

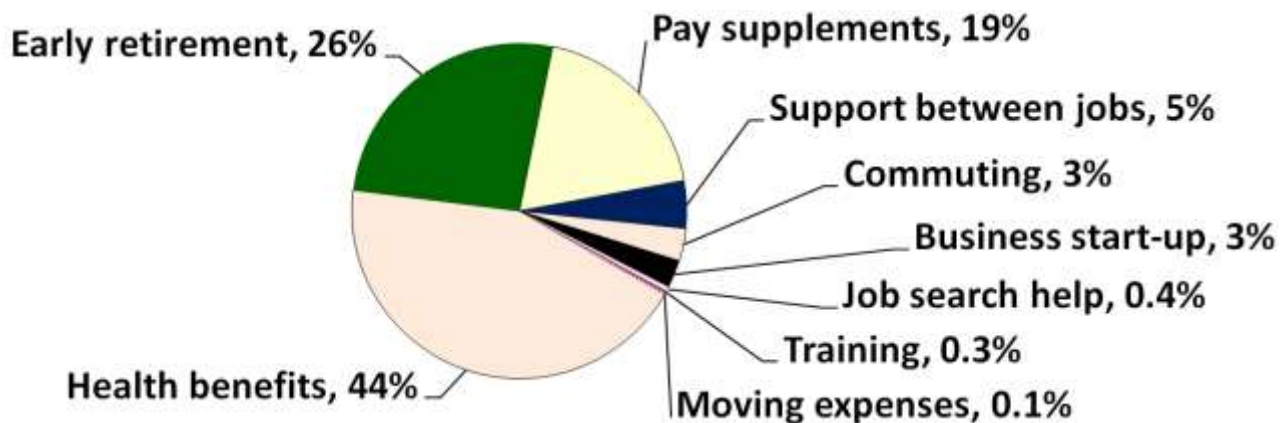
A New Day for the Coalfields

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Coal workers will need various types of help when jobs disappear from automation, cheap natural gas, and carbon prices.

The graph illustrates the support required. This proposal would support new jobs, as well as paying for health care, retirement, and new business ventures. For each 100 miners who lose their jobs, a good 10-year transition program would cost \$3.4 million per year. Table 1 has details, and it shows total cost to help 50,000 miners for a decade will cost \$12 billion for miners and \$13 billion for coal communities.

Proposed Support for Coal Miners \$3.8 Million per 100 Miners per Year or \$12 Billion for All Miners in First 10 Years



For gradual job losses the money can come from anywhere. For a complete plan the money can come from a small share of carbon prices or cap and trade fees. For example the Deutch/Coons Energy Innovation and Carbon Dividend Act, HR 763, would collect and distribute about \$3 trillion in the first decade. The Van Hollen/Beyer Healthy Climate and Family Security Act, S 940/HR 1960, would also collect trillions. Our proposal needs \$25 billion, which is less than 1% of that revenue. It will pay for coal country's transition needs for a decade. We compare eight other Congressional proposals at NewDay4.com (that site also has a copy of this paper). None of the proposals comes close to offering this level of support for coal workers and communities.

Need for Action:

1. Coal for electricity will disappear in 10 years, especially under any climate legislation (REMI 2014 and VCE-EI 2019).¹
2. Even voters outside coal country want miners protected from devastating unemployment.
3. About 5,000 jobs in mining metallurgical coal (for steel-making) will remain.² **50,000 US jobs mining coal for electricity will disappear** over 10 years. Many are in isolated areas, without many other employment opportunities. The jobs pay \$53,000-63,000 for line workers, \$79,000 for line supervisors, higher than most jobs without a college degree (National Mining Association 2017).³
4. Coal counties and states rely on taxes from coal to **pay for schools and public services** (WV Center on Budget & Policy 2012).⁴ Coal pays 5% of the state budget in West Virginia and 8% in Wyoming, and in some counties coal pays even more than that. This proposal will **replace all that money**, phasing out over 20 years to allow a transition.
5. The Energy Innovation and Carbon Dividend Act and Healthy Climate and Family Security Act pay dividends to households. These reimburse households for higher energy costs, but not for lost jobs.

