

*INDUSTRY COMMISSION*

INQUIRY INTO THE AUSTRALIAN BLACK COAL INDUSTRY

**THE SOUTH AUSTRALIAN BLACK COAL  
INDUSTRY**

SUBMISSION BY

THE DEPARTMENT OF PRIMARY INDUSTRIES AND RESOURCES  
SOUTH AUSTRALIA

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RESOURCES SOUTH AUSTRALIA

**THE SOUTH AUSTRALIAN BLACK COAL INDUSTRY**

*South Australia has a long-standing State-Government-owned black coal industry comprising a multi-pit open-cut mine (Leigh Creek) supplying a single domestic customer, the State's electric power generation agency, which it has done for over 50 years.*

*The South Australian black coal resource base is immense (in situ resources exceed 23 billion tonnes) but all accessible resources are classified as low-rank, high moisture, sub-bituminous coals by ASTM standards. The truck/shovel Leigh Creek mine yields a low sulfur, medium ash product but many of the other coal resources have relatively high sulfur contents. In recent years efficiency measures have been introduced at the Leigh Creek mine, including scaling up of plant and changes to the mining method, to reduce costs and extend the life of the mine. Production remains in the 2.5 - 2.7 Mtpa range.*

*Recent corporatisation of the South Australian Government-owned power sector business enterprises has led to the separation of power generation and transmission/electricity retailing functions and the new entities are positioning their businesses to compete in the emergent National Electricity Market. No trends in coal demand have so far emerged that can be linked to the corporatisation event.*

*The joint private/public sector South Australian Steel and Energy (SASE) project proposal to develop a new coal mine to supply an emergent domestic metallurgical industry, is currently planning the construction of a demonstration plant. A Commonwealth grant of \$6.5 million has been approved. Any future full scale development of the SASE project would lead to a three-fold increase in South Australian black coal production.*

*The high moisture content and impurities in most of the South Australian low-rank raw thermal coals limit the export potential at this stage, and future coal export prospects, stand-alone or as an adjunct to any successful commercialisation of the SASE concept, would depend on a selective mining approach and development of suitable operational-scale beneficiation technology. In the short-term however, South Australian coal-based export potential clearly rests on boosting production of high inherent energy metals.*

*Direct employment in the South Australian black coal mining industry stands at 298 personnel. Royalty revenue flowing to the South Australian Government from coal production has declined marginally in recent years to level off at around \$1.8 million per year. Any new coal mine developments would materially boost royalty revenue to the State.*



## BLACK COAL RESOURCES OF SOUTH AUSTRALIA

### Resources

The black coal resources of South Australia are immense in tonnage terms (in situ resources exceed 23 billion tonnes) and are widely distributed across three sedimentary basin provinces of Permian, Triassic and Jurassic age, respectively. A number of large deposits of Tertiary-age lignite are also known in South Australia but these will not be addressed further in this submission.

South Australia's accessible black coal deposits are classified as low-rank sub-bituminous coals by American Society for Testing and Materials (ASTM) standards and hence, are sometimes referred to as brown coals. The Bureau of Resource Sciences (1997), however, categorises the South Australian sub-bituminous coals as black coals in its economic demonstrated resources (EDR) estimates and for the purposes of this *Industry Commission* inquiry the BRS definition of the Permian and Mesozoic coals of South Australia will be followed.

Large resources of generally high moisture, medium ash, variable (low to high) sulfur thermal coals exist in several deposits in the Arckaringa Basin, on the north-eastern and eastern margins of the Arckaringa Basin and at Leigh Creek. Many of these coals are high in chlorine. High ash coal seams are present in the Poldas Basin on the Eyre Peninsula and there have been intersections of high rank bituminous coals at great depth (1 100 to 3 000 m) during petroleum drilling programs in the Cooper Basin. Moisture content of South Australian thermal coals generally exceeds 30%. Table 1 summarises the black coal resources.

