A PRACTICAL APPROACH TO OUTCOME EVALUATION
step-by-step

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EvaluATE

OUTCOME EVALUATION STEPS

1. Define intended outcomes

2. Identify indicators, data sources, and collection methods

3. Gather evidence

4. Interpret results

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1. Define intended outcomes

Outcomes

changes or benefits resulting from project activities and outputs, especially changes in knowledge, skill, behavior, and social or economic conditions

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For evaluation purposes,
outcome statements should be

specific

about who will be affected and how

_____

For evaluation purposes,
outcome statements should be

realistic

in relation to the scope and purpose of the project

Intended outcome

Specific, **realistic** statement about what is expected to **change** for individuals or groups other than the organization conducting the project

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GOALS ≠ INTENDED OUTCOMES

Small group work

1. Review cards with real ATE project goals

2. Make notes about
   - how each goal does or does not fit the definition of an **intended outcome**
   - how they could be reframed as outcomes, if necessary

   Specific, realistic statement about what is expected to change for individuals or groups other than the organization conducting the project

> The goals of this project are to recruit and prepare students for careers in water and wastewater treatment.

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> The goals of the project are to: re-structure 3 courses in the automation maintenance curriculum to a competency-based curriculum, so that they will be aligned with the needs of the local industry.

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> The project's long-term goal is to build a sustainable program to enhance community college process technology education by introducing new hands-on opportunities through use of light-weight extremely low-cost miniature industrial equipment with a small footprint that fits on a standard desktop or which can be taken home for use in homework assignments.

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B " The goal of the project is to increase the supply of qualified cybersecurity professionals for industry and government.

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A " The goals of this project are to increase adoption of geospatial technologies statewide and to expand access to education and training in geospatial technologies in support of industry and government, including transportation, oil and gas, local government, and others.

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B " The goal is to revamp the existing Electrical and Electronics (E/E) Program into an advanced E/E and Instrumentation Program (INT) that will produce highly qualified technicians able to meet current and future workforce demands while substantially increasing the employability of technical graduates from the college program.

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> **A** The goal of this project is to develop an Associate's Degree in Mechatronics incorporating pathways from local high schools into the degree offering at three partner colleges.

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> **B** The primary goal of the project is to meet emerging needs for increased energy efficiency by improving the quality of technician education in Industrial Electronics and Diesel and Heavy Equipment Mechanics.

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> **A** The goal of the project is to recruit and educate underrepresented (rural, first-generation in college, minority) high school students who will graduate with strong soft skills and successful completion of the Automation and Production Technology course including the Manufacturing Skill Standards Council Certified Production Technician credential.

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> **"** This project has the overarching goal of increasing awareness of opportunities in science, technology, engineering, and mathematics (STEM) disciplines for women and underrepresented minorities.

INPUTS	ACTIVITIES	OUTPUTS	OUTCOMES		
			SHORT-TERM	MID-TERM	LONG-TERM

LOGIC MODELS

Useful for
- clarifying outcomes
- identifying short-, mid-, and long-term outcomes
- planning data collection
- reality checks

INPUTS	ACTIVITIES	OUTPUTS	OUTCOMES		
			SHORT-TERM	MID-TERM	LONG-TERM

inputs

resources and assets that will be used by the project

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activities

project actions, what it *does*

outputs

tangible results of activities

outcomes

changes brought about by project activities and outputs

OUTCOMES

INPUTS | ACTIVITIES | OUTPUTS | SHORT-TERM | MID-TERM | LONG-TERM
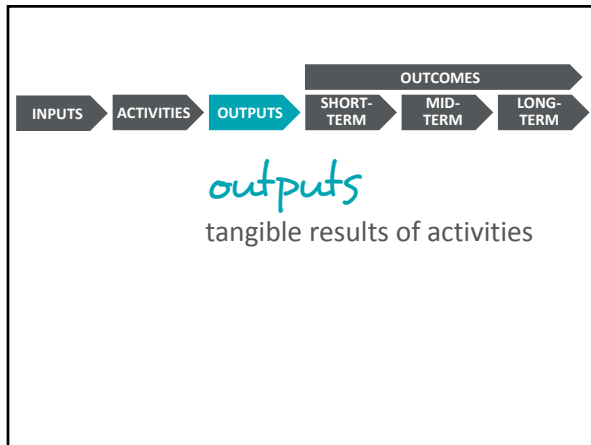
short-term outcomes
immediate *changes* brought about
by project activities and outputs

