

ENERGY EFFICIENCY PROGRAMS

**SoCalREN Workforce Education and
Training Sector**

**Architecture Construction
Engineering Students (ACES)
Pathway Program
Implementation Plan**

*Prepared by the County of Los Angeles on behalf
of the Southern California Regional Energy Network*

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Program Overview

The Architecture Construction Engineering Students (ACES) Pathway Program engages, exposes, and challenges students to explore architecture, engineering, and construction careers with a focus on Energy Efficiency. The program leverages public works investment, community college STEAM courses offerings, and robust industry participation across the SoCalREN Territory to provide students with comprehensive exposure and opportunities in these fields.

Program Budget and Savings

The CEDARS platform generates summary views of the following information based on application tables uploaded by the PAs. This information is organized at both the program and, where applicable, sub-program levels to facilitate various cross-tabulations and outputs for stakeholder review and consideration. Programs with subprograms will be displayed at the subprogram level and will also aggregate to provide a comprehensive program summary page.

1. Program and/or Sub-Program Name
 - a. Architecture Construction Engineering Students (ACES) Pathway Program
2. Program / Sub-Program ID number
 - a. SCR-WET-D2
3. Program / Sub-program Budget Table

| Budget Category | Program Segment | 2024 - 2027 |
|-----------------|-----------------|-------------|
| ACES | Equity | \$1,974,000 |

4. Program / Sub-program Gross Impacts Table
 - a. This is not applicable for non-resource programs
5. Program / Sub-Program Cost Effectiveness (TRC)
 - a. N/A
6. Program / Sub-Program Cost Effectiveness (PAC)
 - a. N/A
7. Type of Program / Sub-Program Implementer (PA-delivered, third party-delivered or Partnership)

| Program Implementer | Yes |
|---------------------------|-----|
| SoCalREN Only | |
| SoCalREN – Statewide Lead | |
| Other PA – Statewide Lead | |
| Third Party | X |
| Other (Partnership) | |

8. Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public)

| Market Sector | Yes |
|--------------------------------|-----|
| Residential | |
| Commercial | |
| Industrial | |
| Agricultural | |
| Public | |
| Codes & Standards | |
| Workforce Education & Training | X |
| Finance | |
| Other | |

9. Program / Sub-program Type (i.e., Non-resource, Resource)

| Program Type | Yes | No |
|--------------|-----|----|
| Resource | | X |
| Non-Resource | X | |

10. Market channel(s) (i.e., downstream, midstream, and/or upstream) and Intervention Strategies (e.g., direct install, incentive, finance, audit, technical assistance, etc.), campaign goals, and timeline.

| Market Channels | Yes | No |
|-----------------|-----|----|
| Upstream | | |
| Midstream | | |
| Downstream | x | |

Implementation Plan Narrative

Program Description

The Architecture Construction Engineering Students (ACES) Pathway Program directly aligns in-school youth with community colleges to provide a head start on STEAM pathways to clean energy careers. ACES offers tuition- free college enrollment, allowing students to take engineering, architecture, and construction- related coursework that counts as transferable college credit to California State University and the University of California systems. By integrating youth STEAM education with career technical education, ACES helps develop a skilled workforce for managing and maintaining energy efficiency investments in the public sector. The program also exposes students to green energy and environmental careers through the Future Green Leaders Summit.

To ensure a smooth transition from training to employment, ACES provides paid summer internships for disadvantaged youth who complete two classes each academic year, reinforcing their academic pathways to clean energy careers.



Program Delivery and Customer Services

Student Outreach

The ACES program employs early and continuous outreach strategies to engage in-school youth and introduce them to STEAM careers and enrollment opportunities. This approach aims to spark interest in the green energy field by providing onsite engagement activities including regular school hour presentations, special assemblies, in-class visits to introduce the program, and outreach events hosted by the school.

Schools are selected based on their Title I designation, indicating that the majority of students are classified as disadvantaged.

College enrollment

ACES supports college enrollment through partnerships with the Los Angeles Community College District (LACCD) and other Community Colleges within the SoCalREN Service Territory. The program ensures students are scheduled in a consistent course sequence that leads to earning transferable college credit, community college skills certificates, and industry-recognized certifications. Additionally, ACES collaborates with community colleges to create and implement STEM skills certificates for the ACES pathway.

