's A²ZERO Carbon Neutrality Plan?

Response: Yes! Carbon offsets were always envisioned as a key tool to help meet our 2030 greenhouse gas emissions goal.

Question: Have Other Entities Used Carbon Offsets?

Answer: Several cities and universities across the US have purchased carbon offsets, including:

- [Palo Alto, CA](#)
- [Eugene, OR](#)
- [Colby College – Waterville, ME — 2013](#)
- [Bates College – Lewiston, ME — 2016](#)
- [Middlebury College — 2016](#)
- [American University – Washington, DC — 2018](#)
- [Bowdoin College — Brunswick, ME — 2018](#)
- [Colgate University – Hamilton, NY — 2019](#)
- [University of San Francisco – San Francisco, CA — 2019](#)

- [Dickinson College – Carlisle, PA — 2020](#)
- [Allegheny College – Meadville, PA — 2020](#)
- [Colorado College – Colorado Springs, CO — 2020](#)
- [School of the Art Institute Chicago – Chicago, IL — 2020](#)
- [Catawba College – Salisbury, NC — 2023](#)
- [Hampshire College – Amherst, MA — 2023](#)
- [Duke University – Durham, NC — 2024](#)
- [Hobart and William Smith – Geneva, NY — 2024](#)
- [Oberlin College and Conservatory– Oberlin, OH — 2025](#)

Question: How much funding does the City have to invest in carbon offsets?

Answer: There is no dedicated budget amount for offsets yet as decisions have not been made about the type and quality of offsets the City will pursue.

Question: What can residents do to help lower the amount of offsets the City needs to purchase?

Answer: Residents can take steps to lower their own personal greenhouse gas footprint, which helps lower the City’s overall greenhouse gas emissions profile, by doing things like:

- Investing in energy efficiency measures at their home or business
- Taking public transportation, walking, biking, scooting, or finding other ways to minimize the amount of driving done in gas/diesel vehicles
- Shopping locally and supporting local farmers
- Eating a plant-rich diet and minimizing the amount of meat and dairy that one consumes
- Investing in renewable energy through things like onsite solar systems or enrolling in the City’s [Sustainable Energy Utility](#)
- Participating in clothing and material swaps as opposed to buying new items
- More tips for reducing your carbon footprint can be found on the [City’s website](#)