THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN 48640

PLAINTIFF'S EXHIBIT

DOW-1516

S100004020

ANNIVERSARY



Dow

Highlights

Operations Summary (in millions)

	1972	1971	% Change
Net sales	$2,403.7	$2,052.7	+17.1
Depreciation	234.9	218.8	+ 7.4
Research and development expenditures	104.7	95.3	+ 9.9
United States and foreign income taxes	127.1	91.0	+39.7
Net income	189.2	154.7	+22.3
Net income per share (in dollars)	4.14	3.41	+21.4
Cash dividends paid per share (in dollars)	1.80	1.77	+ 1.7
Average common shares outstanding	15,662,008	15,428,561	+ .5
Common stockholders	84,838	84,633	+ .2
Employees	48,800	47,800	+ 2.1

Quarterly Results

Quarter Ended	Sales (in millions) 1972	Sales (in millions) 1971	Net Income per Share (in dollars) 1972	Net Income per Share (in dollars) 1971
3/31	$ 550.2	$ 486.7	$ .90	$ .73
6/30	607.2	526.3	1.15	.93
9/30	604.2	522.7	1.14	.95
12/31	642.1	517.0	.95	.80
TOTAL	$2,403.7	$2,052.7	$4.14	$3.41

ANNUAL MEETING

The 1973 annual meeting of stockholders will be held at 2 p.m. (EDT) Wednesday, May 2, in the Midland Center for the Arts, St. Andrews and Eastman Roads, Midland, Michigan. A formal notice of the meeting, with a proxy statement and form of proxy, will be mailed to each stockholder separately from this report.

This Annual Report is printed on paper containing Plastic Pigment, a new Dow product.

To our shareholde

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As you know by now, 1972 was another excellent year for our Company.

Dow's employees around the world produced several significant results:

- Sales were $2.4 billion, up 17% from 1971.
- Exports from the U.S. were up 15% from 1971, reaching a record $275 million.
- Earnings were up 21% to $4.14 a share, another new record, and our return on stockholders' equity was 15.0%, up from 13.3% in 1971.
- After a period of intensified investment outside of the U.S., the pendulum swung back to a heavier emphasis on U.S. investment with the reinstatement of the U.S. investment tax credit and more liberal depreciation rules. The Company spent more than $200 million in the U.S. on new or expanded manufacturing facilities and approximately $75 million in other countries.
- We spent more than $100 million on research and development, still another record. Our 1973 expenditures for these activities will increase more than 10%.

Our progress enabled us to announce on February 8, 1973 a 2-for-1 split of the Company's stock. Also, it is our intent to raise the quarterly dividend to 25¢ per share on the new stock beginning in July 1973.

But beyond the accounting data stands the performance and dedication of Dow people around the world. I am constantly amazed by the contributions they make which are over and beyond anything we could reasonably ask them to do. I could give you literally hundreds of examples from all of our activities but let me note just a few.

During two lengthy strikes at Dow plants in the U.S. in the past year, our salaried employees stepped up and performed magnificently.

In the Texas Division, salaried

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employees worked 10 and 12 hours daily, sometimes seven days a week, to operate the complex throughout a 12-week strike. Astonishingly, they also set all-time production records in this period. And at Bay City, Michigan, where a strike started in February and continued into 1973, salaried employees have worked with equal dedication to keep operations running at top efficiency.

I also marvel at Dow employees in Chile, where a few months ago, the government took control of Petroquimica-Dow S.A. (Petrodow), a 70% Dow-owned company located in Concepción, and of Dow Quimica Chilena S.A., a wholly-owned company located in Santiago.

Two days after the government completed its takeovers, all supervisory personnel, secretaries, and some operators banded together, strictly on their own initiative, to publish advertisements in two of Santiago's leading newspapers. In these ads, they rejected the takeovers and declared themselves on strike against the government.

The ads noted that, according to the government, Petrodow was taken over because of lack of availability of products, and Dow Quimica Chilena S.A. "because it had stopped supplying the market."