Hands-on Training

In partnership with labor unions, ACES offers pre-apprenticeship training using the Multi-Craft Core Curriculum (MC3), developed by the National Building and Construction Trades Council. This training facilitates a pathway to union apprenticeship. MC3 consists of 120 hours of training, which include:

- Orientation to Union Construction
- Construction Trade Awareness
- Heritage of the American Worker
- Basic Construction Math
- Green Construction
- Tools and Materials
- Basic Blueprint Reading
- OSHA-10 and First Aid Certification

ACES supports students who complete the pre-apprenticeship training by facilitating their enrollment in union apprenticeship programs. This opportunity is available to ACES students who wish to pursue a career in construction after graduating from high school.

Seminars

Educational seminars led by industry experts to enhance students' knowledge and skills in Architecture, Construction, and Engineering and Energy Efficiency fields. These seminars address industry topics and trends, practical skills, and career development, ensuring students are well-prepared for future opportunities in these sectors. Below is a continued seminar that will be incorporated amongst others:

- U.S. Green Building Council (USGBC) Green CA Schools – Sustainability 101
Sustainability 101 program is a comprehensive initiative designed to introduce and educate participants about sustainable practices. This program covers fundamental sustainability concepts, such as energy efficiency, water conservation, and the use of sustainable materials, tailored to the educational setting. Participants will acquire practical knowledge and tools to implement green practices, improving environmental performance and fostering a culture of sustainability among students.

Industry Certifications

In partnership with GoEngineer, ACES offers students the opportunity to train for the Certified SOLIDWORKS Associate (CSWA), and Certified SOLIDWORKS Professional (CSWP) international certifications. SOLIDWORKS is a 3D CAD design software widely used in the ACE industry for various purposes. ACES will further this initiative by assisting students in creating personal projects utilizing the software, enabling them to apply their skills in real-world scenarios and develop a robust portfolio.

In addition to industry certifications in SOLIDWORKS, ACES, in partnership with CertiPort, offers students the opportunity to earn professional certifications in Adobe Software. These certifications cover applications such as Photoshop, Illustrator, InDesign, and Premiere Pro. Adobe certifications validate students' skills and proficiency with these industry-standard tools, which are essential for graphic design, video editing, web development, and other creative fields.

Career/Industry Days

ACES is dedicated to providing students with valuable industry exposure and career development opportunities. As part of this commitment, ACES hosts Industry Career Days in partnership with high schools within the SoCalREN territory to introduce students to career opportunities in the energy sector and beyond.

- **Event Planning and Coordination:** Planning and execution of these events by collaborating closely with high schools, local industry partners, and community organizations.
- **Speakers and Panelists:** Industry professionals, experts, and representatives recruited to serve as speakers and panelists, offering students insight into their careers and experiences.
- **Workshops and Activity Development:** The program includes workshops, interactive activities, and hand-on sessions that introduce students to energy efficiency-related careers and other ACE professions.
- **Networking:** Students have the opportunity to network with industry professionals, ask questions, and learn about various career paths.

STEM Boot Camps

ACES, in collaboration with community college partners offers an integrated series of academic boot camps for high school students. These in-depth camps are designed to provide valuable exposure to the energy efficiency sector and other ACES professions through:

- **Curriculum Development:** Creating comprehensive curricula that cover essential engineering concepts relevant to the energy efficiency sector.
- **Hands-On Learning:** Providing practical, hands-on learning experiences where students develop critical skills through expert-led instruction and real-world projects.
- **Industry Partnerships:** Facilitating interactions with industry professionals, offering students opportunities to learn about internships, and seek mentorship based on the curriculum covered.

Paid Summer Internships

ACES offers paid internships that allow students to work alongside industry professionals, enhancing their academic goals and interests. To qualify for these internships, ACES students must successfully complete a minimum of two college courses during the academic year. These internships are facilitated in partnership with the Department of Economic Opportunity (DEO) and various industry partners across both public and private sectors. ACES coordinates with industry partners to identify and secure valuable internship opportunities for students.

