TABULATED SUMMARY OF COSTS CALCULATED ON A PRODUCTION FIGURE OF 9,000 TONS OF BRIQUETTES PER ANNUM.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Lignite Briquette</th>
<th>Composite Briquette</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washed Lignite</td>
<td>£2.324</td>
<td>£1.321</td>
</tr>
<tr>
<td>Transport</td>
<td>£0.996</td>
<td>£0.566</td>
</tr>
<tr>
<td>Olive Press Refuse</td>
<td>-</td>
<td>£1.700</td>
</tr>
<tr>
<td>Bitumen and Fuel</td>
<td>£0.679</td>
<td>£0.566</td>
</tr>
<tr>
<td>Briquetting</td>
<td>£1.070</td>
<td>£1.070</td>
</tr>
<tr>
<td>Boiler &amp; Bitumen Oven Fuel</td>
<td>£0.388</td>
<td>£0.388</td>
</tr>
<tr>
<td>Amortisation of Plant</td>
<td>£0.952</td>
<td>£0.952</td>
</tr>
<tr>
<td>General Expenses</td>
<td>£0.862</td>
<td>£0.862</td>
</tr>
<tr>
<td><strong>TOTAL COST PER TON.</strong></td>
<td><strong>£7.271</strong></td>
<td><strong>£7.425</strong></td>
</tr>
</tbody>
</table>

Thus on a production of 9,000 tons per annum of Composite Briquettes, with assistance as indicated and technical supervision, the cost per ton ex Dora Factory would be in the neighbourhood of £7.10.0.

Allowing 15% for unexpected war-time contingencies this cost should not exceed £8.15.0. per ton.

**Note:** Imported coal in Egypt ex India had been costing £8.10.0. per ton for a better grade coal. No doubt, where procurable on the Black Market, the price was considerably higher than this.
Costs.

TRANSPORT COSTS, LOADING COSTS, AND PORT FEES
FOR EXPORT TO EGYPT.

The costs as herein calculated are for delivery ex Mine and ex Factory. The additional charges involved, should export to Egypt by sea be contemplated, will now be considered. It was immediately ascertained that it would be cheaper to export consignments of lump lignite and briquettes by sea than by rail, and that the best means of shipment would be by small sailing boats; these sailing boats hold from 100 to 150 tons.

ADDITIONAL CHARGES FOR EXPORT OF LUMP LIGNITE AND BRIQUETTES.

1. Transport of Composite Briquettes by rail from factory to docks, loading on to sailing boat, including port fees .......... 0.374
2. Transport by motor truck as above ........ 0.581
3. Transport by truck from nearest railway station to mine. Lump Lignite - varying with locality of mines ........ 0.339 (a) 0.339 (b) 1.133
4. Loading of Lump Lignite on to sailing boat including port fees .......... 0.221
5. Loading of sailing boats lying alongside quay done directly from wagon or truck, Delay in such loading .......... 0.113
6. Port storage per ton per week, or portion thereof .......... 0.091

The above figures are for the Port of Beirut. The shipping of Lump Lignite from the port at Tripoli is also possible, the costs being about the same.
### FINAL SUMMARY OF COSTS AS CALCULATED AND SUBMITTED IN MARCH, 1943.

#### I. AS A PURELY CIVILIAN UNDERTAKING.

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost ($/Ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Unwashed Lump Lignite ex Mine</td>
<td>2.121</td>
</tr>
<tr>
<td>(b) Washed Lump Lignite ex Mine</td>
<td>3.528</td>
</tr>
<tr>
<td>(c) Washed Lump Lignite ex Dora Factory</td>
<td>5.612</td>
</tr>
<tr>
<td>(d) Washed Lump Lignite F.O.B. Beirut Port, Approx</td>
<td>6.360</td>
</tr>
<tr>
<td>(e) Lignite Briquettes ex Dora Factory</td>
<td>9.784</td>
</tr>
<tr>
<td>(f) Composite Briquettes ex Dora Factory</td>
<td>9.532</td>
</tr>
<tr>
<td>(g) Lignite Briquettes F.O.B. Beirut Port, Approx</td>
<td>10.250</td>
</tr>
<tr>
<td>(h) Composite Briquettes F.O.B. Beirut Port, Approx</td>
<td>10.500</td>
</tr>
</tbody>
</table>