Those charges by the government were false, the Dow employees wrote. The supervisory employees of Petrodow and of Dow Quimica Chilena resolved "to firmly oppose both takeovers and declare a 48-hour strike starting at 8:30 Monday, October, 23, 1972, which can be continued unless both these confiscations are cancelled."

As of this writing, these employees are still on strike and the plants are being operated only sporadically by hourly employees and the government representatives.

To read those advertisements is to feel an intense pride in our Chilean employees' integrity and courage as human beings. They have set a remarkable and touching example for Dow employees everywhere.

My last example comes out of a report from Irving G. Snyder, Jr., of Dow's Technology Center Administration. This is part of what he wrote:

"Take someone and rip up all his home roots and plant him in a foreign soil where very likely he doesn't even speak the native tongue. Then make him perform one of the most difficult jobs in Dow. Tell him to build a plant with a fixed budget in an escalating economy. Assign him the responsibility for seeing that the local people have been trained. Tell him to start up a new plant with new people, many of whom have never been in a chemical plant before in their lives. Who is this guy? A Project Manager building a foreign plant for Dow.

"... I don't mean to detract by any means from the very real and necessary contributions from the local employees on the start up teams. I am fascinated, however, by the efforts and dedication of the Project Manager. This man gives two to four years of his life to a plant which, when it just gets running well, he walks off and leaves, turning it over to the local management.

"Why does a man take a Project Manager's job? Primarily, I believe, for the challenge ... to create out of a patch of mud an operating, viable, money making entity. We are lucky to have people of this spirit in Dow."

I am delighted to repeat Irv Snyder's words just as I continue to applaud the efforts of Dow's employees of every nationality throughout the world. No employee can request actions such as these. Instead, they are only granted to the Company by loyal and dedicated employees – people of pride and a deep urge to accomplish something of value for themselves, their families, their respective countries, and our Company.

All of us owe them and their 39,000 other colleagues a great debt which by these words, I am attempting to acknowledge.

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An endless stream of products

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During 1972, the stream of products moving from Dow manufacturing facilities in the United States to other parts of the world was virtually endless.

Tankers, mainly from Dow's enormous Gulf Coast facilities, carried almost two million long tons of chemicals to every other continent on earth. In addition, more than 250,000 long tons of packaged products were transported from Midland, Michigan; Freeport, Texas, and other U.S. points to dozens of locations in Europe, Latin America and throughout the Pacific.

By the end of the year a new record had been established, exports from Dow facilities in the U.S. had moved past the $275 million mark, an increase of 15% over 1971.

The net results were significant from several standpoints:

- Profits to Dow shareholders were increased through the upsurge in exports.
- Jobs were increased in the United States as well as in other parts of the world in which Dow manufactures and markets its products.
- The U.S. balance of trade, in precarious position in recent years, was affected positively.

The 1972 performance was in keeping with Dow's strategy in its international business operations over the years.

When the Company's management decided to increase Dow's international business activities two decades ago, it was agreed that the strategy would be on a careful, step-by-step basis.

The first move would be to establish marketing bases in key foreign areas through U.S. exports. Then, when a sales demand was reached where further growth became impossible without local plant investment, such investment would be made in appropriate facilities.

It might be assumed that once local plants are on stream, exports of U.S. materials would automatically decrease. Actually, the reverse is usually the case.

In some instances, establishment of a local manufacturing facility means that market demands for the products made at that location are increased to the point where additional exports from the U.S. are required. In other cases, shipments of raw materials and intermediates necessary for the manufacture of the end product take the place of shipments of the end product itself. Also, localized production generally paves the way for the sale of various additional products not manufactured at overseas locations.

