

C I N T R A F O R

Working Paper

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**Export Potential for Charcoal Made  
From Low Grade Alaskan  
Hardwood and Softwoods**

1985

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Made From Low Grade Alaskan Hardwoods and Softwoods

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## I. OVERVIEW

This study was done to explore the possibility of exporting charcoal from the Seward, Alaska area. In investigating any product's market feasibility, three general cost areas are examined:

1. Production
2. Transportation
3. Marketing and Selling

While all three areas are of importance, the purpose of this marketing paper relates only to transportation and marketing. To give a clear picture of issues involved with charcoal marketing, this report is broken into four main sections.

The first section looks at market uses and prices of charcoal in countries of the Pacific Rim. Charcoal is produced and used in every part of the world, but transportation costs and cheaper local production may limit Alaskan charcoal's market access. Major areas of the world and their sources of charcoal are listed below:

<u>Area</u>	<u>Major Suppliers</u>
Europe	Spain, Yugoslavia
South America	Brazil
Africa	domestic
India	domestic

In addition, there are a few countries (specifically Mexico and the Middle East) where imported charcoal cannot compete with other lower cost, more efficient energy sources.

Within the research area of the Pacific Rim, countries are separated into net importers and net exporters. Net importers represent potential markets and net exporters form the competition. Since

charcoal is an established fuel source, there is little possibility that there are large untapped markets that could be developed by a new supplier.

The second section of this analysis is developed from interviews of charcoal producers in the United States who are members of the Barbeque Industry Association (BIA). This is the only formal group of affiliated charcoal manufacturers. The status of current U.S. charcoal exports as well as product and marketing strategies are discussed.

The third part of this report provides a detailed transportation cost breakdown. Different transportation methods, modes, and carriers were investigated in an effort to unravel this complex cost component of charcoal exporting.

The fourth part summarizes the three main market potentials.



## II. PACIFIC RIM CHARCOAL MARKET

Sixty percent of all wood taken from the world's forests is believed to be burned as fuel--either directly or by first converting it into charcoal.

Charcoal is mainly used as domestic fuel for cooking and heating but it is also an important industrial fuel. This section identifies current charcoal uses in the Pacific Rim markets.

This section is presented in two parts. The first part describes current markets. Net importers of any appreciable volume of charcoal are discussed with regard to uses of charcoal by sector, prices, volumes of charcoal used and any special considerations regarding charcoal marketing. The second section is devoted to net exporters of charcoal in the Pacific Rim, amounts exported, destination of exports, and prices per ton.

### A. Current Markets

#### 1. JAPAN

Japan's uses of charcoal are in keeping with their ritual specific culture. Different grades and forms of charcoal are utilized in various ways.

Restaurant and Home Use--This requires the highest grade of charcoal, and it is supplied by domestic production. The charcoal must emit no smoke and burn quietly without sparks. Great care is taken to insure these qualities as this grade of charcoal is a fundamental part of the Japanese tea ceremony. Price is not a factor limiting the volume consumed. The Japanese are the master producers of this type of charcoal and this grade makes up the small amount of charcoal exported from Japan.

Industrial use--Large amounts of charcoal are used in foundries and forges for the extraction and refining of metals (especially iron) and in numerous other metallurgical and chemical applications. This market utilizes the largest percentage of imported charcoal.

1983 Delivered Price Wholesale F.A.S. Japan  
from countries indicated (industrial use)

	<u>US\$/metric ton (1983)</u>
Singapore	130.00
Malaysia	156.00
Indonesia	349.00
Thailand	377.00
Philippines	<u>143.00</u>
average price:	\$218.00

Briquet (coal & charcoal)--This composition of coal and charcoal is used for outside heating, most commonly for the heating of "hot tubs" or baths. The briquets are about twice the size and of the same configuration as U.S. western barbeque briquets.

Activated Carbon--This product is used for the filtration of many substances, primarily water, soy beans and sewage.

Other Uses--This category would include the utilization of western barbeque briquets (U.S. volume was 146 metric tons in 1983). This figure is probably underestimated because many tariffs list charcoal exports out of the United States under a "grocery store" classification.

Charcoal entering Japan under this tariff heading would therefore not be reported as charcoal imports.

Trends--Total imports of charcoal into Japan reached a peak in the early 1970's. Many Japanese industrial plants and home owners, faced with the oil shortage, changed over to charcoal as a fuel. However, with the recent drop in oil prices this trend has reversed and seems to be "oil price dependent".