#### II. WITH ASSISTANCE AS ALREADY INDICATED.

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost ($/Ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Unwashed Lump Lignite ex Mine</td>
<td>1.565</td>
</tr>
<tr>
<td>(j) Washed Lump Lignite ex Mine</td>
<td>2.642</td>
</tr>
<tr>
<td>(k) Washed Lump Lignite ex Dora Factory</td>
<td>3.774</td>
</tr>
<tr>
<td>(l) Washed Lump Lignite F.O.B. Beirut Port, Approx</td>
<td>4.500</td>
</tr>
<tr>
<td>(m) Lignite Briquettes ex Dora Factory</td>
<td>7.271</td>
</tr>
<tr>
<td>(n) Composite Briquettes ex Dora Factory</td>
<td>7.425</td>
</tr>
<tr>
<td>(o) Lignite Briquettes F.O.B. Beirut Port, Approx</td>
<td>7.750</td>
</tr>
<tr>
<td>(p) Composite Briquettes F.O.B. Beirut Port, Approx</td>
<td>8.000</td>
</tr>
</tbody>
</table>

---

**Note:** The costs are rounded to the nearest dollar for simplicity.
**Ras-el-Naqy District.**
Looking across the Hamamas Valley from Ras-el-Naqy Village.

**Ain Yaq District.**
Entrance to the cave forming the workings at the Ain Yaq Deposit.
SECTION X.

PENULTIMATE OUTCOME OF INVESTIGATIONS.
X. **PEMUTIMATE OUTCOME OF INVESTIGATIONS.**

The term 'penultimate' has been used to describe this concluding Section of the Treatise, as the writer was unexpectedly recalled to South Africa at short notice, and left the Lebanon early in December 1943. Consequently he was unable to see the final outcome of his investigations.

In this Section, therefore, it is proposed to give a resume of the more important suggestions, proposals and drafts of contracts which were made and drawn up, for the establishment of a war-time Lebanese Lignite Industry.

---

**A. PROPOSALS FOR THE MAXIMUM OUTPUT OF LUMP LIGNITE AND BRICUETTES IN THE LEBANON.**

1. Early in May 1943, a proposed scheme was placed before the Société de Briquetage des Matières Combustibles of Beirut, they being the largest operators in the country.

2. These proposals were to the effect that the Supply Council (hereinafter called the Council), should arrange sales contracts for Briquettes manufactured from Abey Lignite Fines and Olive Press Refuse, and for Abey Lump Lignite. In addition arrange sales contracts for further tonnages of Lump Lignite to be purchased from other mines by the above Société, and offered for sale by them.

3. The proposals were discussed in detail with the Société as given in 'B'.

4. These remarks were then discussed and doubtful points clarified, the Société agreeing to the scheme on the terms stated. Comments on these remarks are given in 'C'.

5. The conditions on which the above Société agree to place at the Council’s disposal a maximum of solid fuel are as follows:

(a) The Council, through the writer, to act as adviser on technical matters.

(b) The Council to be responsible for the making of routine surveys and the production of plans.

(c) The Council to endeavour to arrange for the Société to purchase from Military sources such hand tools as picks, shovels and crow-bars, certain Decauville equipment, and a pump suitable for the Washery.

(d) The Council to use its good offices to ensure regular supplies of bitumen from Iraq, or a substitute from Haifa.

(e) The Council to support the entry into the Lebanon from Palestine, should a suitable foreman for Dora Factory be found there.

(f) The Council to arrange for firm contracts designed to absorb the output of Abey Mine in the form of Lump Lignite and Composite Briquettes, and in addition certain tonnages of Lump Lignite from mines belonging to other owners for which the Societe will act as agents.

(g) The Council to have the right of inspection and sampling of the fuel. Such analysis to be at the expense of the Société.

(h) The Société to work Abey Mine in accordance with the regulations of the Service des Mines.

(i) The Société to accept the writer’s decision on technical matters as final, subject to appeal to the Service des Mines.

(j) The Société to undertake to ensure the minimum quantities of fuel as stated in the contracts.
Penultimate Outcome of Investigations.

(k) The Société to undertake to sell Composite Briquettes free on Rail or Lorry at Dora Factory at £.Stg.10.193. per ton.

(l) The Société to undertake to sell Lump Lignite free on Rail nearest railway station at £.Stg.6.116 per ton.