**Table 1: Black Coal Resources of South Australia**

Coal deposit <u>Basin</u>	Age	Location	Owner	Resources	Estimates	<u>Selected</u> quality measures %
				Mt	Mt	
				Measured /indicated	Inferred	
<u>Telford</u> Leigh Creek Coalfield	Late Triassic	180 km NE Woomera	Optima Energy	150 with 120 open pittable (reserve)	350	moisture 31% S 0.5% ash 13%
<u>Arckaringa</u> 5 deposits . Phillipson . Wintinna . East Wintinna . Murloocoppie . Westfield	Permian	60 km SW of Coober Pedy and 600-700 km NW of Pt Augusta	Meekatharra Minerals Ltd and subsidiaries	95 1 870 950 550 300	5 000 2 300 1 200 2 600 500	ash 11, S 0.7 ash 6, S 1.8
<u>Arckaringa</u> Weedina	Permian	100 km NE of Coober Pedy	Cyprus Australia Coal Co.	1 200	6 000	moisture 38%
<u>Poldas</u> Lock	Jurassic	230 km SE of Ceduna	Anaban P/L	320	-	ash 26%
<b>TOTALS</b>				5 435	17 900	

### Continuing exploration programs

Since the early 1970s, major Australian coal exploration and mining companies have explored the state's sedimentary basins seeking export quality coal resources. Aggregate exploration expenditure since 1972 targeting South Australian black coal exceeds \$20 million (in historic dollars). The exploration outcome has been the delineation of very large low-rank, generally low quality sub-bituminous coal resources totalling around 23 billion tonnes. However, coals of quality to match the Bowen Basin and Hunter Valley coals have not been located in South Australia (other than the very deep Cooper Basin drill intercepts) and it is generally conceded, at present, that the sub-bituminous coal resources of the State have little export potential without selective mining techniques being employed and some beneficiation. Rail freight costs will be a critical determinant of export viability.

All known South Australian coal resources are held under current Exploration Licences, other than Leigh Creek which is held under a Crown Agreement.

## **HISTORIC AND CURRENT BLACK COAL PRODUCTION**

South Australia's only operating coal mine is at Leigh Creek located 550 km north of Adelaide. The Leigh Creek Coalfield, which consists of five small discrete basins, was discovered in 1888 and intermittent test production took place over the period to 1943. South Australia had imported New South Wales coal for its power generation up until then, but a decision was made, for security of supply reasons, to develop an open cut mine at Leigh Creek to supply all the coal requirements for the state's power stations. Mining responsibility was transferred to Electricity Supply Trust of South Australia (ETSA) in 1948 and continued under ETSA until December 1996. Following the corporatisation of the former ETSA to become ETSA Corporation on 1 July 1995 and the creation of a new generating entity, SA Generation Corporation from an ETSA Corporation subsidiary in December 1996, the ownership and management of the coal mine transferred to SA Generation Corporation (which trades as Optima Energy) on 1 January 1997.

Traditionally open pit strip mining has been employed at the various pits developed on Lobes C and D of the Leigh Creek Coalfield but in the early 1990s, the terrace (or haulback) mining method was adopted to extend the life of the current Lobe B mine by reducing costs, and to capture efficiency gains flowing from the employment of a new fleet of large scale (13 x 240 tonne) trucks and new electric rope shovel mining equipment. Stripped overburden is now used to backfill mined out areas. Currently, all Leigh Creek mine output is crushed at the mine and railed 250 km to the Port Augusta power stations where it is pulverised and conveyed to the special boilers at the power station designed to cope with the abrasive and fouling properties of the coal. The coal-fired power stations generate some 30% of the State's electricity needs (Optima Energy, 1997).

The Late Triassic, sub-bituminous coal currently mined from Lobe B at Leigh Creek exhibits the following specifications;

- moisture 31%; ash 13%; volatile matter 21%; fixed carbon 35%; total sulfur 0.5%; chlorine 0.3%; sodium in ash 4%; calorific value around 3 600 kcal/kg

- by ASTM standards, Leigh Creek Lobe B coal is classified as sub-bituminous C (Drexel and Preiss, 1995).

In historic terms, total output from the Leigh Creek Coalfield exceeds 70 million tonnes. Annual output increased during the 1980s from a decade low level of 1.32 Mt in 1984 to reach an historic peak of 2.93 Mt in 1989. Since 1990, production has been generally in the range 2.5 to 2.7 Mtpa (Table 2). Stripping ratio in 1995/96 was 6.4:1.

Annual production value in historic dollars peaked at \$89 million in 1991. Table 2 shows also that annual mine output, as would be expected, closely balances ETSA power station feedstock demand (note non-coincident reporting periods).

