

How can California workers transition to green energy jobs?

California likes to see itself as a leader in climate policy. But transitioning from fossil fuels to renewable energy also will mean a major reshuffling for workers.

What happens to workers in the oil and gas industry whose jobs may disappear? Will California have people with the right skills to fill new jobs in the growing green energy sector?

Recently enacted California climate laws are projected to create 4 million new jobs over the next two decades. And money coming from the federal government, thanks to the Inflation Reduction Act, could boost that number even higher. Meanwhile, California also plans to reduce consumption of fossil fuels by 91% and cut air pollution by 60% by 2045.

CalMatters environment reporter Nadia Lopez moderated a panel on Tuesday hosted by the Milken Institute and CalMatters about what will happen to California's workforce as the state strives to meet its climate goals.

Joining the panel was Tim Rainey, executive director of California's Workforce Development Board; Erik Antokal, head of workforce development at Orsted, a renewable energy company; Sam Appel, California state manager for BlueGreen Alliance, a nonprofit partnership between labor unions and environmental organizations; and Rajinder Sahota, deputy executive officer of climate change and research at the California Air Resources Board

Here are three takeaways:

Many of these career paths already exist

Some roles are relatively new, like wind turbine technician jobs. But in most cases, renewable energy companies are creating jobs in longstanding careers, like construction, manufacturing and logistics, said Antokal. "We, in most cases, are not inventing new careers."

As workers are trained for the trades, the goal shouldn't be to train them for a hyper-specific job, like bolting down solar panels, said Rainey. Instead, the goal is to train skilled electricians, who can shift roles as the work evolves. "Our end game is to get people in the trades because our real end game is to move people out of poverty," he said.

But training alone isn't enough, especially for employers and policymakers who want to bring underserved groups into renewable energy jobs, said Antokal. "Without the basic supports to ... succeed at work, like childcare, fair housing conditions, substance use counseling and all sorts of other social factors, it's going to be very difficult for the most vulnerable among us to actually hold on to these roles," he said.

About 152,000 Californians work in the oil and gas industry and another 366,000 have careers that depend on the industry. Helping these workers out of their current jobs and into high-paying jobs in the clean energy sector is often described as a "just transition" — a strategy some experts and policymakers say is a crucial tool to counter job losses as California makes progress on decarbonizing the economy. But creating those opportunities

in parts of the state, such as Kern County, where local economies heavily depend on the fossil fuel industry comes with its challenges since many workers still worry about losing their good-paying jobs.

Sahota, of the state's Air Resources Board, said one way to ease the transition is to build out carbon removal infrastructure, such as carbon capture and storage on oil fields, refineries and other polluting plants, where workers could use some of their existing skills and training to launch these projects.

But the practice of carbon capture and storage — where carbon emitted by smokestacks is captured and injected deep underground so that it does not warm the planet — has long been opposed by environmental justice groups, who say it could prolong the life of the fossil fuel industry. Still, Sahota said it could ease the strain on fossil fuel workers while also helping meet the state's goal of carbon neutrality.

"We can't get to zero without carbon management, without (carbon capture and storage), and without carbon dioxide removal," she said.

There's a chicken and egg problem

It's difficult for companies to invest in renewable energy projects if there aren't workers available with the skills to do the work. But it's also difficult to attract workers to fields that require training if it's not clear that there will actually be jobs for them on the other side. So timing is key.

"We want to be really careful that we're not training people to then just sit on the bench," said Rainey. Project labor agreements — collective bargaining agreements that set the terms and conditions of a construction project — are one way to signal to trade unions and apprenticeship programs how much work is going to be available, he said.

Getting major energy projects permitted — with some kind of schedule or date penciled in — is crucial for attracting investors and workers, said Sahota with the Air Resources Board. "That pinch point keeps coming up over and over again, across all sectors of the economy," she said.

The quality, not just the quantity, of jobs is important

California, like much of the country, has a low unemployment rate, at 3.9% in July. But working poverty in the Golden State is high, said Rainey. If workers get displaced from their job because of the energy transition, and they find a new job but can't afford the basics, "that's not the kind of transition we want people to make."

It's not just about the state trying to partner with companies that invest in their employees, said Appel, with BlueGreen Alliance. "It's about not investing in the bad companies, because when you invest in the bad companies as a state, you're subsidizing the degradation of working conditions across the whole industry."