(m) The Société to open their books for inspection with a view to price revision 12 months after date of first regular delivery.

(n) The Société to obtain payment through letters of credit at local bank against delivery notes.

(o) Quality of Briquettes.

Composition: 47 - 60% Washed Lignite
30 - 40% Olive Press Refuse,
10 - 13% Binder,

Analysis:
Minimum B.T.U.s ... ... 10,440
Cals/kilo... ... 5,800

(p) Quality of Lignite.

Minimum Size... ... 1½ ins.
Maximum Sulphur ... ... 7 5%
Minimum B.T.U.s ... ... 8,100
Cals/kilo... ... 4,500

(g) Tonnage of Briquettes to attain a maximum of 30 tons per day in 4 months or 7,000 tons in twelve months period from first date of delivery.

(r) Tonnage of Lump Lignite to attain a figure of 33 tons per day in 4 months, or 8,000 tons in 12 months period from first date of delivery.
Remarks concerning the offer of the Supply Council to purchase the whole of the production of Composite Briquettes ex Dora Factory, the total Lump Lignite output ex Abey Mine, together with Lump Lignite ex other mines, the retailers and agent in each being the Société de Briquetage des Matières Combustibles, were as follows:

The Société suggested:

1. That the experience gained to date in local exploitation should be taken into account, all the more so as such poor seams as found locally are seldom exploited elsewhere.

2. That it should be made clear whether the expense on unproductive work, such as exploration and research, will be higher than hitherto if carried out on the writer's methods. The Société's method of work is known to the writer.

3. That to increase output, workmen from more distant districts should be employed; this would be facilitated by a supply of tents and organising their catering, especially as there exist difficulties in the question of food supplies for persons living away from their domicile.

4. That the construction of the road from En Naame to the Mine at Abey be speeded up.

5. That a normal guage connection be laid from the Haifa-Beirut-Tripoli railway into the Dora Factory, a distance of about 75 yards.

6. That tyres at the official prices for the trucks be obtainable, in case the Office Economique de Guerre should no longer handle transportation.
(7) That permission be granted to obtain repair and spare parts from Palestine.

(8) That permission be granted to do repair and maintenance work through the Army workshops.

(9) That enquiries be made as to whether genuine briquette presses with mixing devices are standing idle in Egypt.

(10) That a technician or trained foreman for the Briquette Factory be provided.

(11) That preferential treatment be given in all questions of food supplies for workmen and pack animals.

(12) That moral support be given vis-a-vis local official authorities.

(13) That provision be made for a revision in the prices as quoted by the Council, in case of a substantial increase in the cost of extraction, transport, and production, on the basis of recent higher prices.

(14) That the continuous purchase be made of our output of Composite Briquettes and deliveries of Lump Lignite from the Société's and foreign mines against payment on delivery, possibly through letter of credit at local bank available against delivery notes.

(15) That financial support be given for the purchase of about 3,000 tons of Olive Press Refuse, at a total cost of about £10,000 Stg.

(16) That steps be taken against a possible failure of bitumen supplies from Iraq, thus causing the Factory to stand idle.

(17) That a guarantee be given to purchase the Société's Composite Briquette and Lump Lignite production over a period of at least two years, beginning from first regular delivery.

(18) That during the period of transition the Société supply 500 tons of Lignite Briquettes from existing stocks.
C. Comments on the Suggestions put forward by the Société de Briquetage des matières Combustibles.

The preceding remarks made by the Société were considered, and the following comments recorded:

(1) Due attention would be given to the experience gained to date in local exploitation, consistent with safety and good mining practice.

(2) All development work would form part of final working layout. Overheads include development.

(3) The supply of tents would be impossible. Operators should seek permission to purchase bulk rations and issue in lieu of part wages if this is agreeable to workers.

(4) The construction of a road from the coast to Abey Mine is being considered by the French Department of Public Works.

(5) The Railway Transportation Board would not agree to a "mid-section Siding", into the works at Dora.

(6) The verbal assurance has been given by the Office Economique de Guerre that tyres for motor trucks will be available at official prices, provided the lignite went to approved users.

(7) Permission would be granted to obtain spare parts from Palestine by supporting export permit from the War Supply Board.