In addition, ACES provides a comprehensive professional development training program to prepare students for their internships. This training focuses on essential skills such as resume building, interview techniques, workplace etiquette and communication. By equipping students with these critical skills, the program aims to boost their confidence and help them excel in their summer internship and future career or educational pursuits.

Personal Enrichment Training

Personal enrichment Training (PET) is designed to prepare participants for a successful transition into the workforce. This training covers essential topics such as financial literacy, work ethics, life skills, career exploration and goal setting. PET is offered as part of the enrollment process at the DEO America's Job Center of California (AJCC) which provides comprehensive training and support to help individuals thrive in the workplace.

Program Strategies

The program focuses on in-school youth by exposing them to careers in clean energy and equipping them with the tools to transition to higher education. It employs a multi-level approach by offering both community college certification and industry certifications in the energy sector. This strategy aims to prepare students for successful careers in clean energy through a combination of academic and industry-recognized qualifications.

Marketing and Outreach

The ACES Pathway Program will be promoted through various channels to target our primary audience.

Direct Outreach to Students

The ACES Program will engage feeder schools within the SoCalREN service territory, aiming to include all 13 counties in the region. Program staff and program participants will provide information about the available certifications, opportunities, and the supportive services to those unfamiliar with careers in the energy efficiency sector. Furthermore, ACES will collaborate with the Community College system to develop STEM energy efficiency (EE) course offerings and skills certifications, continuously enrolling in-school youth across the SoCalREN Service Territory.

ACES Orientation Meetings

Orientation meetings will be conducted for school administration, students, and parents interested in learning more about the program. These sessions will provide detailed information about enrollment process, available certifications and training, requirements for paid internships, and program expectations.

ACES Meetings

A series of meetings will be established to educate students on key subjects within the Architecture, Construction, Engineering fields and Energy Efficiency. These sessions will feature presentations, discussions, and hand-on activities, offering students deeper insight and knowledge to enhance their understanding and interest in these areas.

Marketing and Advertising Engagement Channels

Marketing Collateral

To effectively promote the ACES Pathway Program, a comprehensive set of marketing materials has been developed. This includes a program overview, fact sheets, and various resources designed to inform potential participants about ACES and the benefits of involvement. These materials aim to provide clear and engaging information to help prospective students understand the program's value and how it can support their educational and career goals.

Toll-Free Phone and Email Support

The ACES program offers toll-free phone and email support for all program inquiries. The toll-free line is available on weekdays from 9:00 a.m. to 5:00 p.m. PST, providing assistance and information to prospective participants and stakeholders.

Engagement Channels

Social media platforms will be utilized as a dynamic channel for the ACES program to engage with youth, community partners, and stakeholders. These platforms will help increase

awareness of the program, share information about participation, and foster connections within the community.

Engagement also includes but not limited to:

- Outreach Applications which include Jobspeaker, Remind, etc.
- Press releases
- Newsletters

Web-Based Digital ME&O

The ACES Pathway Program is prominently featured on the SoCalREN website, with a dedicated section providing detailed information about the program. Additionally, the program is highlighted across SoCalREN’s social media platforms and included in the Quarterly SoCal REN E-Newsletter to enhance visibility and outreach.

Public Relations

Information and subsequent activities of the ACES Pathway Program may be shared with local media outlets.

Program Design and Best Practices

The goal of the ACES Pathway Program is to introduce students to career pathways in the clean energy sector by providing them with foundational skills and training. Participants will undergo individual assessments to identify any existing barriers. Once barriers have been identified, partners such as the Department of Economic Opportunity offer supportive services to address or mitigate those barriers.

| Barrier | Solution |
|--|--|
| Accessibility for youth of color to high-road ACE careers | Outreach/recruitment conducted in coordination with participating high schools and community colleges |
| Local hiring standards for DAC/HTR professional workers | Implement the Paid Internship Program for youth to perform in ACE careers in partnership with public and private local employers |
| Limited entry-level ACE opportunities | Maintain strong employer relationships and identify entry-level ACE opportunities with partner employers |
| Accessibility to technology | Participants enrolled in the program will have the opportunity to borrow a laptop and access hotspots to complete skills certification training. |
| Transportation | Eligible participants will receive a bus pass or gas reimbursement to travel to and from the training/employer site. |
| Clothing | Eligible participants will receive a clothing stipend for training/work site attire. |

Participants will be using the SoCalREN website to fill out an interest form for the program.