Table 1 – Estimated Costs of Support, and Percent Using Each Benefit

Needs for Workers and Communities	Annual Cost for Each Miner who Uses this Service	Avg. Years Provided, during 10 Years after Job Loss	Percent of Laid-off Miners Using Service	Total Cost, per Laid-off Miner, on Average	Notes (details at NewDay4.com/n.xls)
Health benefits ^{C,I,T}	\$15,000	10	100%	\$150,000	UMWA plan or gold or silver family plans ⁵
Early retirement ^{A,C,I}	\$30,000	10	30%	\$90,000	50% of \$60,000
Job search costs and advice ^{A,C,I,W}	\$2,000	1	70%	\$1,400	
Training ^{A,C,I,M,T,W}	\$3,000	1	30%	\$900	
Relocation expenses ^{A,C,I,W}	\$5,000	1	10%	\$500	1980s studies found this important ⁶
Replacing lost income between jobs ^{A,C,I,T}	\$45,000	0.5	70%	\$15,750	Up to a year at 75% of \$60,000 pay. Any more time needed: at same pay as early retirement
Pay Supplement if they take another job ^{C,I,T}	\$22,500	10	70%	\$64,969	First year at 75% of pay gap of \$30,000, drops 7.5 points per year ^Z
Business start-up incubator and seed money ^B	\$22,500	10	10%	\$9,281	Set equal to Pay Supplement, same phase-out ^Z
Travel expenses if a worker needs to travel far, but not move ^C	\$3,600	10	30%	\$10,800	Cost derived from 100 miles of driving per day at IRS rate of 18 cents/mile ⁷
Total Cost per Laid-off Miner				\$344,000	100 miners: \$34,400,000+10% admin over 10 years, or \$3.8 million/year
Payments to state and local governments to replace lost taxes ^C	\$57,500	10	100%	\$446,000	State & local tax revenue from coal, generated per miner, average of WV and WY, 2008, ⁸ phase-out over 20 years. Needs newer estimate. ^Z
Administration				\$57,000	10% of miner cost, 5% of gov't cost
Total Cost of support for miners and communities, per job lost				\$847,000	50,000 miners cost \$42 million. A bit over half is paid in first 10 years. The rest is paid in years 11 and later, to give miners full transition, no matter when they lose work.
National cost of first 10 years, if 5,000 miners laid off each year (estimate is for 10 yrs, since budget estimates usually cover 10 yrs)				\$25 billion	\$12 billion for miners, including 10% administration \$13 billion for state and local governments, including 5% administration ⁹ (less than 1% of Energy Innovation and Carbon Dividend Act's revenue each year)

The following programs are precedents:

^A Alberta provides this type of help to ex-coal miners for shorter periods than we propose alberta.ca/support-for-coal-workers.aspx

^B Wyoming has an example of support for business start-up, Kickstart Wyoming 2018 SF118 openstates.org/wy/bills/2018/SF118/

^C Canada's Task Force recommends this type of help for coal miners and power plant workers canada.ca/en/environment-climate-change/services/climate-change/task-force-just-transition/final-report/section-10.html

^I Initiative 1631 in Washington, 2018, had this, with 100% wage replacement for 5 years sos.wa.gov/assets/elections/initiatives/finaltext_1482.pdf

^M Maine Green New Deal calls for jobs, training, collective bargaining https://mainelegislature.org/legis/bills/bills_129th/billtexts/HP092401.asp

^T Trade Adjustment Assistance program (TAA, [19USC 12-II-2](http://19USC12-II-2)) provides this type of help, at lower levels and shorter periods than we propose, when jobs disappear because of foreign trade doleta.gov/tradeact/benefits/2015-amendment-benefits.cfm

^W Workforce Innovation & Opportunity Act (WIOA, [29USC 3174](http://29USC3174) and [3225](http://29USC3225)) provides this type of help, at lower levels and shorter periods than we propose, when any big employer closes (doleta.gov/layoff/workers.cfm).

^ZFor items which phase out, the first year payment is shown, and the 10-year total includes the effect of the phase-out.

This proposal helps 50,000 workers in coal mining. If Congress also wants to help the 40,000 workers at coal-fired power plants, workers at companies which depend on selling to coal mines, and any oil and gas workers in isolated communities, the \$12 billion cost will rise, depending on the number of workers and cost per worker.¹⁰

To the extent carbon capture works, cutbacks will be less severe, and transition costs will be lower. Coal exports will not rise enough to help,¹¹ since exports will drop as many countries adopt carbon rules.

Other Background:

1. 52% of **utility executives** believe that coal will decrease significantly in their utility mix over the next decade, even without new rules; 27% said coal will decrease moderately, and just 4% said it will increase (2017 State of the Electric Utility Survey Report).¹²
2. 2018 had the lowest use of coal since 1979, and was the second highest year ever for retirements of coal plants.¹³
3. Many **countries** are at various stages of phasing out.¹⁴ **France** phased out coal mines in 2004 and paid for health care and early retirement for miners.¹⁵ **Ontario** phased out coal generation in 2014,¹⁶ but it has no coal mines.¹⁷ **Germany** phased out hard coal mines in 2018, and plans to end lignite mining and coal-fired electricity by 2038.¹⁸
4. **Canada's** federal "Task Force on a Just Transition for Canadian Coal Power Workers and Communities" recommended on March 11, 2019:¹⁹
 - a. Bridge payments to retirement
 - b. Up to 2 years of private health plan coverage (all Canadians have public coverage anyway).
 - c. Support while looking for work at 75% of earnings for 2 years
 - d. Supplements to raise income from new jobs up to 90% of previous pay for 2 years
 - e. Moving expenses up to US\$7,500 for workers who move
 - f. Mileage payments for commutes over 150 miles each way.
 - g. Training up to US\$16,000 for 2 years; could be taken while still working in coal job
 - h. Advice centers for workers.
 - i. Database of workers' skills, and help certifying transferrable skills learned in the coal mines
 - j. Bridge payments to communities to continue services, plan, and collaborate with other towns
 - k. Local infrastructure projects
 - l. Consultation with all ministries at once to "reduce consultation fatigue"
5. **Alberta** offers help to miners, since it is phasing out coal generation by 2029. Alberta offers:²⁰
 - a. Early retirement over age 53, at 75% of earnings for up to 72 weeks
 - b. Support while looking for work at 75% of earnings for up to 45 weeks
 - c. Moving expenses up to US\$3,750 for workers who move at least 25 miles
 - d. Post-secondary training up to US\$9,000 within 5 years after losing work, plus grants to employers to train workers
 - e. Advice to workers
 - f. Small grants to help communities improve their economic development ability, totaling US\$3,750,000.

Sources Cited

¹ REMI 2014. Nystrom, Scott, and Patrick Luckow. "The Economic, Climate, Fiscal, Power, and Demographic Impact of a National Fee-and-Dividend Carbon Tax ." *REMI and Synapse Study*, Regional Economic Model Institute, 9 June 2014, citizensclimatelobby.org/remi-report/

VCE-EI 2019. Gimon et al. "The Coal Cost Crossover: Economic Viability of Existing Coal Compared to New Local Wind and Solar Resources" *Vibrant Clean Energy and Energy Innovation*, 25 March 2019 energyinnovation.org/wp-content/uploads/2019/03/Coal-Cost-Crossover_Energy-Innovation_VCE.pdf

² "The electric power sector... accounting for 93% of total U.S. coal consumption between 2007 and 2018" 12/4/18 press release from EIA: eia.gov/todayinenergy/detail.php?id=37692 There were 54,000 total coal mining jobs in 12/2018: fred.stlouisfed.org/series/CEU1021210001 93% of 54,000 workers, is 50,000 workers. The balance includes some coal for heat, but metallurgical coal may be more labor intensive than average, and can grow with steel production, so we use very roughly 5,000 and 50,000 jobs for met and thermal coal.

³ *National Mining Association (NMA)*, "Annual Salary at U.S Coal Mines by Job Title, 2017", nma.org/wp-content/uploads/2016/09/coal_mining_wages_by_job_title_-2017_BLS.pdf.

⁴ State and local taxes on coal (mostly severance and property tax): WV Center on Budget & Policy, March 1 2012, Ted Boettner and Sean O'Leary, *Major Tax Responsibilities of Coal and Natural Gas Producers in Wyoming and West Virginia*, Numbers are for 2008, so it would be good to update them.

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State budgets: [ballotpedia.org/West_Virginia_state_budget_\(2008-2009\)](http://ballotpedia.org/West_Virginia_state_budget_(2008-2009)) and [ballotpedia.org/Wyoming_state_budget_\(2008-2009\)](http://ballotpedia.org/Wyoming_state_budget_(2008-2009))

⁵ UMWA health insurance for retirees is at <https://www.umwafunds.org/Health-Medical-Benefits> without cost data. \$15,000 may be enough for UMWA coverage; it is more than enough for silver or gold ACA family plans with the lowest deductibles.

⁶ Help given in the 1980s was only partly effective. The people who moved did better, but few were willing to move. Training and case management also mattered. Workforce Investment Boards, which would administer NewDay, have evaluations to try to ensure good training and case management. *Process and Implementation Issues in the Design and Conduct of Programs to Aid The Reemployment and Dislocated Workers* ideas.repec.org/p/mpr/mprres/7bad9430b239416baca41592dcf5465c.html#download.

⁷ IRS allowances per mile: <https://www.irs.gov/tax-professionals/standard-mileage-rates>

⁸ There is a federal program of payments in lieu of taxes for federal lands and base closures, which uses a complex formula. fas.org/spp/crs/misc/RL31392.pdf

State and local taxes on coal (mostly severance and property tax): WV Center on Budget & Policy, 2012

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Their data for 2008 need to be updated for a current estimate

Number of miners by state in any year factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t

⁹ 10% and 5% are similar to WIOA administrative costs: 10% of local-level WIOA money, and 5% of state-level WIOA money.

law.cornell.edu/cfr/text/20/683.205 WIOA supports state and regional offices throughout the country servicelocator.org/wibcontacts.