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OUTCOMES

INPUTS | ACTIVITIES | OUTPUTS | SHORT-TERM | MID-TERM | LONG-TERM

mid-term outcomes
changes that occur due to
short-term outcomes

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OUTCOMES

INPUTS | ACTIVITIES | OUTPUTS | SHORT-TERM | MID-TERM | LONG-TERM

long-term outcomes
changes in problematic situation
that led to creation of project

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CASE
Growing a New Generation
of Energy Technicians
and Professionals

→ Review the one-page synopsis

ACTIVITIES	SHORT-TERM OUTCOMES	MID-TERM OUTCOMES	LONG-TERM OUTCOMES
Align curriculum and instruction with energy industry needs	Instructors update energy technology course content and methods	Students gain competencies needed by energy industry employers	Number and diversity of students obtaining marketable credentials as energy technicians increases
Enhance and expand recruitment and retention efforts	Enrollment, retention, and diversity of students in energy programs increase		Regional demand for a skilled, diverse energy workforce is met
Develop and offer dual enrollment courses	High school students enroll in certificate and degree programs		
Establish articulation agreements with 4-year colleges	2-year college students transfer to partner 4-year colleges		

LOGIC MODEL
Growing a New Generation of
Energy Technicians & Professionals
at [Empire] Community College

2 Identify indicators, data sources, and collection methods

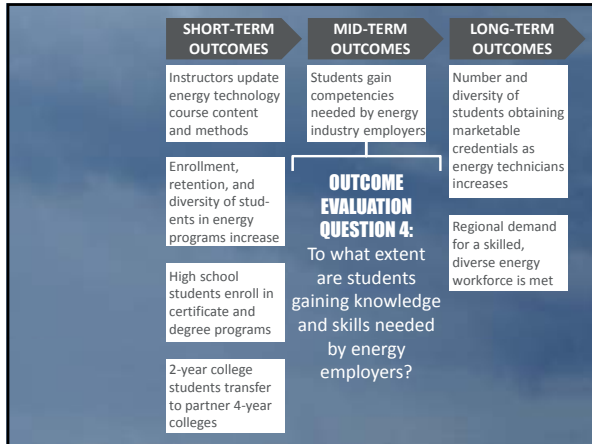|	SHORT-TERM OUTCOMES	MID-TERM OUTCOMES	LONG-TERM OUTCOMES
OUTCOME EVALUATION QUESTION 1: To what extent are faculty aligning their courses and teaching methods with identified energy industry needs?	Instructors update energy technology course content and methods	Students gain competencies needed by energy industry employers	Number and diversity of students obtaining marketable credentials as energy technicians increases
	Enrollment, retention, and diversity of students in energy programs increase		Regional demand for a skilled, diverse energy workforce is met
	High school students enroll in certificate and degree programs		
	2-year college students transfer to partner 4-year colleges		