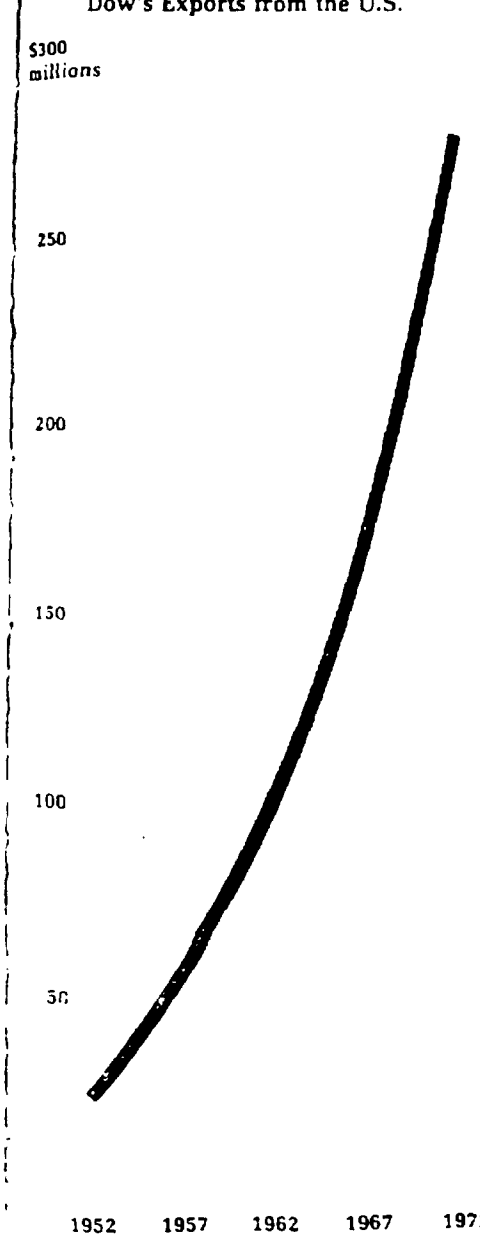
Examples are numerous of increased exports to supplement local manufacture.

One of the best examples is polystyrene. Dow started building manufacturing facilities for *Styron* polystyrene in European locations such as Greece and Italy more than a decade ago. Since then, capacities have continued to be expanded at those locations, and additional European production units for *Styron* have been added as well.

Dow Europe has by no means become self-sufficient in styrene, the raw material for polystyrene. In fact, U.S. exports of styrene to Europe were up substantially in 1972 compared to 1971. On a worldwide basis, U.S. exports of *Styron* (the end product) almost doubled.

There are many other examples of increased Dow exports to areas

Dow exports from the United States were at a record high of $275 million in 1972. Trade variety of chemicals were transported from American ports to every continent in the world.



chemicals on a single voyage, have become commonplace.

Savings in shipping costs have been enormous. Compared ton for ton, bulk shipments cost one-fifth as much as packaged shipments. Dow has saved over $25 million in freight expense in the last seven years in bulk and dry cargo export freight negotiations, and another $4.5 million in the last three years by switching many products from drum to bulk delivery.

The Far East charter program established in 1972 was responsible for generating an extra 20,000 tons worth of export business (since Dow was more competitive on delivered costs), more work for U.S. employees, and distribution savings in excess of two million dollars.

What of the future?

"We'll always have changes in our blend, balance and methods," says Carl A. Gerstacker, chairman of Dow's board of directors.

"However, we plan to keep increasing our exports from the United States. At the same time, we will continue to expand our manufacturing capabilities throughout the world.

"It all goes hand in hand – manufacturing facilities in various key areas of the world help us to export more product from the U.S. just as more exports help us to build markets so that localized production becomes increasingly essential."

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A commitment to technological leadership

Recently, a member of Dow's management was asked whether the Company has a basic business philosophy.

"Yes, we look at the world's problems and see what we can do to help solve them while making a profit," he replied.

One feature of this philosophy is that Dow continues to be firmly committed to being the technological leader in every product it manufactures.

The Company believes in above average research and development expenditures, not only as compared to the entire manufacturing industry, but within the chemical industry, which is traditionally more heavily oriented toward research than other types of industry.