(8) Permission to do repair work in Army Workshops is not likely to be granted. Operators should seek similar facilities from the D.H.P. Section of the local railways, who, if interested in lignite, would no doubt readily agree.
(9) There are no genuine skilled workmen in the Leeon from Palestine, would be given.

(10) Supporters to the entry of skilled workmen into the Lebanon from Palestine, would be given.

(11) No preferential treatment could be given to goods, food supplies, but the treatment given would be comparable with that given to others.

(12) The Societies would receive support within the limits of their dealing with local authorities.

(13) Illustrating prices cannot be agreed to, as these would make it difficult to arrange contracts. Price revision works both ways. Price preferential to have a price revision after 12 months, i.e., every 6 months of small production.

(14) The Council will meet themselves buy the products, that will arrange for the purchase of the complete output, which will have to be of guaranteed quality.

(15) Financial support is not necessary in view of the fact that only 1,000 tons of olive Press Ruhine, are required from the years crops.

(16) In the case of failures of the autumn supplies from Iraq, special permission will be granted to import bitumen from Hatfa, Palestine.

(17) The guaranteed period of purchase of these Societies products will come under the above dealing with the price revision.

(18) The supplying of Eucalyptus, eucalypettaceae, and other trees planting at Doraz Factory must be treated as a separate item, as the quality is below that of the proposed Eucalyptus, and prices would have to be adjusted accordingly.
(9) There are no genuine briquette presses with mixing devices available in Egypt.

(10) Support to the entry of skilled workmen into the Lebanon from Palestine, would be given.

(11) No preferential treatment could be given as regards food supplies, but the treatment given would be comparable with that given to others.

(12) The Societe would receive support within reason in their dealings with local authorities.

(13) Fluctuating prices cannot be agreed to, as these would make it difficult to arrange contracts. Price revision works both ways. It is preferable to have a price revision after 12 months, i.e. some 8 months of full production.

(14) The Council will not themselves buy the products, but will arrange for the purchase of the complete output, which will have to be of a guaranteed quality.

(15) Financial support is not necessary in view of the fact that only 1,000 tons of Olive Press Refuse is required from the year's crop.

(16) In the case of failure of the bitumen supplies from Iraq, special permission will be granted to import bitumen from Haifa, Palestine.

(17) The guaranteed period of purchase of the Societe's products will come under the clause dealing with price revision.

(18) The supplying of Lignite Briquettes ex present stock at Dora Factory must be treated as a separate item, as the quality is below that of the proposed briquettes, and prices would have to be adjusted accordingly.
As a result of these discussions with the Société, the Supply Council, after further discussion with its governing body decided that the Egyptian Importers of British and Indian coal for civilian requirements, were to be informed that no further imports of the above coals would be permitted. This, however, had to be done in a very subtle manner due mainly to Anglo-Egyptian relations.

The coal importers, fully cognizant of this, endeavoured to prevaricate and succeeded in causing many months delay, during which much valuable time was lost. The cost of the lignite and the briquettes, more so than the quality was the main cause of the delay in signing contracts, while at the same time many firms and small industries were converting their plants, etc., over to the use of oil, where possible.

The Egyptian Coal Importers, through the medium of the Supply Council and the writer were now in close contact with the Société, but in the middle of the year an unfortunate state of affairs came about. Negotiations between the Société and Egypt broke down, due mainly to costs, and the Société decided to start selling up their factory at the end of August. As there were quite a number of electric motors, etc., as well as other materials, which would fetch a good price during war-time, the Société would in all probability recover 75% of its invested capital.

The selling up of this factory would sound the 'death knell' of any future briquetting processes on a large scale in the Lebanon, as it was extremely doubtful if any other company would become interested in such a business.
The position thus became, that should there be a demand for briquettes in the future, it could not be met. Lump Lignite only would be available, and then only in small quantities, as, on account of the fines produced in the mining process, it was the briquettes that were going to bring up any potential output. It would be unfortunate if the only factory of this kind in the Lebanon were dismantled, especially during present times.

The above facts were put before the Council and negotiations of a more definite nature were re-opened, with more pressure being brought to bear on the Egyptian importers. As a result of this an order was received from Egypt to ship a trial parcel of 200 tons of Lump Lignite to Port Said.