**Table 2: South Australian Black Coal Production 1974-1996**

Calendar year	Coal production Mt	Value \$M	Coal used by ETSA Mt
1974	1.66	4.00	na
1975	1.76	4.68	na
1976	1.87	7.02	na
1977	1.96	7.53	na
1978	1.59	10.01	na
1979	1.67	15.10	na
1980	1.72	20.20	na
1981	1.56	27.27	na
1982	1.45	40.22	na
1983	1.33	43.90	na
1984	1.32	45.00	na
1985	2.06	65.46	na
1986	2.39	81.23	2.29 (1985-86)
1987	2.46	83.66	2.33 (1986-87)
1988	2.53	78.06	2.70 (1987-88)
1989	2.93	60.79	2.68 (1988-89)
1990	2.56	71.64	3.00 (1989-90)
1991	2.69	89.17	2.59 (1990-91)
1992	2.80	82.63	2.83 (1991-92)
1993	2.63	75.83	2.75 (1992-93)
1994	2.69	80.27	2.67 (1993-94)
1995	2.46	60.99	2.64 (1994-95)
1996	2.60	53.31	2.50 (1995-96)
1997	na	na	2.72 (1996-97)

na = not available

## **LEIGH CREEK COALFIELD**

### Geologic summary

Five small discrete basins spread over 20 km make up the Coalfield. These five basins are the remnants of a broader sedimentary sequence containing Late Triassic age coal seams (220 million years). Mining is currently taking place in the largest of the four Basins, Lobe B (7.5 Km x 4.5 km), where coal sub-crops to within 10 metres of the surface at the margin but has greater than 1 000 metres depth of burial at the Basin's centre. Economic coal seams are present in the Lower, Main and Upper Series, with the Main series comprising essentially a single seam 6-18 metres thick (but with some mudstone partings). Coal reserves in Lobe B are estimated to exceed 500 Mt with some 120 Mt economically recoverable by open pit methods giving a mine life of 25-30 years at current production rates. About 70% of the coal mined at present is produced from the Main Series with some from the Upper Series (Caplygin and Brennan, 1996).

### Mine productivity and efficiency

Mine productivity and efficiency improvements at Leigh Creek are being progressively implemented by

- the switch to the terrace mining method
- increased workforce flexibility
- introduction of larger scale plant and equipment
  - thirteen 240 tonne MT4400 Unitrig overburden haulers and a new P&H 4100A overburden electric shovel were commissioned in July 1996 at a cost of \$56 million
- rationalisation of equipment
- improved coal product recovery
- mining practice improvements
- adherence to Total Quality Management principles
- rail freight cost reduction
  - interim contract signed by Optima Energy with Australia Southern Railroad on 12 November 1997
  - contract will reduce the cost of rail haulage of the coal from Leigh Creek to Port Augusta by 15%
  - a full five year contract is expected to be finalised in the next six months along the lines of the interim contract
  - Optima now owns the 255 km of rail track between the mine and Port Augusta
  - Genesee and Wyoming (of the USA) owns and operates the rolling stock.



### Existing infrastructure

- Leigh Creek mine infrastructure includes a crushing plant, a 50 000 tonne crushed coal stockpile and a 9 000 tonne surge bin used in the transfer of the prepared coal to the rail loading facility for haulage to Port Augusta
- the mine is serviced by Leigh Creek town with 1 050 inhabitants of whom 298 are mine employees. Leigh Creek facilities include
  - 390 three/four bedroom houses
  - 47 two bedroom flats
  - 120 single person units
  - education centre to year 12
  - 15-bed hospital
  - all-purpose stadium and Olympic swimming pool
  - 250-seat theatre
- rail infrastructure
  - 255 km standard gauge, single track (mine to Port Augusta)
  - Optima Energy owns the rail track
  - Genesee and Wyoming (of the USA) owns/operates the rolling stock
  - unit trains haul 9 600 tonnes of coal, six trains per week
  - unloading facility Port Augusta.
- South Australia's coal-fired power stations are located at Port Augusta
  - Northern Power Stations Nos 1 and 2 (each 250 MW capacity) generated 3 371 874 MWh in 1995-96
  - the small Thomas Playford Power Station generated 3 407 MWh in 1995-96
  - coal-fired generation supplies 50% of electric power generated in South Australia or a third of the total South Australian demand with one third gas-fired and one third imports.

### Industrial relations

The workforce at Leigh Creek (currently numbering 298) has an outstanding record of only a handful of days lost due to industrial disputes in the past 10-15 years.

The most recent major industrial issue centered on workforce health and safety concerns that toxic gases were being by emitted by fires caused by sporadic spontaneous combustion of coal fragments in the Leigh Creek waste dumps.