Innovation

Future Green Leaders Summit

The Future Green Leaders Summit is a one-day event for middle school students to inspire them to consider careers in the fields of sustainability and energy. Children who may not be exposed to these careers otherwise will be invited to dream about a career that makes a difference to their communities and to the broader society. This event will be held once per calendar year in one of the SoCalREN territories.

Event Goals

- To introduce and expose local students to a variety of careers in sustainability and energy efficiency by hosting interactive and inspiring day-of activities, speakers, workshops, and exhibitors.
- To reach students from local Title 1 schools to plant the seed of interest in science, sustainability technology, engineering, and math careers.

Target Audience

- Elementary/Middle school students (6th–7th grade students)
- Primarily from disadvantaged, hard-to-reach (HTR), and low-income communities

ACES Mentorship Program

The ACES Pathway Program plans to launch a mentorship initiative aimed at providing personalized guidance and support to its participants. The mentorship program will connect current students with ACES alumni and industry partners, offering valuable insights, encouragement, and support as they navigate their educational and career aspirations through high school

ACE Curriculum Development

Expansion into K-6th curriculum as part of early and continuous outreach to elementary and middle school youth. The curriculum will engage and expose students to STEAM careers and complement existing ACE career pathways.

In collaboration with districts, coordinate outreach, recruitment, and selection of middle school sites to build from and give continuity to the Future Green Leaders Summit Experience.

- Co-develop, with lead teachers, an out-of-school curriculum that works with and supports existing sustainability initiatives within the district.
- Provide on-site guidance on data collection and analysis for reflective continuous-improvement co-developed lessons.
- Create a showcase opportunity for community celebration of participating student/teacher work.

The curriculum will include:

- Lesson Planning: Develop Lesson Plans for each grade level that includes hands-on activities and resources.

- Learning Toolkits: Develop place-based interactive learning tools and resources to assist teachers, students, and parents.
- Teacher Training Support: Provide professional development opportunities and support teachers in implementing the curriculum effectively.
- Parent and Community Engagement: Engage parents and the community in supporting energy education initiatives by providing resources.

Quantitative Program Targets

The SoCalREN ACES program aims to achieve the following goals:

Metrics - Unique Values

| Program Goals | 2024 | 2025 | 2026 | 2027 |
|--|------|------|------|------|
| Schools | 11 | 15 | 20 | 25 |
| Unique Enrollments | 150 | 200 | 250 | 300 |
| Class of Participants | 250 | 275 | 300 | 325 |
| Certifications (Skills certificates) | 20 | 30 | 35 | 40 |
| Partners (Industry, College, AJCC's) | 5 | 10 | 15 | 20 |
| Certifications (Industry/Professional) | 5 | 10 | 15 | 20 |
| Internships | 25 | 40 | 50 | 60 |

To-Code Savings Claims

N/A

Pilots

N/A

Workforce Education and Training

Describe how the program will support workforce, education, and training to:

1. Expand/initiate partnerships with entities that do job training and placement;
 - a. Our partnership through DEO and the AJCCs provides job training and placement in a variety of fields for participants.
2. Require placement experience for any new partners in the workforce, education, and training programs and new solicitations;
 - a. N/A

3. Require “first source” hiring from a pool of qualified candidates, before looking more broadly, beginning with self-certification; and
 - a. N/A
4. Facilitate job connections, by working with implementers and contractor partners, and utilizing energy training centers.
 - a. N/A