The continued westernization of Japan would seem to indicate a potential opportunity for increased American briquet imports.

## Japan: Charcoal consumption by use (in metric tons)

Year	Total	Restaurant and Home Use	Industrial Use		Briquet (Coal + charcoal)	Activated Carbon	Others
			Steel & Metal	Fuel			
1967	562,000						
68	485,000						
69	363,000						
70	291,000						
71	289,000						
72	252,000						
73	199,000						
74	211,135	59,541	8,434	30,876	72,983	38,701	600
75	168,652	53,202	6,111	23,303	41,157	44,279	600
76	152,090	36,982	7,660	26,427	36,285	44,136	600
77	144,652	29,470	7,557	16,248	37,864	52,913	600
78	137,063	28,372	7,585	10,248	31,721	58,537	600
79	145,605	31,234	7,610	10,260	35,595	60,306	600
80	140,255	36,824	8,350	8,500	33,285	52,696	600
81	135,603	37,186	6,637	8,348	28,590	54,242	600
82	127,831	29,854	6,366	8,128	25,866	57,017	600
83	115,944	31,058	6,011	0	22,091	56,184	600

Source: Japan Forestry Agency, Forest Products Section

Japan: Charcoal Exports and Imports by Source (in metric tons)

Year	Export	I m p o r t							Others
		Total	Singapore	Malaysia	Indonesia	Thailand	Philippines	Sri Lanka	
1966	10	12,340	-	25	-	49	3,873	3,114	5,279
67	22	14,946	-	-	27	148	6,183	4,014	4,574
68	146	9,370	-	3	63	99	5,098	2,939	1,168
69	120	10,224	-	156	-	31	4,300	4,225	1,512
70	101	15,765	34	33	-	71	6,752	8,243	632
71	53	29,718	2,306	4,829	-	1,798	13,443	6,687	655
72	94	14,003	1,464	4,813	5,335	1,324	565	374	128
73	26	13,117	841	2,192	7,488	2,425	-	-	171
74	21	28,554	6,205	2,805	15,625	3,159	66	-	694
75	26	19,815	3,375	1,269	11,009	4,040	17	-	105
76	29	15,563	4,603	947	8,173	1,615	-	-	225
77	41	14,696	7,332	269	6,747	97	60	52	139
78	57	9,673	2,515	-	6,899	-	80	-	179
79	68	12,944	5,827	-	6,644	-	27	-	446
80	92	18,468	9,830	49	7,793	49	26	30	691
81	397	15,063	6,636	34	7,301	10	-	-	1,082
82	207	9,359	3,957	233	4,462	2	-	7	698
83	203 *	4,278	3,129	438	156	30	39	-	486 **

\* Destination Korea 202  
Singapore 1

\*\* Originating from ROC 213  
China 486  
USA 146

Source: Japan Forestry Agency, Forest Products Section

## 2. KOREA

Korea has a long history of using charcoal for both heating and cooking. Farmers supplied consumers directly from small production sites on their land. The Korean oak, from which most of the Korean charcoal has traditionally been produced, has been depleted in recent years. This has forced many small producers out of business. The decreased source of domestic supply coupled with regulations to preserve the remaining oak has caused Korea to import more and more of its charcoal.

Charcoal supplies are shown below for 1983 by source

Source of imports and amounts (metric tons)

<u>Country</u>	<u>Amount</u>
Australia	1,009
Philippines	870
Japan	141
Singapore	66
Thailand	39

TOTAL: 2,125

Domestic Production: 1,133 tons

Total consumption: 3,258 tons

Major current uses of charcoal in Korea include the following:

Cooking (35%)--Some charcoal is used for cooking of private meals, but the majority is used in restaurants. Traditional Korean restaurants have a large cut of meat cooking over charcoal from which servings are sliced.

Heating (35%)--A large number of residences are heated with charcoal or a combination of coal and charcoal. Charcoal is commonly used as a starter fuel for the coal.

Industrial (30%)--This portion of the charcoal market combines activated charcoal users with charcoal users in the steel and metals industries.

The following are 1983 prices:

Average imported price	\$272.00 US/Ton C.I. F.
Retail for barbecue	450 Won (@50¢/kg)
Retail for Industrial	350 Won (@40¢/kg)

The current demand is for the so-called "natural log" charcoal, a cylindrical product 3 cm in diameter and 20-30 cm long. These logs should not be pressed or formed.

Some special comments relevant to the Korean market are summarized below:

--Consumers complain of high gas emissions (sparking) during burning.