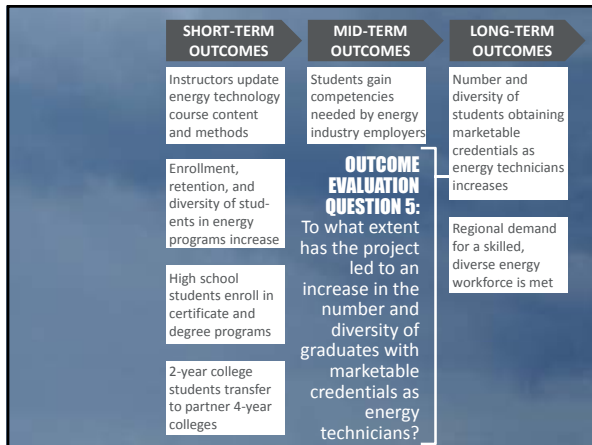|	SHORT-TERM OUTCOMES	MID-TERM OUTCOMES	LONG-TERM OUTCOMES
OUTCOME EVALUATION QUESTION 2: To what extent and how has the project affected enrollment, retention, and diversity of the college energy programs?	Instructors update energy technology course content and methods	Students gain competencies needed by energy industry employers	Number and diversity of students obtaining marketable credentials as energy technicians increases
	Enrollment, retention, and diversity of students in energy programs increase		Regional demand for a skilled, diverse energy workforce is met
	High school students enroll in certificate and degree programs		
	2-year college students transfer to partner 4-year colleges		

	SHORT-TERM OUTCOMES	MID-TERM OUTCOMES	LONG-TERM OUTCOMES
OUTCOME EVALUATION QUESTION 3: To what extent are academic pathways being utilized by students?	Instructors update energy technology course content and methods	Students gain competencies needed by energy industry employers	Number and diversity of students obtaining marketable credentials as energy technicians increases
	Enrollment, retention, and diversity of students in energy programs increase		Regional demand for a skilled, diverse energy workforce is met
	High school students enroll in certificate and degree programs		
	2-year college students transfer to partner 4-year colleges		

SHORT-TERM OUTCOMES	MID-TERM OUTCOMES	LONG-TERM OUTCOMES
Instructors update energy technology course content and methods	Students gain competencies needed by energy industry employers	Number and diversity of students obtaining marketable credentials as energy technicians increases
Enrollment, retention, and diversity of students in energy programs increase	**OUTCOME EVALUATION QUESTION 4:** To what extent are students gaining knowledge and skills needed by energy employers?	Regional demand for a skilled, diverse energy workforce is met
High school students enroll in certificate and degree programs		
2-year college students transfer to partner 4-year colleges		

SHORT-TERM OUTCOMES	MID-TERM OUTCOMES	LONG-TERM OUTCOMES
Instructors update energy technology course content and methods	Students gain competencies needed by energy industry employers	Number and diversity of students obtaining marketable credentials as energy technicians increases
Enrollment, retention, and diversity of students in energy programs increase	**OUTCOME EVALUATION QUESTION 5:** To what extent has the project led to an increase in the number and diversity of graduates with marketable credentials as energy technicians?	Regional demand for a skilled, diverse energy workforce is met
High school students enroll in certificate and degree programs		
2-year college students transfer to partner 4-year colleges		

OUTCOME EVALUATION QUESTION 1:
To what extent are faculty aligning their courses and teaching methods with identified energy industry needs?

INDICATOR	DATA SOURCE & COLLECTION METHOD
Degree of alignment of course content with competencies	• Review of energy course syllabi by expert panel (before and after project) • Survey of enrolled students regarding perceptions of course content and learning
Changes in teaching methods	• Comparison of energy course syllabi over time (pre and post project) by external evaluator • Interviews with faculty by external evaluator

OUTCOME EVALUATION QUESTION 3:
To what extent are academic pathways being utilized by students?

INDICATOR	DATA SOURCE & COLLECTION METHOD
Number and percentage of students in 2-year programs who intend to transfer to partner colleges	• Survey of students in 2-year degree programs, administered by faculty
Number and percentage of students who obtained 2-year degrees who enrolled in partner colleges	• National Student Clearinghouse data
Number of high school students in dual enrollment courses	• Institutional data
Number and percentage of dual-enrolled who intend to pursue degree and certificate programs	• Survey of dual-enrolled students, administered by faculty
Number and percentage of students obtaining dual credit who pursue degree and certificate programs	• Institutional data

Small group work

INDICATOR WORKSHEET

OUTCOME EVALUATION QUESTION 2:
To what extent and how has the project affected enrollment, retention, and diversity of the college's energy programs?