Independent tests established that there were no toxic emissions and processes have been refined such that incidents of spontaneous combustion in the dumps are dealt with quickly by choking off air to any hotspots as they form. The matter has now been resolved to the satisfaction of all parties.

### Occupational health and safety

The South Australian coal industry has an impressive safety record. The current safety performance of the Leigh Creek coal mine falls within the National Health and Safety Council five-star category. The site record of over 100 days without a lost-time accident was set during 1996.

### Environmental issues at Leigh Creek

Leigh Creek environmental management programs have received a number of prestigious awards for success in land management in a sensitive arid zone in recent years. Research programs and trials have resulted in the development of repeatable rehabilitation techniques relating to spoil batters, topsoil management, water retention and seed collection, applicable to this fragile arid environment (Brick, Odermatt and Ainslie, 1997)

Surface spoil dumps generated in relatively recent times are being progressively rehabilitated (reshaped and revegetated) and under the present terrace mining method all overburden produced at present is backfilled into the mined-out parts of the pit reducing the environmental impact to a very low level. However, the rehabilitation of certain overburden dumps dating from the early days of mining at Leigh Creek before current rehabilitation standards came into force, could become an environmental issue which may require attention in the future and, if so, add to the future cost of coal production from the Leigh Creek mine.

Sporadic instances of spontaneous combustion of coaly material within loosely consolidated waste dumps have been recorded at Leigh Creek and the situation is constantly monitored. The method of control is to compact the suspect area of overburden and cover the hot spot with non coaly material in order to choke off oxygen supply to the reactive zone. Continuing attention is being directed at this problem to allay community concern.

## **THE POWER GENERATION MARKET**

The South Australian coal production and power generation industry is a single vertically integrated enterprise, SA Generation Corporation, with one coal mine supplying its own coal-fired power stations. In January 1997, SA Generation Corporation (now trading as Optima Energy) became a separate corporate entity to the power transmission and distribution/retailing entity (ETSA Corporation).

### Optima Energy

- now competes in the Victorian wholesale electricity pool to supply wholesale electricity market customers in South Australia, Victoria and New South Wales

- has a long-standing contract to supply ETSA Corporation
  - ETSA's current prime electricity source is Optima Energy
  - but ETSA can draw from a range of alternative electric power suppliers in south-east Australia, including imports, to service its base and peak load demand
  - and in the future from privately-owned generators, such as the Osborne cogeneration natural gas-fired turbine power station now under construction.
  - Optima Energy will continue to monitor the cost competitiveness of its power generation using Leigh Creek coal to maximise its market share in South Australia and the highly competitive National Electricity Market (NEM).

Recent statements by the South Australian Government confirm that there are no immediate plans to privatise either the generation corporation (SA Generation Corporation) or the transmission/retailing corporation (ETSA Corporation). No discernable post-corporatisation trends in coal supply and demand have emerged.

### **SA BLACK COAL INDUSTRY EXPANSION POTENTIAL**

Four avenues with potential to contribute to the expansion of the South Australian black coal industry have been identified over a number of years

- domestic power generation
- domestic metallurgical industry
- coal gasification
- thermal coal export markets.

#### Domestic power generation market

Opportunities for increased production of Leigh Creek coal will rely on

- growth in demand for electric power in the South Australian domestic, commercial and industrial power markets
  - this option has some limitations due to the requirement to relate production of coal to the Northern Power Station's operational life and the availability of coal reserves
- competitiveness of Optima Energy as a supplier of electricity to ETSA Corporation
- competitiveness of Optima Energy to capture export contracts in the National Electricity Market comprising South Australia, Victoria, New South Wales and the Australian Capital Territory
- the continuing role of the Northern Power Station (at Port Augusta) as a high-utilisation base load power station in the NEM is based on high plant capability and the lowest incremental and average fuel costs in South Australia (Optima Energy, 1997)
- alternatively, a cost-competitive South Australian supplier of blending coal to the Optima Energy Northern Power Stations, may emerge to meet any demand growth for South Australian electric power.

### Domestic metallurgical industry

*SASE project proposal.* Under the South Australian Steel and Energy (SASE) project proposal, it is planned to produce pig iron using Ausmelt technology

#### **THE SASE PROJECT**

The SASE project plans to establish a pig iron production plant to produce 2.5 million tonnes of pig iron per annum using the Ausmelt top submerged lance technology system invented in the early 1970's by CSIRO. The commercial plant would be located at Gina, 80 km south of Coober Pedy in the mid-north of the state and close to the proposed transcontinental railway route.