--Industrial users complain that imported charcoal is not suitable for effective extraction.

### 3. HONG KONG

Hong Kong has been consistently importing about 20 metric tons annually of charcoal since 1969.

Charcoal use is split 50-50 between domestic fuel (for cooking and heating) and industrial use (predominantly for fuel).

The Philippines have presently captured Hong Kong's charcoal market, supplying up to 90% of its consumption. The Philippines are

efficient producers of relatively good charcoal, are only six hundred miles from Hong Kong. A heavily travelled trade route and an established chain of suppliers give the Philippines an advantage in Hong Kong that is very hard to beat.

#### 4. UNITED STATES/CANADA

The U.S. and Canadian market was the market with the most guarded information about pricing. Direct inquiries to producers and the Barbeque Industry Association about pricing were met with a refusal to provide price information. Based on B.I.A. estimates of briquet sales, the value of a metric ton of charcoal briquets was calculated at about \$494.00 in 1984. This figure would seem to be too high in relation to other prices reported in this study.

The market for charcoal in America and Canada is almost exclusively for briquets. While there is some lump charcoal used in the steel and metal industry, it is supplied by four lump producers in the U.S. With the depression in the steel industry, competition for this small market segment is intense and producer information concerning volumes and pricing is unavailable.

Sales of charcoal briquets are coordinated through large, chain grocery stores. This distribution method explains Canada's high imports of charcoal (12,000 tons in 1982). Producers of charcoal briquets in the U.S. ship their product (especially "match light" and "quick-start" items) to international grocery store locations in Canada to fulfill performance contracts.

Some promotional literature from the B.I.A. show that sales and volumes of charcoal briquets have risen steadily for 10 years in the



U.S. and the producers of charcoal have been intergrated into a "barbeque industry" with other related products.

The Value of Charcoal Briquet Sales in the U.S.\*\*

<u>Year*</u>	<u>Millions of Dollars</u>	<u>Percent change from previous year</u>
1973	88	21.6
1974	107	21.5
1975	130	21.5
1976	160	23.1
1977	185	15.6
1978	210	13.5
1979	235	11.9
1980	255	8.5
1981	280	9.8
1982	312	11.4
1983	345	10.6
1984	382	10.7

1973-1980 -- Calendar Year

1981-1984 -- Fiscal Year - 9/1 to 8/31

\*\*Source: BIA

The Amount of Charcoal Briquet sales in the U.S. (in metric tons)\*\*

<u>Year</u>	<u>Tons</u>	<u>Change From Prior Year</u>	<u>Percent Change from Prior Year</u>
1967	359,547	--	--
1968	426,256	66,709	18.5
1969	483,557	57,301	13.4
1970	537,285	53,728	11.1
1971	596,983	59,698	11.1
1972	621,122	24,139	4.0
1973	630,430	9,308	1.4
1974	653,204	22,774	3.6
1975	681,520	28,316	4.3
1976	703,000	21,480	3.1
1977	716,761	13,761	1.9
1978	689,032	(27,729)	(3.8)
1979	713,749	24,717	3.5
1980	741,734	27,985	3.9
1981	745,000	3,266	.4
1982	764,370	19,370	2.6
1983	769,487	5,117	.67
1984	772,501	3,014	.39

1973-1980 -- Calendar Year

1981-1984 -- Fiscal Year - 9/1 to 8/31

\*\*Source: BIA

The above tables from the BIA show that for over three decades, the barbecue industry has recorded a continuous and uninterrupted growth in sales. Forecasts of markets which are available now indicate that growth may persist through the 1980's because consumer demographics will run heavily in favor of such continued expansion.

Success of the barbecue industry in the next decade may depend upon many factors. The industry has no control over some market determinants, but many factors can be influenced definitely by sound long range planning and promotion.

Consumers are constantly bombarded by the ever increasing promotional advertising and greater sophistication of sales and marketing strategies aimed at inducing them to buy one product or

another. Barbecue products are competing with literally thousands of spending options by consumers, including a wide variety of cooking techniques and food preparation.

It is very favorable that the food and grocery products industry, including retailers, have demonstrated a growing interest in barbecue related products through tie-in advertising and merchandising programs to capitalize on the barbecue sales opportunities.