Workforce Standards

N/A

Disadvantaged Worker Plan

N/A

Additional Information

N/A

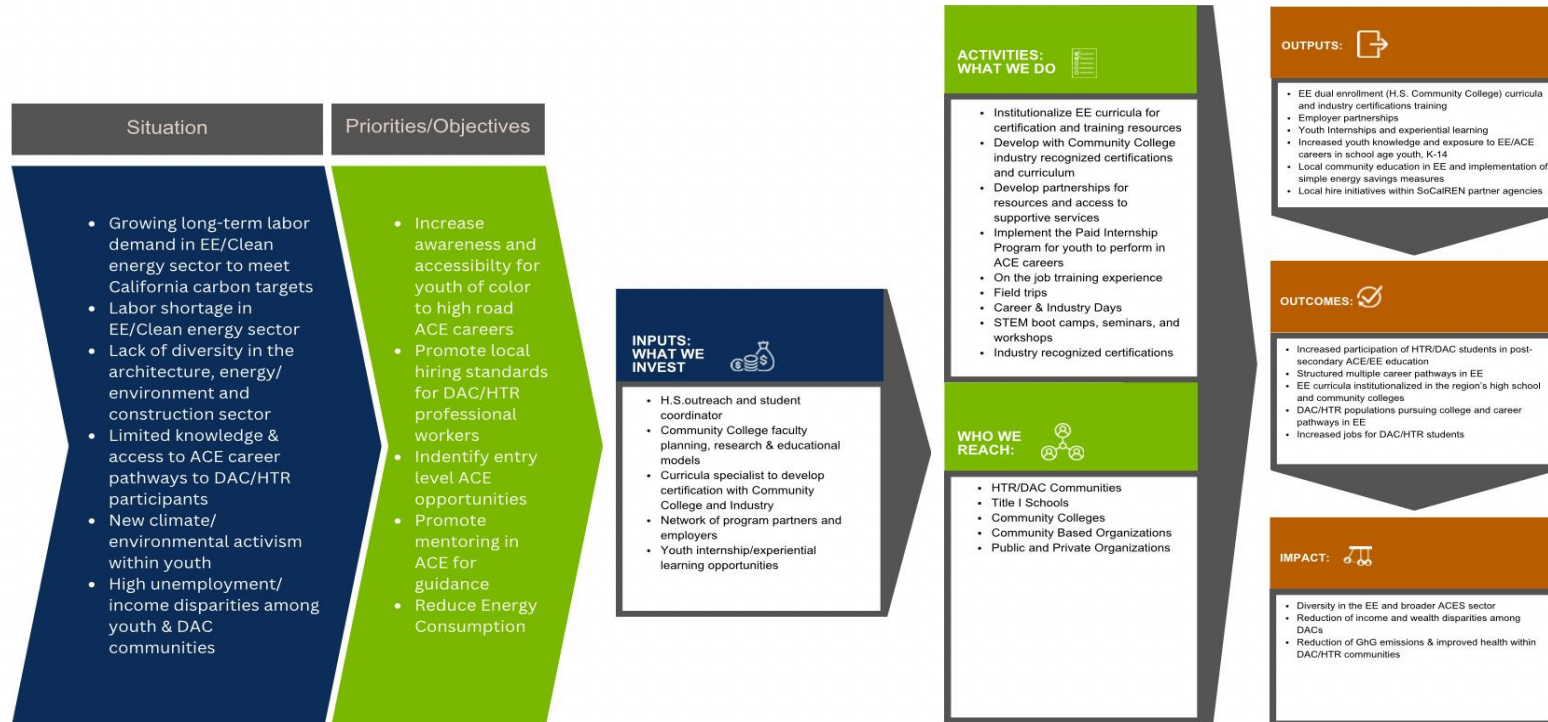
Supporting Documents

Program Manual and Program Rules

Program Manual will be prepared in the coming weeks.