Raw materials inputs for the process are to be sourced from known resources in close proximity to the plant

- iron ore - Hawks Nest
- black coal - Phillipson deposit
- limestone fluxes - various locations

At an initial commercial scale of 2.5 Mtpa of pig iron product, the plant would consume 5 million tonnes of iron ore feedstock and 7 million tonnes of black coal.

Partners in the joint-venture are

- Meekatharra Minerals Ltd (manager of the SASE project)
- Ausmelt P/L
- Government of South Australia
- and foreign company participation.

Construction of an Ausmelt demonstration plant, to be located at an industrial estate outside Whyalla, is planned to commence in early 1998. Construction time is expected to be one year and the period of demonstration, six months.

The joint-venture has received commercial market Letters of Interest for 2 million tonnes per annum of pig iron output.

The SASE project plans to utilise waste heat from the smelter to drive a steam turbine to generate the power requirements for the pig iron plant

- excess power generated could be supplied to the National Electricity Market.

Full-scale SASE operation has the potential to provide 400 permanent regional jobs.

The Commonwealth Minister for Industry, Science and Technology has designated SASE as a Major Project under the Investment Promotion and Facilitation Program. Under the facilitation program, the Commonwealth provides a number of services including information on approvals requirements, appoints a case officer within the (Commonwealth's) approval agency, develops an approval plan and assists in the resolution of impediments to the project.

In early December 1997, the Commonwealth Government provided a research and development grant of \$6.5 million to the SASE project to expedite the construction of the \$15 million demonstration plant at Whyalla.

Unrelated to SASE, investigations into the feasibility of developing *high inherent-energy metal smelters* based on coal-fired electric power in South Australia are ongoing.

### Coal gasification

Investigations have been undertaken in the past by private companies and the South Australian Government to determine the degree to which the South Australian coal resources are amenable to *in situ* coal gasification technologies. No test work is currently being undertaken.

### Thermal coal export markets

As an adjunct to the SASE project there may be opportunities to export beneficiated coal products to export markets, especially into Asia;

- low-cost coal beneficiation technology would need to be developed to remove high sodium and chlorine impurities
- ultra clean coal chemical technology may be applicable.

At present one of the partners in the SASE project is investigating export market opportunities for a selectively mined Phillipson coal product to compete against other low calorific value bituminous coals exported from Australia.

Short term impediments to South Australian coal export success include

- low quality of the run-of-mine product
- non-availability of suitable low-cost beneficiation technology
- forecast world market price weakness for thermal coal
- undeveloped infrastructure in SA
- remoteness of the coal resources
- interdependence on a full-scale SASE development for the necessary economies of scale.

However, once any mine is in production, other market opportunities could emerge including

- marketing beneficiated coal to domestic power generation markets for blending purposes
- marketing excess power generated by the SASE project to the NEM
- gasification of coal for power generation using Integrated Gasification Combined Cycle (IGCC) technology.

## **SOUTH AUSTRALIAN BLACK COAL ROYALTY REGIME**

### Historic development

The Leigh Creek mine was established in 1946 under a Crown Agreement issued by the South Australian Government to the then Electricity Trust of South Australia, rather than under a conventional Mining Lease issued under the Mining Act. That Special Agreement covering the mine development stipulated that a production royalty would be paid to the State of South Australia at a rate of one shilling per ton.

The royalty remained at a low rate for a number of decades, but as ETSA was a State Government-owned entity, there was little incentive to amend the rate. By June 1981 when it was clear that the historic low fixed rate no longer produced an adequate return to the community, ETSA and the State Government mutually agreed to assess the royalty liability on production from Leigh Creek “as if the royalty provisions in the Mining Act, in fact, applied”. From July 1981 until the end of June 1988, royalty payable by Leigh Creek mine on coal was assessed at a rate of 2.5% of value of production which equated to forty cents per tonne.

The coal royalty rate was further amended from 1 July 1988, following amendments to the *Mining Act 1971 (SA)*, to 2.5% of delivered value at the Port Augusta power stations, in effect increasing the rate by virtue of inclusion of the freight and loading costs.

The state Government is currently working on amendments to the *Mining Act, 1971 (SA)* such that future royalties will be assessed on ex-mine values.

Any coal mined in the future by the SASE project will be subject to the prevailing royalty rate under Section 19 of the *Mining Act, 1971 (SA)*.