Total U.S. Barbeque Industry Sales (millions of dollars retail)\*

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Food & Grocery Items	\$3,600	\$3,900	\$4,200	\$4,600	\$4,800
Charcoal Briquets	280	312	345	382	418
Barbecue Grills	379	453	489	530	570
Lighter Products	72	88	107	125	143
Tools & Equipment	23	25	27	29	31
Miscellaneous	1	3	4	4	4
TOTAL	\$4,355	\$4,781	\$5,172	\$5,670	\$5,966

Number of Individual Family Barbeques (in thousands)\*

	<u>1978</u>	<u>1980</u>	<u>1985</u>
Charcoal	669,550	697,066	802,727
Gas	167,838	174,746	233,904
Electric	11,260	11,731	24,448
TOTAL	848,648	883,543	1,061,079

\*Source: BIA industry estimates and forecasts

### B. Net Charcoal Exporters

Charcoal exporters within the Pacific Rim are centered in the southeast corner of Asia. They all have large charcoal consuming populations which has created an organized charcoal industry. In addition, all the countries have adequate supplies of wood as a raw material for charcoal. The species used are varied but almost totally tropical hardwoods.

The island countries of Malaysia, Indonesia, and the Philippines are the main exporters of charcoal within the Pacific Rim and also have a complicated flow of trade in charcoal between themselves. Some areas of each country, because of close proximity to production, import charcoal from another while remaining net exporters as a country.

Indonesia is by far the leading exporter of charcoal in the Pacific Rim (43,900 metric tons in 1982). The Philippines only exports about half that volume (23,600 metric tons in 1982).

Indonesia is the leading exporter in tonnage, yet Malaysia has the lowest export price per metric ton at \$58.59 in 1982.

#### Major Pacific Rim Charcoal Exporters (1982)

	<u>Volume (in metric tons)</u>	<u>Total revenue (in US\$)</u>	<u>Price/Ton (in \$) at port of export</u>
Indonesia	43,900	3,733,000	70.55
Malaysia	18,500	1,084,000	58.59
Philippines	23,600	3,348,000	141.86

The charcoal exported is usually bagged in 20 to 50 lb. sacks. Shipment is by barge or small bulk carrier ships that travel close to the coast between ports.

The product exported is 100% lump charcoal in the "natural" log shape. No pressed or formed charcoal is produced.

#### Export Trends

	<u>Volume (in metric tons)</u>		<u>Price/Ton (\$ US) at port of export</u>	
	<u>1977</u>	<u>1982</u>	<u>1977</u>	<u>1982</u>
Indonesia	47,353	43,900	31.23	70.55
Philippines	19,000	23,600	115.79	141.86
Malaysia	10,300	18,500	31.65	58.59

Five year trends in charcoal exports seem to show some interesting developments. Indonesian and the Philippines' exports have remained fairly steady while Malaysian exports have significantly increased. This increase would seem to be attributable in large part to Malaysia's ability to maintain a lower price per ton.

The Philippines export price would seem to be consistently high, maintaining a 70-80 dollar per ton premium. The reason that for this is two-fold. First the Philippines has a location advantage in relationship to a major importing market, Hong Kong. The F.O.B. exporting price per ton can be higher because the freight advantage helps to keep the market price competitive. Secondly, the Philippines places more emphasis on quality in production and can, therefore, demand a price premium.

A final word about charcoal exporting within the Pacific Rim. Singapore is often cited as a major source of charcoal exports in the Pacific Rim. However, this is misleading. Singapore only serves as a central location in southeast Asia for accumulation and storage of charcoal which is then re-exported to the major consuming countries.

### III. PRESENT PRODUCER ASSESSMENT

Interviews with charcoal producing members of the Barbecue Industry of America were conducted in late 1984 and early 1985 to explore the methods and strategies of exporting charcoal. Information was gathered under the stipulation that no specific company be mentioned. Some figures are presented as group averages to accomplish this end.

Questions to the manufactures were grouped into the following three areas.

1. Reason for product choice in exporting.
2. Special packaging and transportation considerations.
3. Overall marketing strategy.