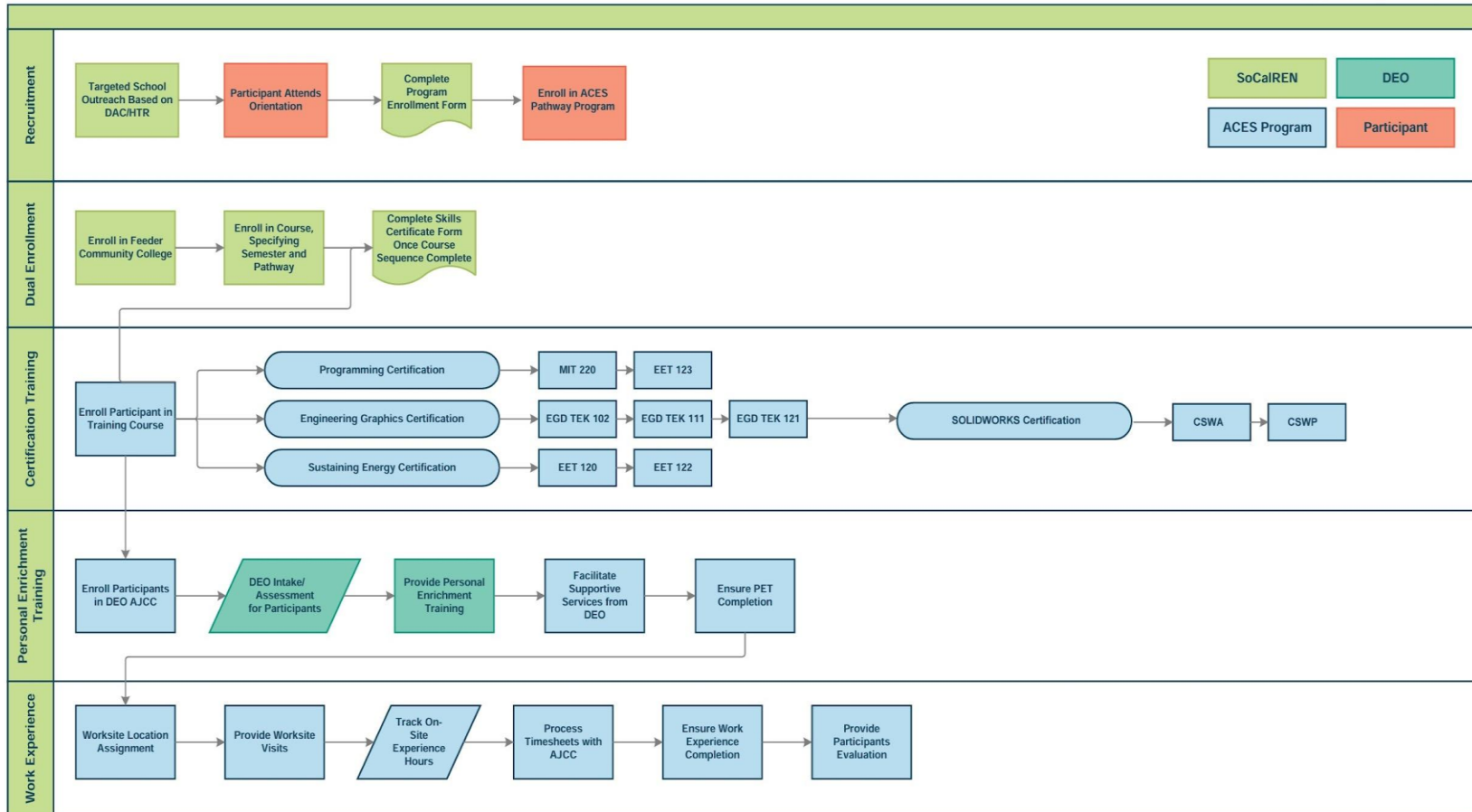
Program Theory and Program Logic Model

Program Theory and Program Logic Model



Process Flow Chart

SoCalREN Workforce Education and Training: ACES Pathway Program



Definitions:

- AJCC America's Job Centers of California
- DAC Disadvantaged Communities
- EET Electrical Engineering Technology
- EGD Engineering Graphics and Design
- HTR Hard-to-Reach Audiences
- MIT Manufacturing and Industrial Technology
- PET Personal Enrichment Training
- TEK Technology
- DEO Department Of Workforce Development, Aging and Community Services