¹⁰ **Coal power plant jobs are 39,255**, in 2018, based on 245,341 net summer MW (EIA), and 0.16 jobs per MW (derived by a regression using the following variables for each state):

a) Net summer **MW** by state, 2016 and 2018, for coal power plants (and for other fossil fuels), from eia.gov/electricity/data/eia860m/

b) **Jobs** by state, 2016, in all kinds of fossil-fuel-power-plants (NAICS 221112), from factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t

c) Regression to explain total **fossil power plant jobs** in each state, based on **coal MW**, and **other fossil MW**

d) 89% R², so good fit: found factor for **coal power jobs per MW 0.16**, and other fossil power jobs per MW 0.04

e) This pattern, of 4 times as many jobs per MW in coal as in other plants, is consistent with less automation in coal plants: spectrum.ieee.org/energywise/energy/fossil-fuels/automation-is-engineering-the-jobs-out-of-power-plants

f) US average of 0.16 jobs per coal MW in 2016 shows slightly improved productivity (despite much older plants) compared to 0.18 jobs per coal MW in 2001 on p.26 of globalurban.org/The_Work_that_Goes_into_Renewable_Energy.pdf

¹¹ Exports rising from 1.6 quads (=58 million tons) to 2.11 quads (=76 million tons): eia.gov/outlooks/aeo/data/browser/#/?id=1-AEO2018®ion=0-0&cases=ref2018&start=2016&end=2050&f=A&linechart=~ref2018-d121317a.24-1-AEO2018~&ctype=linechart&sourcekey=0

¹² State of the Electric Utility Survey 2017. *Utility Dive*, PA Consulting, 31 Oct. 2018, s3.amazonaws.com/dive_assets/rp/sys/SEU_2017.pdf

¹³ EIA 12/28/2018, U.S. coal consumption in 2018 expected to be the lowest in 39 years eia.gov/todayinenergy/detail.php?id=37817

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Reuters 1/14/2019 fingfx.thomsonreuters.com/gfx/editorcharts/USA-TRUMP-COAL/0H001JT5J403/index.html and

businessinsider.com/trump-us-coal-plants-shut-down-2019-1

¹⁴ [poweringpastcoal.org/about/Powering Past Coal Alliance Members](http://poweringpastcoal.org/about/Powering_Past_Coal_Alliance_Members) and e3g.org/library/search&keywords=coal+phase+out/

¹⁵ France closes its coal mines: independent.co.uk/news/world/europe/france-ends-coal-mining-with-tears-but-not-a-single-protest-535529.html

¹⁶ Ontario's phase-out of coal: ontario.ca/page/end-coal

¹⁷ Canadian coal mine locations: careersincoal.ca/mine-map/

¹⁸ Germany has 20,000 jobs in coal power and lignite mining.

dw.com/en/bye-bye-lignite-understanding-germanys-coal-phaseout-exit-from-brown-coal-a-47202202/a-47202202 and

cleanenergywire.org/factsheets/germanys-coal-exit-commission

Germany expects to spend €2 billion/year subsidizing higher electricity costs, and another €2 billion/year on regional help, creating jobs, including moving 5,000 government jobs to the areas most dependent on coal jobs, so a total of €80 billion (\$90 billion) over 20 years: nytimes.com/2019/01/26/world/europe/germany-quit-coal-2038.html

Germany's plan (in German) is: kommission-wsb.de/WSB/Redaktion/DE/Downloads/abschlussbericht-kommission-wachstum-strukturwandel-und-beschaeftigung.pdf?__blob=publicationFile&v=4 Section 4.5 says union bargaining will design the workers'

transition: "collective agreements must be reached... e.g. to secure qualified employment by placing and compensating for wage losses, training and further education, to cushion financial losses or for early retirement and bridges to the APG, to compensate for pension reductions or for any other early retirement. To this end, sufficient financial resources must be available for the entire coal extraction and power generation sector" (DeepL.com/Translator) The "APG" mentioned pays government money to former workers in

coal mines and power plants for up to 5 years (Anpassungsgeld, APG)

microsofttranslator.com/bv.aspx?from=&to=en&a=https://de.wikipedia.org/wiki/Anpassungsgeld

¹⁹ Canadian task force canada.ca/en/environment-climate-change/services/climate-change/task-force-just-transition.html Reaction from United Mine Workers representative https://www.estevanmercury.ca/news/business-energy/local-resident-responds-to-task-force-1.23668365

²⁰ Alberta's program for coal workers: alberta.ca/support-for-coal-workers.aspx