UNEMPLOYMENT

Region	September 2021	August 2022	September 2022	Percentage Point Change	
				1 month	12 months
San José–Sunnyvale MSA	3.9%	2.4%	2.2%	- 0.2	- 1.7
San Francisco MD	3.9%	2.3%	2.0%	- 0.3	- 1.9
California	6.1%	4.1%	3.7%	- 0.4	- 2.4
United States	4.6%	3.8%	3.3%	- 0.5	- 1.3

INDUSTRY EMPLOYMENT

Sector — September 2022	San Jose MSA	San Francisco MD	Combined Region	Percentage Change (Combined Region)	
				1 month	12 months
Total Nonfarm	1,168,600	1,182,000	2,350,600	- 0.3%	+ 5.7%
Construction	57,100	45,500	102,600	+ 0.4%	+ 10.2%
Manufacturing	175,200	38,400	213,600	- 1.0%	+ 2.5%
Retail Trade	75,200	69,500	144,700	- 0.8%	+ 3.1%
Information	112,900	120,400	233,300	- 1.4%	+ 5.5%
Professional & Business Services	262,400	315,900	578,300	- 0.3%	+ 8.7%
Educational Services	44,200	31,300	75,500	+ 2.3%	+ 4.6%
Health Care & Social Assistance	142,300	118,200	260,500	+ 0.3%	+ 3.6%
Leisure & Hospitality	100,000	118,200	218,200	- 0.7%	+ 14.7%
Government	92,500	129,600	222,100	+ 1.6%	- 0.6%

Note: San José MSA (San José–Sunnyvale–Santa Clara Metropolitan Statistical Area) = Santa Clara and San Benito Counties
 San Francisco MD (San Francisco–Redwood City–South San Francisco Metropolitan Division) = San Mateo and San Francisco Counties

Source: California Employment Development Department, LMIID

LABOR FORCE & ANNUAL CHANGE

Labor Force by Metropolitan Statistical Area (U.S. High-Tech Regions)

	LABOR FORCE			UNEMPLOYMENT			UNEMPLOYMENT RATE		
	September 2021	September 2022	Change	September 2021	September 2022	Change	September 2021	September 2022	Change
United States	161,392,000	164,463,000	+ 1.9%	7,366,000	5,460,000	- 25.9%	4.6%	3.3%	- 1.3
Austin, TX	1,271,555	1,317,563	+ 3.6%	47,420	38,033	- 19.8%	3.6%	2.8%	- 0.8
Boston, MA	2,763,171	2,765,291	+ 0.1%	128,827	79,136	- 38.6%	4.7%	2.9%	- 1.8
New York City, NY	4,010,900	3,959,900	- 1.3%	329,500	205,000	- 37.8%	8.2%	5.2%	- 3.0
Seattle, WA	1,722,000	1,777,900	+ 3.2%	66,700	47,500	- 28.8%	3.9%	2.7%	- 1.2
California	19,040,900	19,284,300	+ 1.3%	1,166,700	716,300	- 38.6%	6.1%	3.7%	- 2.4
San Diego	1,553,500	1,584,800	+ 2.0%	84,100	48,600	- 42.2%	5.4%	3.1%	- 2.3
San Francisco	990,500	1,034,400	+ 4.4%	38,800	21,100	- 45.6%	3.9%	2.0%	- 1.9
San José	1,050,900	1,090,300	+ 3.7%	40,700	23,700	- 41.8%	3.9%	2.2%	- 1.7
NOVAworks Region	761,400	794,800	+ 4.4%	25,900	15,000	- 42.1%	3.4%	1.9%	- 1.5

Note: Totals may not add correctly due to rounding

Source: California Employment Development Department, LMIID

REGIONAL LAYOFF ACTIVITY

September 2022 Layoff Events

Company	Location	# Affected
Genapsys	Redwood City	1
Maxar Space	Palo Alto	125
PACT Pharma	South San Francisco	51
Reali	San Mateo	132
RingCentral	Belmont	50
Snap	Palo Alto	44
SummerBio	Menlo Park	101
USRA at ARC	Mountain View	4
Total		508

WARN SUMMARY

Events YTD [†] :	36
Individuals Affected YTD :	2,454
Individuals Previous YTD [‡] :	7,083

* **WARN: Worker Adjustment and Retraining Notification** (notice of mass layoff or closure)

† **YTD: Year to Date** (Calendar year: January 1–Present)

‡ **Previous YTD:** (Same date range as YTD, one year prior)

Note: Layoff data are preliminary and should be considered an estimate of monthly regional activity

Source: California EDD, CalJOBS: WARN data