As the mine at Abey had been closed down for some months owing to lack of orders, it was decided to send coal from Meyrouba, a mine which did not belong to the Société. The order, however, was put through the Société, as it was still intended to use it as agent. In the meantime, costs had risen and it was not possible to deliver Meyrouba Lignite at Beirut Port for less than £.Stg. 7.814 per ton. The final cost delivered at Port Said of this lignite would then be:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost per Ton (£.Stg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivered at Beirut Port</td>
<td>7.814</td>
</tr>
<tr>
<td>Port Fees</td>
<td>0.476</td>
</tr>
<tr>
<td>Lebanese Export Duties</td>
<td>0.238</td>
</tr>
<tr>
<td>Shipment by Sailing Vessel</td>
<td>2.831</td>
</tr>
<tr>
<td><strong>Cost at Port Said</strong></td>
<td><strong>11.359</strong></td>
</tr>
</tbody>
</table>

While this order was being dispatched, negotiations were proceeding for a contract to export 12,000 to 20,000 tons of fuel from the Lebanon.
At the same time, the Société gave notice that they would no longer be able to sell at the prices originally quoted, and submitted their new prices.

These new prices showed that the Société could supply Lump Lignite at Port Said at twelve pounds sterling per ton. Briquettes would cost about sixteen pounds per ton. A justification of the increased prices is shown by the following:

\textbf{Justification of the Increased Prices of}
\textbf{Lump Lignite and Composite Briquettes.}

\begin{center}
\textbf{In March 1943, the selling prices of the Société de Briquetage des Matières Combustibles, Beirut, were:--}
\begin{tabular}{l l l}
    \hline
    & £.Stg/Ton. & \\
    Lump Lignite & 6.116 & \\
    Composite Briquettes & 10.193 & \\
    \hline
\end{tabular}
\end{center}

\begin{center}
\textbf{In October 1943, the selling prices were:--}
\begin{tabular}{l l l}
    \hline
    & £.Stg/Ton. & \\
    Lump Lignite & 8.607 & \\
    Composite Briquettes & 12.231 & \\
    \hline
\end{tabular}
\end{center}

\textbf{The following changes have taken place:--}

\begin{center}
\begin{tabular}{l l l}
    \hline
    & March 1943 & October 1943 \\
    & £.Stg/ton. & £.Stg/ton. \\
    Wages for Daily Workmen & 0.240 - 0.255 & 0.340 (by law) \\
    Bitumen & 7.475 & 11.325 \\
    Transport by Pack Animal & 1.190 & 1.472 \\
    Timber & 4.000 & 7.375 \\
    \hline
\end{tabular}
\end{center}

Furthermore, the March price for Composite Briquettes was for delivery ex Dora Factory; for Lump Lignite for delivery at nearest railway station to mine. The above October prices are for delivery at port.
The percentage of increase of Lump Lignite is higher than that of Composite Briquettes, chiefly due to the price of the Olive Press Refuse.

These new prices are for the production and sale of the fuel under discussion on a civilian basis, with the Supply Council rendering such administrative assistance as within its power.

As a result of all these negotiations the following sales contract was drawn up:

**SALES CONTRACT** for the whole "COMPOSITE BRICUETTE" production of the SOCIÉTÉ DE BRIQUETAGE DES MATIÈRES COMBUSTIBLES, Beirut; for the SOCIETE'S whole output of LUMP LIGNITE, and for the monopoly of LUMP LIGNITE from OTHER SOURCES for which the SOCIETE will act as AGENT.

**PREAMBLE.**

Whereas:

(1) The Société de Briquetage des Matières Combustibles hereinafter called the first party, possesses at Dora, near Beirut, a briquette factory and the rights of mining lignite at Abey, Lebanon; these enterprises being at present stopped owing to the restricted local demands.

(2) The Supply Council suggest and insist that the factory and mine be put into production for the needs of Egyptian consumers.
Penultimate Outcome of Investigations.

(3) The .......... hereinafter called the second party has been nominated by the Supply Council as importer to Egypt.

(4) The competent Lebanese Authorities have agreed to the construction of a road between the Abey Mine and the main coastal road in order to facilitate transportation.

(5) The Supply Council have assured the first party of regular supplies of the necessary bitumen and fuel oil for the manufacture of briquettes, administrative help as to transport facilities, the obtaining of spare parts, and of certain mining equipment.

(6) The Supply Council have assured the first party to act through the writer as permanent adviser on technical matters and to be responsible for the making of routine surveys and the production of plans.