The area of product choice for export mainly centered around the desirability of "lump" or "briquet" charcoal for export. The exporting producers were almost unanimous in their attention to marketing briquet charcoal for the following reasons:

a. Production Considerations--The marketing of briquets only entailed "changing the bags" to foreign labels. Many expressed concern over interrupting their production cycle to package lump charcoal.

b. Marketing Direction--Most producers saw their export package being consumed by a "high end" market user in a foreign country. However, the backyard barbecue is a distinctly western idea. Most manufacturers were responding to a demand by "imitation" users emulating American tastes. Charcoal used as a gourmet item commands a gourmet price. The lump charcoal that is sold, is sold in conjunction to this initial briquet demand. As much as 95% of U.S. charcoal export is in the form of briquets.

c. Shipping Costs--A powerful component of the present exporters strategy is transportation. This area will be discussed in detail in a

later section but one aspect of containerization is appropriate to stress here. Container costs are on a per container, not per pound, basis. So it behoves the shipper to use space as economically as possible. Briquetted charcoal is twice as dense as lump charcoal, where selling on a per pound basis the per unit weight transportation cost is halved by exporting packaged briquets.

Since there is very little bulk charcoal shipped, there is very little information concerning the packaging of this product. All exporters and importers contacted or interviewed considered bagged charcoal the most economical way to ship. Among the reasons given were ease in (1) loading and unloading, (2) clean up, (3) storage and (4) packaged ready for sale. Export briquet packaging breaks down as follows:

<u>Commodity</u>	<u>Packaging</u>	<u>Total Weight</u>	<u>% of total</u>
5 lbs bag	6 bags/unit	30 lbs unit	60
10 lbs bag	5 bags/unit	50 lbs unit	40
20 lbs bag	1 bag/unit	20 lbs unit	71

In addition to straight bag loading, one exporter has had great success in Japan by marketing a cardboard egg carbon with each "egg hole" filled with a briquet. The carton was then shrink wrapped in plastic (total 26 oz. unit). They indicated that up to 90 % of their exports were in this egg carton form. They attributed this success to the ease in handling (the whole package can be burned and constituted the amount needed for one barbecue) and its appeal to the Japanese sense of cleanliness and effective packaging.

All exports of charcoal from the U.S. is by enclosed container. There has not been a centralized area of demand large enough to support

the full loading of bulk loaded ships normally used in the transportation of coal and grain.

Export containers come in two basic sizes 20' and 40'. A 40' container will hold @46,000 lbs or @2,700 cubic feet of material. A 20' container will hold @20,000 lbs or @1,050 cubic feet of material. There has been a recent trend to the 20' size, directly attributable to the lower financing needed to acquire a container of this size.

Most containerized shipments are, "floor loaded", stacked from floor to ceiling, bag on bag. Palletized loading is done, but the addition of the 40" x 48" x 4" pallet decreases volume by @15 % (20' basis). Factors other than palletization that will add variability to loaded volume and costs are:

Container Walls--Ribbed or plywood walled containers will decrease loaded volume. Straight base walls are preferred.

"High Cube" Container--A taller than normal (usually 13'6") container is essential for effective movement. Since the restrictive factor in shipping charcoal by container is volume rather than weight, these "high cube" containers are the most economical method of shipping.

Special Considerations--A final shipping consideration involved in packaging is that containers must be kept dry. If charcoal becomes wet and then dries, it may spontaneously ignite, having serious consequences.

The predominant export strategy among charcoal exporters is to set up an exclusive distributorship. The distributor is commonly a reliable wholesaler of a variety of household and grocery items. Exclusive distributorship agreements typically involve: six months trial basis, private label, sales terms such as FOB terms at a US port, 2% discount



for payment within ten days and net payment due within 30 days, and finally an irrevocable letter of credit.

The six month trial enables both sides to enter into the agreement without being "locked in" for a long period. Six months is usually long enough to assess the honesty and marketing strength of the chosen distributors.

The private label serves as producer protection, (protection of the company name from poor representation in the foreign country). Under a private label, the producer retains the ability to market the product in the same country even after an initial attempt fails. He need only change distributors and the private label.

Selling F.O.B. at a U.S. port relieves the producer from foreign exchange problems and keeps the transaction squarely under U.S. law and jurisdiction. A discount is given for prompt payment which allows more freedom in company finances. An irrevocable letter of credit is considered a must when dealing overseas. This will ensure protection against non-payment because of bad credit.

The product involved in these distributorships has been almost exclusively briquets. The selling strengths are price and quality. The quality consideration was stressed in many interviews. American producers feel that they make a better charcoal than anyone else and emphasize this point in sales.

Most producers were very reluctant to discuss where their export material was going. However, indications were that exports were split between Canada, Western Europe, and Japan.