### Trends

Coal royalty receipts by the South Australian Government as shown in Table 3 have declined in absolute terms since 1990/91 in line with a gentle decline in Leigh Creek mine output. The effective rate per tonne has also shown a declining trend since 1990/1. Given that the present royalty rate formula incorporates a delivery cost element, the decline in effective rate from 90 cents per tonne in 1990/91 to 69 cents per tonne in 1994/5 reflects a reduction in the cost of coal production and transportation. The effective royalty rate in 1995/96 departs from the declining trend but this probably reflects temporary cost increases during that year.

The outlook for royalty receipts from South Australian coal production is for the aggregate collection to remain static in the short term but revenues could increase significantly if the SASE project goes ahead.

**Table 3: Royalties collected on black coal production**

\$ million	1989/90	1990/1	1991/2	1992/3	1993/4	1994/5	1995/6	1996/7
Royalty paid	2.104	2.333	2.175	2.038	1.888	1.831	1.896	1.798
Coal used Mt	3.00	2.59	2.83	2.75	2.67	2.64	2.50	1.27 1/2 yr
Effective rate cents/t	70	90	77	74	71	69	76	na

## **BLACK COAL INDUSTRY AND THE SA ECONOMY**

A summary of benefits is as follows

- Leigh Creek multi-pit mine has been in continuous operation for 50 years
  - currently providing regional employment for 298 employees
  - the Optima Energy-owned Leigh Creek township economy is dependent on the mine and also provides a focus for the otherwise isolated region
- coal-fired generation provides 50% of the electric power generated in South Australia and 30% of the State's total demand
  - reliance on coal-fired power generation may decline marginally with the commissioning of the 180 MW Osborne cogeneration gas turbine plant in 1998
- annual value of black coal produced currently exceeds \$53 million but has peaked at \$89 million in 1991(historic dollars)
- royalty revenue to the State Government currently amounts to \$1.8 million pa.
- Optima Energy's Leigh Creek ranks as South Australia's fourth largest mineral royalty paying enterprise.

## **IMPACTS OF GOVERNMENTS**

### South Australian Government

- the South Australian Government wholly owns Optima Energy, the owner/operator of the Leigh Creek mine
  - has no plans to privatise it (Evans, 1997)
  - Leigh Creek production is likely to continue at existing levels in the short term at least
- the South Australian Government currently is a stakeholder in the SASE project, holding a participating interest as an equity option in the joint venture as the owner of the coal
  - the Government is facilitating this project through its Industry Development Division, Department of Primary Industries and Resources

- with Mr Graham Haddow, Chairman of the SASE Joint Venture Management Committee and Mr Serge Caplygin, Project Co-ordinator.

#### Commonwealth Government

- the Commonwealth Government through the Department of Industry, Science and Technology has granted Major Project Facilitation (MPF) status to the SASE project
- in December 1997, the Commonwealth Government committed \$6.5 million in the form of a research and development grant, to the SASE demonstration plant to be constructed at Whyalla,
  - the demonstration plant will use South Australian black coal and iron ore inputs.

#### **CONCLUSIONS**

The principal conclusions from this submission are

- at present all South Australian black coal production is consumed domestically for power generation
- the black coal industry is an important contributor to the South Australian economy
  - direct employment for 298 people
  - value of production in 1996, \$53.3 million down from \$61 million in 1995
  - royalty payments of \$1.798 million in 1996/97
  - coal fuels 50% of the electric power generated in South Australia
- Optima Energy, the South Australian Government-owned coal miner and power generation enterprise is to join the National Electricity Market in March 1998
  - could see changes in demand for SA electric power
  - and coal fuel
- Optima Energy and ETSA Corporation will not be privatised by the South Australian Government
- proposals are in place to construct a metallurgical plant of demonstration scale to test the SASE pig iron production concept using Ausmelt technology
  - any successful full-scale SASE project would involve a new coal mine development on the Lake Phillipson deposit
  - increasing annual coal output from the state three-fold
- economics of such an operation would be enhanced if an export market for a selectively mined sub-bituminous coal product could be found
  - but transport costs and low export prices would mitigate against the success of any such operations
- investigations into the feasibility of developing high inherent energy metal smelters based on coal fired electric power in South Australia are ongoing



- best case scenario could see expansion of South Australian black coal production by around four-fold within five years
  - to supply an expanded domestic demand for electric power
  - to supply metallurgical demand derived from successful commercialisation of the SASE project
  - to supply export market demand
- the realistic outlook would be for status quo to continue.

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