Incentive Tables, Workpapers, and Software Tools

N/A

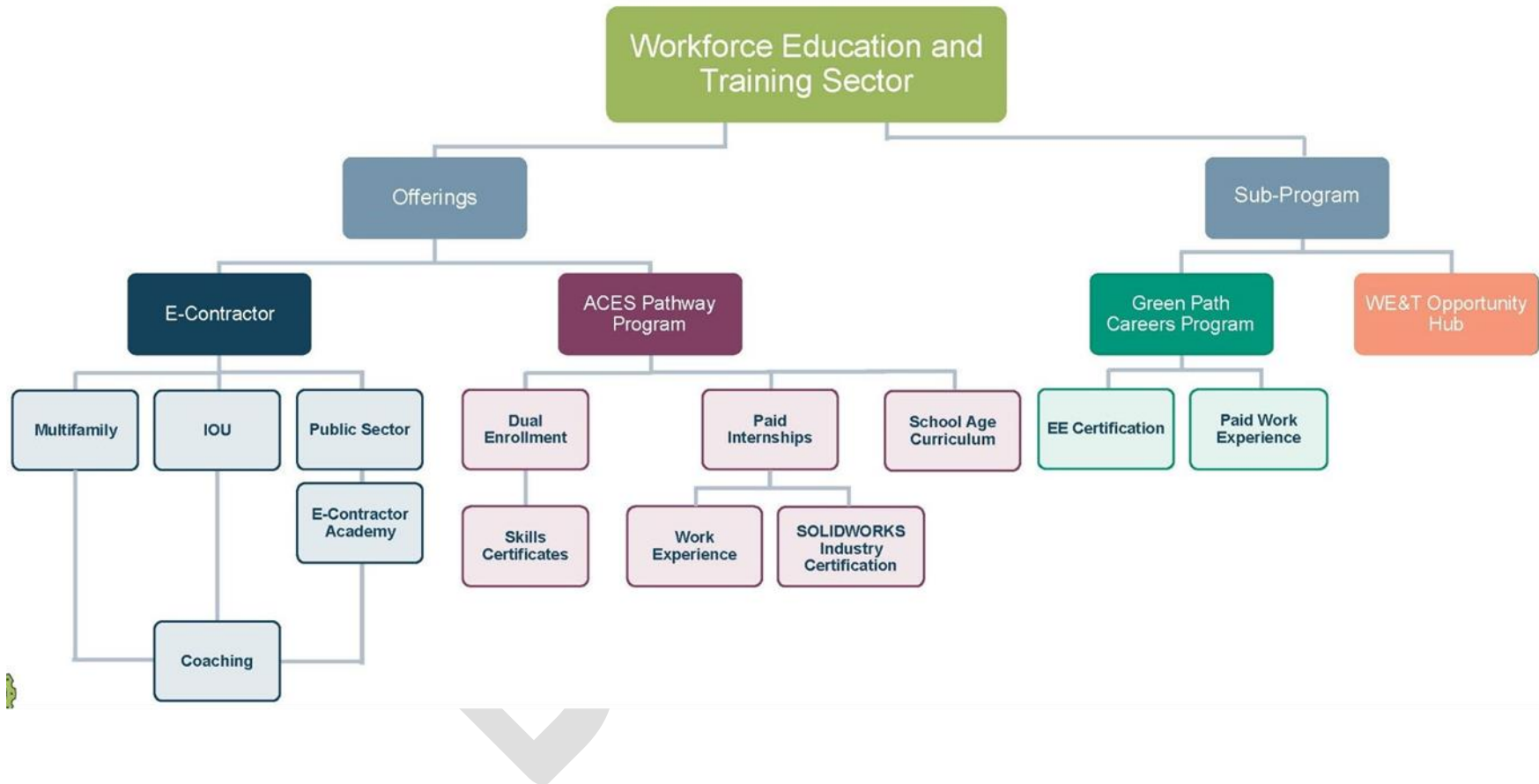
Metrics - Indicators

The metrics to be gathered by the SoCalREN ACES program are as follows:

| Metric | Data Collected |
|--|---|
| Course Offered | # of courses offered |
| Participants Pursuing EE STEM major in College | # of participants pursuing EE STEM major in college |
| Orientation for Program Offerings | # of orientations for program offerings |
| Intern Hours Worked | # of Intern Hours Worked |
| Internship Wages Earned (\$17.28 hourly rate) | Total Wages Earned |

Diagram of Program

WE&T Sector Program Structure



Evaluation, Measurement, and Verification (EM&V)

The ACES program completes ongoing evaluation to ensure the goals and targets are met while keeping stakeholders fully informed of ACES program operations and outcomes. A comprehensive work plan will be developed by SoCalREN's third-party EM&V team at the beginning of each year to identify the study needs in the portfolio, determine the timeframe and allocate the budget per study.

Normalized Metered Energy Consumption (NMEC)

N/A

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