Volume and value of U.S. Exports of Charcoal  
(values are F.O.B. exporting port)

	<u>Volume</u> (in metric tons)	<u>Value</u> (in U.S.\$)	<u>Average Price</u> (in \$/ton)
1977	33,300	5,707,000	171.38
1978	28,400	5,672,000	199.72
1979	16,300	7,003,000	429.63
1980	10,500	4,566,000	434.86
1981	18,000	9,225,000	512.50
1982	14,100	5,609,000	397.80

No specific reasons for the fast rise in export price could be given; however, it is speculated that the continued rise in the value of the U.S. dollar and the increased demand by "imitation" users are important factors.

No figures are presently available, but if we assume that 90 % of Canada's charcoal imports (12,000 metric tons in 1982) came from U.S. distributors, then a total of 3,300 tons were exported to the rest of the world.

## CHARCOAL BRIQUET MEMBERS

ARKANSAS CHARCOAL CO., INC.

2670 Union Ext. - Ste. 522

Memphis His., TN 38112

(901) 324-5516

Primary Rep: Andrew Sigel  
Vice PresidentAlternate Rep: Donald Rieder  
Vice PresidentJAYHAWK CHARCOAL COMPANY

P.O. Box 285

Chetopa, KS 67336

(316) 236-7256

Primary Rep: Everett Webster  
President

Alternate Rep: Mrs. Patty McGill

HICKORY CHARCOAL COMPANY

P.O. Box 899

Brentwood, TN 37027

(615) 373-2581

Primary Rep: R. Joseph Crace  
PresidentAlternate Rep: Donald E. Crace, Jr.  
Vice President Sales  
& MarketingTHE KINGSFORD COMPANY

1221 Broadway - 17th Floor

Oakland, CA 94612

(415) 271-7565

Primary Rep: Marshall A. Perry  
Advertising Mgr.UHUSKY INDUSTRIES, INC.

35 Glenlake Parkway - Suite 500

Atlanta, GA 30328

(404) 393-1430

Primary Rep: G. Randal Anderson  
Executive Vice PresidentAlternate Rep: Charles W. Warchol  
Vice President  
MarketingT. S. RAGSDALE COMPANY, INC.

P. O. Box 937

Lake City, SC 29560

(803) 394-8567

Primary Rep: Gregory D. Toller  
Senior Vice PresidentAlternate Rep:  
Thomas S. Ragsdale, Jr.  
PresidentIMPERIAL PRODUCT CORPORATION

655 Craig Road - Suite 300

St. Louis, MO 63141

(314) 567-7722

Primary Rep: Harold Ovington  
Vice President, SalesAlternate Rep: John K. Wallace, Jr.  
Chairman of the BoardTHE UHLMANN COMPANY

P.O. Box 410

Kansas City, MO 64141

(816) 221-8200

Primary Rep:  
John W. Uhlmann  
President, Charcoal Div

#### IV. TRANSPORTATION

Since the deregulation of transportation in 1980 the transportation phase of a trade transaction has become more complex.

The myriad of transportation modes and carriers involved with every commodity movement is bewildering. A traffic manager has become an important executive in today's corporate structure. Procurement of the best rates and services can make the difference between a profit or loss for the operation. This section will explore different rates and routes for shipments of charcoal from Seward, Alaska to the Pacific Northwest and the Pacific Rim.

The rates and costs quoted are current as of early 1985. It cannot be stressed enough that each shipment must be researched individually to be competitive in today's transportation market.

##### Transportation Route

Direct shipment of charcoal is obviously the preferred mode for shipping. Direct shipment figures have been restricted to the Seward to Japan route. This is because Japan is the only market within the Pacific Rim area that could conceivably absorb a full ship load of charcoal. There is presently no direct containerized service of less than shipload (LTS) size to the Pacific from Alaska.

There is the potential for charcoal to be loaded, as a backhaul, on Japanese ships that have arrived in Alaska carrying cars and steel pipe. If these ships were scheduled to return empty, the charcoal loaded in them would travel at a substantial savings to normal rates. Several problems arise in assessing the actual savings that would accrue.

Empty backhauls occur irregularly and the carrier can choose to return to Japan via Vancouver or Seattle, with a better priced

commodity. It would be difficult to keep a delivery schedule based on such an erratic shipping mode. The savings obtained from one shipment could be more than off-set the losses incurred by another load having to wait on the dock for a long time for the next backhaul to occur. Finally, many carriers were hesitant to load charcoal in holds normally reserved for new cars and steel pipe.