INDICATOR	DATA SOURCE & COLLECTION METHOD

OUTCOME EVALUATION QUESTION 4:

To what extent are students gaining knowledge and skills needed by energy employers?

INDICATOR	DATA SOURCE & COLLECTION METHOD

OUTCOME EVALUATION QUESTION 5:

To what extent has the project led to an increase in the number and diversity of graduates with marketable credentials as energy technicians?

INDICATOR	DATA SOURCE & COLLECTION METHOD

3

Gather evidence

✓ Communicate early and often with human data sources about the importance of their cooperation

✓ Ensure everyone understands their responsibilities related to data collection

✓ Pilot-test data collection instruments

4 Interpret results

Compare data with ...

✓ Targets

✓ Rubrics

✓ Past performance

TARGETS from Case, Objectives 3.1-3.4

| Indicator	Target	Result	Interpretation
Percentage of traditional-age students completing program	25%		
Number of veterans enrolled	5-10		
Percentage of women completing program	10%		
Percentage of underrepresented minority students completing program	10%		

Small group work

RUBRIC WORKSHEET

RUBRIC
To what extent and how has the project affected enrollment, retention, and **DIVERSITY** of the college's energy programs?

Indicator	Below Target	On Target	Above Target
Percentage of traditional-age students completing program			
Number of veterans enrolled			
Percentage of women completing program			
Percentage of underrepresented minority students completing program			

Real-world Example from EvaluATE

INDICATOR	DATA POINT FOR '15-16	EXCELLENT (5)	VERY GOOD (4)	GOOD (3)	FAIR (2)	POOR (1)
Percentage of annual evaluation survey respondents who agree or strongly agree that EvaluATE has improved their understanding of …						
what should be included in an evaluation report	75%	90% or more	70%-89%	50%-69%	30-49%	29% or less
where to get information about evaluation	90%	90% or more	70%-89%	50%-69%	30-49%	29% or less
what NSF program officers expect from an evaluation	82%	90% or more	70%-89%	50%-69%	30-49%	29% or less
evaluation in general	83%	90% or more	70%-89%	50%-69%	30-49%	29% or less
how to incorporate evaluation into project planning	76%	90% or more	70%-89%	50%-69%	30-49%	29% or less
how to develop an evaluation plan	77%	90% or more	70%-89%	50%-69%	30-49%	29% or less
how to capture evidence of project impact	75%	90% or more	70%-89%	50%-69%	30-49%	29% or less
how to use evaluation results to inform project decision making	69%	90% or more	70%-89%	50%-69%	30-49%	29% or less
how to interpret results/draw conclusions	62%	90% or more	70%-89%	50%-69%	30-49%	29% or less

EvaluATE's 2015-16 Summary Evaluation Results
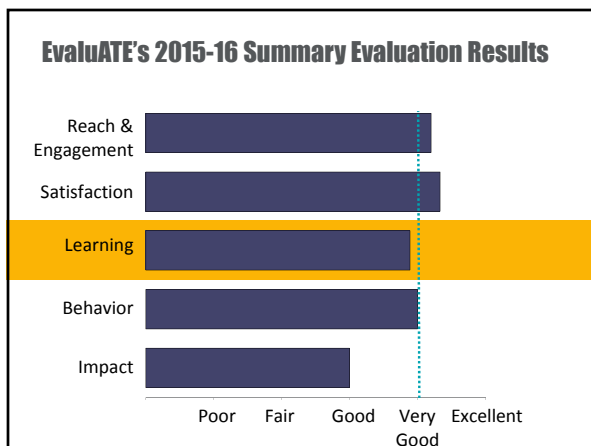
FINAL QUESTIONS?

1 Define intended outcomes

2 Identify indicators, data sources, and collection methods

3 Gather evidence

4 Interpret results

Thank You!

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