Article 1:

The first party will do all in its power to bring into production the Abey Mine and the Dora Factory so as to produce the maximum of briquettes and of lump coal, attaining maximum contract rate of production in 4 months from first date of delivery.

Article 2:

The first party has the right to exceed the annual quantity of twelve thousand tons to the extent of twenty thousand tons. The first party will endeavour to obtain the maximum, but declines hence forth all responsibility in case of unforeseen difficulties hindering the production of the above figures. The first party, however, must produce the minimum contract tonnage of twelve thousand (lump lignite and briquettes combined), purchase of further tonnages to be a matter for future negotiation.
Article 3:

The second party agrees to accept all consignments during the twelve months that start from the first delivery. This contract will remain in force for a further twelve months unless notification is given by registered post within ten months after the date of the first delivery.

Article 4:

The first party agrees to deliver lump lignite and briquettes as per specifications in Article 6. Any delivered quality below this will be liable to proportionate reduction in selling or refusal.

Article 5:

The annual production of the first party must be accepted and paid for under all conditions except as provided for in Article 4: no objections such as changes in the conditions of the market, declining demand, possibility of other imports, difficulties of sea transport, etc. can be brought up.

Article 6:

Quality of Briquettes:

- Composition:
  - 40% - 60% Washed Lignite
  - 30% - 40% Olive Press Refuse
  - 10% - 13% Binder

- Minimum Value:
  - 10,400 B.T.U.s
  - 5,800 Cals/kilo

Quality and Size of Lump Lignite:

- Minimum Value:
  - 8,100 B.T.U.s
  - 4,500 Cals/kilo

- Minimum Size:
  - 1½ inches, which size shall not exceed 35% of the total quantity of lignite.
The proportion of Lump Lignite shall be approximately equal to that of Briquettes.

Article 7:

Prices: Composite Briquettes, £.Stg.12.231 per ton, free on quay at Beirut Port; excluding port fees and export licence costs.

Lump Lignite, £.Stg.8.607 per ton, free at quay at any Lebanese port, excluding port fees and export licence costs.

Price revision, for which the second party may inspect the first party's books, will take place in case of substantial increases or decreases on costs of extraction, transport, and production.

Article 8:

Payment: Payment shall be made on delivery through letter of credit at local (Beirut) bank available against delivery notes, wherefore the first party will ask from the second party a guarantee for the execution of the contract.

Article 9:

Delivery will be continuous, in proportion to production, and qualitative acceptance will be made by a responsible person nominated by the two parties with the agreement of the competent engineer appointed for the purpose.

Article 10:

No reduction in price will be made in the event of the Public Works Department, Lebanon, constructing a road to Abey Mine.

Article 11:

All litigations shall be resolved by arbitration to take place in Beirut and to be decided by the Lebanese Legislation.
Penultimate Outcome of Investigations.

Article 12:

If the second party do not act only for itself, but also sub-contract to a third party, the second party nevertheless, remains responsible towards the first party for the full observance of this contract, the second party holding the first party to all terms of the contract.

The above Contract was ready for acceptance and signatures towards the end of November 1943, and it appeared that at long last the commencement of a war-time Lebanese Lignite Industry was about to take place. As already stated, the writer, at this stage, was recalled to South Africa at short notice, and had to quickly terminate what had been an interesting, though tedious and drawn-out, investigation.

The object of the Investigations originally aimed at had been practically completed, and the results, if in many cases negative and disappointing, had, nevertheless, shown that Lebanese Lignite could be utilised to some extent, in the saving of shipping space at a time when all such available space was required for the furtherance of the fight against Nazism.
The investigation indicates clearly that the prolonged future of a Lebanese lignite industry cannot depend upon the local market. Development of the industry to a commercial scale, e.g., 30,000 tons per annum, with modern and scientific methods, can only be realized by being based on one and extreme economy, with some degree of the type of carbonaceous coal ore availability.

The reasons for this assured future can be summarized as follows. There are no conditions which can make this product attractive; it is a product, in fact, superior to those of other countries, more especially to a political advantage. The disadvantages of low costs are not sufficient to make a competitive product.

SECTION XI.

THE FUTURE OF LEBANESE LIGNITE.
Author Coulter J
Name of thesis The occurrence and exploitation of lignite in the Lebanon 1944

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