#### Direct Shipment Cost Breakdown

Loading--The loading of charcoal into the hold of the ship would have to be accomplished by the hand loading of bagged bulk charcoal (20-50 pounds) onto a pallet that would be hoisted and placed in the hold by a crane and then hand stacked in the hold. Estimates are that this method of loading would progress at a rate of about 2,000 tons per day. Total time for loading the 20,000 ton capacity ship would be about ten days. The facilities (cranes) to accommodate this type of loading method are available at the Alaskan Railroad docks in Seward. The Suneel dock, also in Seward, operates a conveyer belt loading operation used commonly for coal. Loading by this method is faster than palletized crane loading, but the disintegration of the charcoal into fines during the loading would off-set any loading cost advantage.

#### Stevedoring charges

Assuming loading 2,000 tons/day and off-loading 1,500 tons/day, this would amount to about \$7-8.00/ton

#### Ocean Freight

Seward to Japan (east coast)  
\$14.50-15.50 per ton

#### Other Charges

Freight Forwarders  
\$1500-\$2000.00 per transaction

### Shipping Terms

"Along Side"-- Chartering of ships only, stevedoring charges extra.

"Liner Terms"--Chartering of ship includes Stevedoring.

### Containerized Shipment

All exports of containerized shipments moving out of Alaska have to pass through an interim port to the South. Several interim ports were explored and Seattle, Washington was selected for comparison for several reasons:

1. An American port (vs. Canada) was preferred so as to limit double import, export customs inspection and paper work.
2. Seattle is a major point of departure for equipment going to Alaska and high cube containers for back haul are commonly and readily available.
3. Tariff rates on shipments to the Pacific Rim from Seattle are normally applicable to other major ports of departure in the Northwest. There is no significant cost advantage to ship from other ports.

### Transportation Rates

The rates and costs of moving both 20 ft and 40 ft containers from the Seward, Alaska area through Seattle and on to Japan, Korea, and Taiwan are listed below.

A variety of carriers are listed for each leg of the route to show how great the difference is between them.

Rates for container movement are quoted on a per container or on a per pound basis with a minimum poundage required (effectively a per

container charge). For comparisons, all rates will be converted to a per high cube container charge based on the following weights:

	<u>20 ft</u>	<u>40 ft</u>
Briquet	20,000 lbs.	46,000 lbs.
Lump	10,000 lbs.	23,000 lbs.

Container Freight Rates  
from Seward, Alaska to Seattle, Washington

	<u>Lump</u>		<u>Briquet</u>	
	20'	40'	20'	40'
Seaway Express				
\$9.04/H.wt. 35 Min		3164.00		4158.40
6.29/H.wt. 78 Min		2453.10		2893.40
Crowley Maritime				
1 Trailor 7.25/H.wt. 44 Min		3190.00		3335.00
2 Trailors 6.29/H.wt. 44 Min		2767.00		2893.40
Span - Alaska per container	650.00	1000.00	650.00	1000.00

Seaway Express and Crowley Maritime rates will not change if the pick-up spot is not in Seward proper. Span-Alaska will apply additional charges for out of Seward pick-ups as follows:

Span-Alaska additional charges (Pick-up)

Willow	+ \$250.00
Palmer	+ \$200.00

Container rates are "door to door" rates and include the dropping off of an empty container for loading. There will be a limit (usually 24-48 hours) of the time allowed for loading and unloading.

### Reloading at Seattle for Export

Any freight moving from Alaska for export elsewhere will have to be reloaded at the exporting port for several reasons:

Equipment compatibility--The 40 ft containers that service Alaska are trailer types (with wheels attached) and are not able to load safely or properly on container ships. The 20 ft containers that service Alaska are lifted from the bottom for loading and unloading while the exported containers are lifted from the top.

Carrier Resistance--The owners of the various containers do not want their equipment to move out of their jurisdiction or transportation area. They feel that if they lose control of the container they will at least lose "turn-around" time if not the container itself.

### Cost of Reloading Bagged material

(floor-loaded or palletized)

<u>Container</u>	<u>Cost</u>
20'	\$100.00
40'	\$200.00

Most carriers contacted did not have experience in reloading Alaskan shipments for export, but it is common practice to have to reload imports destined for Alaska.

### Transportation Costs from Seattle to Selected Pacific Rim Countries

A search was done of container carriers in Seattle to sample ocean freight rates on shipments travelling to Japan, Korea and Hong Kong (major Pacific Rim importers of charcoal). Because of the current strength of the dollar, exports from the United States are comparatively low. There is great competition for the exports that do develop.



Discrepancies between the rates listed for the different carriers reflects attempts of some companies to buy business.

