

JOBS AND THE OIL SHALE INDUSTRY

The oil shale industry will destroy jobs in two ways:

1. Money put into this industry diverts investment from clean energy sources with much higher labour content (solar and other renewable energy sources and energy efficient technologies); and
2. Because of its extremely high cost, it diverts investment away from other, more job-rich sectors of the economy.

Jobs in clean energy

Clean energy industries create more jobs than fossil fuels like oil shale.

Direct employment per million dollars invested

Technology	Jobs per A\$ million invested
Energy efficiency ¹	35-50 jobs/ \$m
Solar Electric ²	3.5 jobs/\$m
Oil Shale ³	0.5 jobs/ \$m

Direct Employment per unit of energy in Energy Technologies

Technology	Jobs per unit of energy produced (million megawatt-hours per year)
Wind ⁴	542
Energy efficiency ⁵	400 – 860
Solar thermal electricity ⁶	248
Coal mining and power generation ⁷	116
Oil Shale ⁸	46.3

Energy efficiency involves many job-rich activities in growing sectors like manufacturing (e.g. energy efficient dish washers), construction (e.g. installation of insulation), wholesale and retail trade (e.g. sale of compact fluorescent light globes) and property and business services (eg advanced energy management systems for office buildings).

Energy efficient products also create export opportunities. For example, the development of a leading-edge energy and water efficient dishwasher by Dishlex led to a tripling of export sales.⁹

Jobs in fossil fuels

Despite the high political profile of the mining and coal-based power sectors in Australia, they actually provide a tiny - and declining - proportion of employment in Australia.

Jobs in these sectors are declining because of technological change and falling prices. In contrast strong growth is occurring in the service sectors e.g. property and business services.

Industry	Jobs (Nov 97)	% of total jobs	% change in jobs, 5 years to Nov 97
Mining	82,800	1.0%	-4.2%
Electricity, gas, water	65,600	0.8%	-33.0%
Construction	584,900	6.9%	+11.0%
Manufacturing	1,139,300	13.5%	+4.5%
Property & business services	882,400	10.5%	+42.1%
Retail Trade	1,250,300	14.8%	+13.6%

Source: Job Futures, on Website of Australian Department of Employment, Education, Training and Youth Affairs.

Because of its extremely high cost, investment in oil shale diverts money away from other cleaner and more job-rich sectors of the economy. Investment of both money and research and development effort are diverted in two ways:

- DIRECTLY: Suncor, South Pacific Petroleum, Central Pacific Minerals and their shareholders could invest in clean energy technologies instead of oil shale
- INDIRECTLY: capital borrowed by Suncor, SPP and CPM would otherwise be invested in more job-rich sectors of the economy

By increasing the supply of oil and decreasing the investment put into clean energy sources, this puts Australia further behind in the global industrial race to capture jobs in the booming global clean energy industries that will power the 21st century without polluting the atmosphere with greenhouse gases.

¹ Holger M. Eisl et al. (1991) *Investing in the Future: An Economic Analysis of the New York State Weatherisation Assistance Program*. CBNS, Final Report, Prepared for the New York State Department of State, Division of Economic Opportunity; quoted in Renner, M. (1991) *Jobs in a Sustainable Economy*. Worldwatch Institute Paper 104.

² BP Solar's new factory in Sydney will employ 200 people for an investment of \$57million. Source: BP Solar Media Release 11/8/98 "BP to Build World Class Solar Manufacturing Plant in Sydney".

³ Stage 1 of Stuart Oil Shale project will employ 122 people in mining and processing oil shale, for an investment of \$250 million. Source: <http://www.suncor.com/>

⁴ *ibid.*

⁵ Laitner, S. (1991) *Prepared Testimony before the Wisconsin Public Service Commission*, Economic Research Associates; quoted in Lent, T. (1992) *Energy for Employment: How to heat up the economy, not the planet*, report for Greenpeace USA.

⁶ Flavin, C. and Lenssen, M. (1990), *op cit.*

⁷ Flavin, C. and Lenssen, M. (1990) *Beyond the Petroleum Age: Designing a solar Economy*, Worldwatch Paper 100.

⁸ Stage 1 of Stuart Oil Shale project will employ 100 people and produce 4,500 barrels of oil per day (equal to 2.65 million Megawatt-hours per year). Source: <http://www.suncor.com/>

⁹ Victorian Government, *Science and Technology Statement*, 1997.