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Docket Number:	25-EPIC-01
Project Title:	Electric Program Investment Charge 2026–2030 Investment Plan (EPIC 5)
TN #:	270598
Document Title:	Jeremy Zeedyk Comments - WSC EPIC 5 Comments on Workforce Standards
Description:	N/A
Filer:	System
Organization:	Jeremy Zeedyk
Submitter Role:	Public
Submission Date:	6/12/2026 12:12:56 PM
Docketed Date:	6/12/2026

*Comment Received From: Jeremy Zeedyk
Submitted On: 6/12/2026
Docket Number: 25-EPIC-01*

WSC EPIC 5 Comments on Workforce Standards

Additional submitted attachment is included below.



California Energy Commission

Docket No. 25-EPIC-01

RE: Comments on RE: Comments on Electric Program Investment Charge 2026–2030 Investment Plan (EPIC 5)

Submitted by:

Western States Council of the International Association of Sheet Metal, Air, Rail, and Transportation Workers

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Date: June 12, 2026

Dear Commissioners,

Thank you for the opportunity to provide comments on Comments on RE: Comments on Electric Program Investment Charge 2026–2030 Investment Plan (EPIC 5)

The Western States Council of SMART ([WSC](#)) represents Sheet Metal Workers' Local Unions and their nearly 20,000 members in California, Arizona, Nevada, and Hawaii. Our members install and perform Testing, Adjusting, and Balancing (TAB) on all types of Heating, Ventilation, and Air Conditioning (HVAC) systems, both residential and commercial, and are committed to not only ensuring indoor comfort through heating and cooling but also safeguarding air quality and promoting energy efficiency within the built environment.

We partner with the Joint Committee on Energy and Environmental Policy (JCEEP) to research and accelerate best practices in the industry along with our contractor partners - including the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA). In California alone, the WSC operates over 15 training facilities, where thousands of HVAC technicians are trained daily in all aspects of HVACR, including heat pump installations.



The Electric Program Investment Charge (EPIC) 2021–2025 Investment Plan: [EPIC 4](#) Investment Plan appropriately recognized the importance of workforce development, job creation, economic opportunity, and equitable participation in California's clean energy transition. The Plan acknowledged that public investments should support workforce development pathways, encourage participation by disadvantaged and underrepresented populations, and contribute to the creation of high-quality careers.

As the California Energy Commission develops [EPIC 5](#) and future EPIC investment plans, there is an opportunity to build upon these objectives by incorporating stronger workforce standards, workforce accountability measures, and High-Road workforce principles. Doing so would help ensure that public investments not only advance clean energy innovation, but also maximize technology performance, protect public investments, strengthen workforce capacity, and create lasting economic benefits for California workers and communities.

Workforce Quality Is Essential to Program Success

California's clean energy goals increasingly depend upon the successful deployment of complex technologies, including advanced building systems, high-efficiency Heating, Ventilation, and Air Conditioning (HVAC) systems, space-conditioning heat pumps, heat pump water heaters, energy storage systems, distributed energy resources, grid modernization technologies, industrial decarbonization technologies, electric vehicle infrastructure, and advanced manufacturing processes. The performance, efficiency, reliability, and expected energy savings of these technologies depend not only on research and innovation, but also on the workforce responsible for properly sizing, installing, commissioning, operating, maintaining, and servicing them throughout their useful life.

A growing body of state policy recognizes that workforce quality is directly connected to energy, climate, and economic outcomes. Poor installation, improper commissioning, inadequate maintenance, and insufficient worker training can reduce system performance, diminish expected energy savings, shorten equipment life, create safety concerns, and undermine public confidence in emerging technologies.

A recent [CPUC-commissioned evaluation of the TECH and ESMAC heat pump water heater training](#) found that while the program was a useful introduction to the technology, it was not designed to replace apprenticeship or advanced technical training. The evaluation found no competency testing, no hands-on training component, and no formal assessment of whether participants had mastered the material. The lesson is simple: training alone is not a workforce standard.

For this reason, workforce standards should not be viewed solely as labor policy. They should be viewed as an important program quality and risk-management tool. Just as California invests in technology validation, performance verification, and quality assurance, future EPIC plans



should recognize workforce quality as an essential component of successful project implementation.

Public Investments Should Support Long-Term Workforce Development

California faces an unprecedented need for skilled workers to support building electrification, the widespread deployment of high-efficiency HVAC systems, space-conditioning heat pumps, heat pump water heaters, grid modernization, renewable energy deployment, energy storage expansion, transportation electrification, and industrial decarbonization. Meeting these objectives will require a workforce with advanced technical knowledge, hands-on experience, and ongoing training to ensure these technologies are properly installed, commissioned, maintained, and operated throughout their service life.

The EPIC program already recognizes the importance of workforce development. However, future investment plans should acknowledge that workforce training programs alone are not sufficient to ensure workforce quality or long-term workforce development.