Container Shipment Costs from Seattle, Washington  
to Various Destinations as of 1985 (US\$)

<u>Shipper</u>	<u>Size</u>	<u>Destination</u>		
		<u>Japan</u>	<u>Korea</u>	<u>Hong Kong</u>
P.T. Djakarta	40'	2123.43	2123.43	2123.43
	20'	923.52	923.52	923.52
Evergreen Line	40'	1000.00		1000.00
	20'	900.00		900.00
Hanjin Container	40'	2027.78		
	20'	881.92		
Orient Overseas Container	40'	2104.30		2199.95
	20'	915.20		956.80
East Asiatic Co. Ltd.	40'			1600
	20'			
Transportation Maritima Mexicana S.A.	40'			
	20'			1100

In addition to ocean freight there are other costs associated with export shipments.

1. Supplement or General Rate Increase

There will be a general rate increase effective March 6, 1985. The extent will vary between carriers and had not been fully revealed

at the time of this report. The general feeling is, that a minimum of \$750.00/20 ft container and \$1000.00/40 ft container will be set. In addition, all rates will increase \$150.00/20 ft and \$200.00/40 ft container.

2. Full Adjustment Factor (Bunker)

This charge will vary with carrier or may be included in Ocean Freight rate. Currently \_\$30.00 per ton.

3. Currency Adjustment Factor (C.A.F.)

Most carriers include a C.A.F. charge to Japanese parts currently 8-11 % of ocean freight.

4. Freight Forwarder Compensation (Brokerage)

Approximately 2.5 % of gross ocean freight to handle the paperwork (export bill of landing, customs and receiving port procedures)

5. Container Service Charge

If a container has to be broken down, the foreign port charges are as following;

Hong Kong based ports	\$3.50/ton
Japan based ports	2920 yen/ton
Korean based ports	\$4.00/ton

6. Terminal Receiving Charge

Cost of terminal handling of freight (load and unload) of about \$13.00/ton.

As can be seen from the variety of different costs added to the Ocean Freight, it is difficult to access a total cost for export of a commodity very far into the future. The best procedure for a company starting in the exporting business is to allow a number of steamship

companies to bid. Under deregulation, contracts between carrier and exporter can be set up to guarantee a low price for a set volume of business. A freight forwarder should also be engaged to oversee all export shipments. He can keep the producer informed about changes in shipping costs and allow the producer to concentrate on sales and production efficiency.

Special tariffs or duties

There are no special restrictions or costs associated with the export of charcoal from the United States to the Pacific Rim countries researched.

## V. MARKET POTENTIALS

A cardinal rule in foreign trade is that exporting a commodity should never be thought of as a total alternative to selling in the domestic market. The ability to gain a share of the local market is often the best gage of a product's foreign market potential. Dealing internationally only complicates matters of exchange, credit and transportation.

In addition, entering a distant market from a solid local base cannot be done in a casual way. Marketing experts advise allowing a minimum of two years for starting up an overseas operation.

Charcoal is a commodity that is bought and sold world wide but this study has identified three areas where Alaskan charcoal might be successfully marketed. The areas are listed below, in descending order of attractiveness; local prices are indicated also.

Pacific Northwest - This market requires almost exclusively briquets distributed through food brokers.

### Average Wholesale Price, March 1985 (delivered Seattle)

<u>bag size</u>	<u>\$ U.S.</u>
10 lbs.	2.73
20 lbs.	4.92

(5 bags/pallet, 40 pallets/load)

### Average Retail Price per 10 lb bag, March 1985 (Seattle)

<u>brand</u>	<u>\$ U.S.</u>
Scotch Boy	3.39
Royal Oak	3.89
Safeway	3.59
Kingsford	3.89

Japan - Most imported charcoal is sold through the large trading companies. Domestic production is sold directly or through exclusive distributorships.

Average imported price: \$218.00/metric ton, F.A.S. JAPAN (1983)

<u>City</u>	1984 Domestic Production Pricing		
	<u>Size</u>	<u>Wholesale</u>	<u>Retail</u>
Tokyo	6 kg	\$3.20	\$ 6.80
Tokyo	15 kg	\$7.40	\$12.00

(based on 250 yen/U.S. dollar)

Korea - Charcoal is imported through commodity brokers and is of the lump variety.

Average imported price: \$272.00/metric ton C.I.F. (1983).

Retail for Barbecue: 450 won (@50¢/kg)

Retail for Industrial Use: 350 won (@ 40¢/kg)

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