

Sustainable Engineering Career and Problem Guide



NAME _____

DATE _____

PERIOD _____

Four careers that solve resource problems

All pay figures are **May 2024 U.S. medians**, not DFW pay or starting pay. Outlook covers **2024-2034**. Use the date and measure whenever you cite a number.

CAREER	WHAT THE WORKER DOES	COMMON PREPARATION	CURRENT NATIONAL EVIDENCE
Environmental Engineer	Designs solutions for water and air quality, waste treatment, and pollution control	Bachelor's degree	\$104,170 median; 4% growth; about 3,000 openings each year
Agricultural Engineer	Improves farm equipment and systems, including irrigation, spraying, harvesting, and environmental protection	Bachelor's degree	\$84,630 median; 6% growth; about 100 openings each year
Wind Turbine Service Technician	Inspects, maintains, and repairs wind turbines, often outdoors and at height	Postsecondary nondegree training plus on-the-job training	\$62,580 median; 50% growth; about 2,300 openings each year
Solar Photovoltaic Installer	Assembles, installs, and maintains solar-panel systems	High school diploma is common; several training routes plus on-the-job training	\$51,860 median; 42% growth; about 4,100 openings each year

Local pathway note: Irving ISD currently lists **Sustainable Engineering at Nimitz High School**. It also lists **Drone Engineering at Irving High School**. A student may investigate either pathway without treating enrollment, a credential, or a job outcome as guaranteed.

READ THE EVIDENCE CAREFULLY

- **Median pay** is the middle pay for workers in the occupation. It is not beginning pay.
- **Growth** compares the estimated number of jobs across ten years. It is not a promise to one person.
- **Annual openings** include new jobs and openings created when workers leave the occupation.
- A fast growth percentage can still describe a smaller occupation.

Problem brief: water-stressed crops

NASA Climate Kids explains that soil moisture can help people detect drought. During drought, farmers may need to change when and how much they water or which crops they grow. USDA research describes drones as tools for crop scouting and monitoring. The same research warns that drone systems have limits, including cost, calibration, accuracy, and whether the information improves a farm decision.

CHOOSE THE BEST LEAD CAREER

Circle one: Environmental Engineer / Agricultural Engineer / Wind Technician / Solar Installer

One task from the guide that fits the crop-and-water problem:

One reason another career is a weaker lead for this exact problem:

One current fact that helps explain the career's opportunity or preparation:

EVIDENCE CHECK

- ☐ I named the measure and date with any number I used.
- ☐ I did not call a U.S. median “DFW starting pay.”
- ☐ I matched the worker's task to the problem instead of choosing only by salary.
- ☐ I treated career data as evidence to investigate, not a promise.