The successful deployment of advanced energy technologies requires workers who understand the entire building, mechanical, electrical, and energy systems, not simply individual tasks or equipment components. State-approved apprenticeship programs have a long and proven record of producing highly skilled workers through rigorous classroom instruction, progressive skill development, and supervised on-the-job training. As a result, apprenticeship-based workforce development models are particularly well suited to prepare workers for the installation, commissioning, operation, and maintenance of increasingly sophisticated clean energy technologies. Future investment plans should prioritize workforce strategies that develop comprehensive system knowledge and support long-term career pathways, rather than relying solely on short-duration or narrowly focused skills training.

California has long recognized the importance of combining workforce development investments with workforce standards that create demand for skilled workers. Training programs provide the supply of qualified workers, but workforce standards create demand for employers to hire, retain, and invest in those workers. Without this connection, public investments may support workforce training while providing little incentive for project sponsors, contractors, or employers to utilize highly trained workers or participate in apprenticeship systems.

EPIC 5 and future EPIC investment plans should align workforce development investments with High-Road workforce standards that promote workforce quality, apprenticeship utilization, career advancement, and economic mobility. These standards should be incorporated across the entire EPIC project continuum, ensuring that workforce development, workforce accountability, and workforce quality remain central considerations from initial research through project implementation and market deployment.



Supporting High-Road Economic Development

California has established a clear policy framework supporting High-Road workforce development and job creation.

The California Workforce Development Board has defined a High-Road approach as one that simultaneously advances worker opportunity, employer competitiveness, and long-term environmental sustainability. Likewise, state climate and workforce policies increasingly recognize that investments in workforce quality improve project outcomes, increase productivity, support innovation, and create pathways into family-supporting careers.

EPIC 5 and future EPIC investment plans should explicitly incorporate High-Road workforce principles into project design, evaluation criteria, and performance metrics. Such principles may/should include:

- Family-supporting wages and benefits.
- Workforce retention and career advancement opportunities.
- Utilization of state-approved apprenticeship programs.
- Partnerships with labor-management training programs, community colleges, workforce development boards, and other workforce intermediaries.
- Access to quality career pathways for disadvantaged workers, women, veterans, justice-involved individuals, and other underrepresented populations.
- Ongoing workforce education and skill development aligned with emerging clean energy technologies.

By incorporating these principles, EPIC 5 can strengthen both the economic and environmental benefits generated through public investment.

Consideration of Skilled and Trained Workforce Requirements

EPIC 5 and future EPIC plans should evaluate/require the use of Skilled and Trained Workforce requirements for activities where project success depends upon workforce competency and technical expertise.

Skilled and Trained Workforce requirements have become an increasingly common feature of publicly funded infrastructure, energy, and climate programs throughout California. These standards help ensure that projects are performed by workers who have completed rigorous apprenticeship training and possess the skills necessary to safely and effectively perform increasingly complex work.

Where appropriate, Skilled and Trained Workforce requirements can provide multiple public benefits, including:

- Improved project quality and performance.



- Reduced safety and reliability risks.
- Greater consistency in project execution.
- Increased utilization of state-approved apprenticeship programs.
- Expanded opportunities for workers to enter and advance in clean energy careers.
- Stronger alignment between public investments and California's workforce development objectives.

The Commission need not apply identical workforce requirements across all EPIC funding categories. Research, development, manufacturing, demonstration, commercialization, and deployment activities may require different approaches. However, future plans should evaluate where workforce standards can strengthen project outcomes and ensure that publicly funded projects contribute to the development of California's skilled workforce.

Improving Workforce Accountability and Performance Measurement

EPIC 5 and future EPIC plans investment plans should also establish clearer workforce metrics and reporting expectations.

Current workforce objectives generally focus on participation and workforce development activities. Future plans could supplement these objectives with performance measures that better capture workforce outcomes and long-term workforce impacts.

Examples could include:

- Number of workers receiving structured training.
- Apprenticeship utilization.
- Participation by state-approved apprenticeship programs.
- Job placement outcomes.
- Workforce retention and advancement outcomes.
- Participation by disadvantaged and underrepresented populations.
- Partnerships with workforce development organizations.
- Utilization of Skilled and Trained Workforce standards.

Establishing measurable workforce outcomes would improve transparency, allow policymakers to evaluate program effectiveness, and help ensure that workforce investments produce lasting benefits.

Conclusion

The EPIC program plays a critical role in advancing California's clean energy innovation ecosystem. As future investment plans are developed, the Commission has an opportunity to further strengthen the connection between technology innovation, workforce quality, and economic opportunity.



California's clean energy transition will depend not only on the technologies being developed, demonstrated, and deployed, but also on the workforce responsible for implementing them successfully. Strong workforce standards, High-Road workforce principles, apprenticeship utilization, and workforce accountability measures can help ensure that public investments achieve their intended energy, climate, and economic objectives.

Accordingly, future EPIC investment plans should build upon the existing commitment to workforce development by incorporating stronger workforce quality standards, consideration of Skilled and Trained Workforce requirements where appropriate, High-Road workforce principles, and measurable workforce outcomes. These improvements would help maximize the public value of EPIC investments while supporting California's long-term climate, workforce, and economic development goals.

Thank you for the opportunity to provide these comments and for your continued leadership in advancing California's clean energy future.

A handwritten signature in black ink, appearing to read 'J. Zeedyk'.

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Transportation Workers
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