Outstanding new products introduced in 1972 included the following:

- New flame retardant agents for plastics.
- Ceramic foam, an unusual new insulation material.
- *Pheiron* miticide.
- Flexible composite foam (Inner Foam) for comfort cushioning.
- *Dow* Latex 638, a development for the paper industry.

Some additional comments on these new products are probably to the point.

For example, Dow's two new flame retardants based on bromine compounds are finding major market applications in polyurethane foams and thermoplastic molded products. The need for these products is the direct result of more stringent flammability regulations in the automotive and construction industries.

Ceramic foam is a fired, foamed clay insulation designed especially as a fire resistant pipe, vessel or building insulation.

Pheiron miticide is a product that fits perfectly into "integrated control" orchard pest management programs.

Flexible composite foam (Inner Foam) is a material containing plastic beads in a polyurethane foam matrix. It has outstanding seating support in comfort cushioning and has high potential for improved energy attenuation for automotive crash padding applications.

Dow Latex 638, a styrene/butadiene formulation, was developed and introduced to the paper industry as a pigment binder for paper and paperboard coatings. It joins the family of Dow latexes used in producing high quality coated commercial printing papers, publications, and folding cartons for packaging applications.

Another fact is also obvious from Dow's growing list of future new products: As the world has of necessity become increasingly interested in expanding food production and in improved packaging and preservation of food, the Company's interest has followed suit. The photos accompanying this article – of the five, four involve packaging or preservation of food – help to make that point.



Packaging with an eye appeal to match the taste appeal of foods is the message the horn of plenty is trumpeting these days. Dairy products manufacturers are adopting Dowpac *containers for yogurt and other cultured dairy products not only because of their attractiveness but also because they offer better protection and clean appearance.*

After protecting dehydrated and freeze-dried camper foods from packing house to campsite, Saranex *packaging film offers an ecological plus – campfire disposability.*

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Once a novelty in the kitchen, the plastic milk bottle now is very much at home there. Some two billion milk bottles in 1972 were made of high density polyethylene, of which Dow is a major supplier

Uses for Styron brand polystyrene seemingly are endless. The base, outside cover, and interior reflector of Flash Cubes by Westinghouse are fashioned from one of the many resin formulations of Styron.

"Touch Control" became an added feature of Handi-Wrap brand plastic film in 1972. Thanks to an embossed surface, the product clings without snarling

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UNITED STATES – Dow's 16% sales increase in the U.S. exceeded our expectations as the upward business trends that began in the previous year continued. The increased volume of business and resultant high production levels contributed to a 24% rise in operating income.

The best earnings advances were delivered by inorganic chemicals, solvents, and plastics.

Exports were up 15% to a record total of $275 million.

Dow's weighted index of U.S. selling prices, which had risen 1.8% in 1971, increased 0.9% in 1972, reflecting the dampening effect of price controls.

Capital expenditures in the U.S. aggregated $213 million, up 29% from 1971. Existing facilities operated at 83% of capacity. Pollution abatement projects totaling $17 million were completed in 1972; these included process improvements as well as waste treatment.

In June, Dow began operating Wanda Petroleum Company, and in December we purchased this large gas-liquids processor and distributor from Ashland Oil, Inc. Although Wanda will continue to serve its normal customers, the purchase was a major step toward becoming more directly involved in the operations that supply fuels and hydrocarbon feedstocks to our manufacturing locations. Another major and highly gratifying event in the energy area was the issuance by the Atomic Energy Commission of a construction permit for the Consumers Power Company nuclear plant in Midland, Michigan, which will service our Midland Plant. Various intervenors have appealed the decision.

During a 12-week strike in the Texas Division, salaried employees operated the complex and were able to set all-time production and safety records. At the much smaller manufacturing location in Bay City, Michigan, a strike began in 1972 and was still in progress at year's end, with the plants being kept in operation by salaried employees, returned strikers, and temporary replacements. Four Dow locations formerly covered by union contracts were converted to all-salaried operations after the hourly employees voted or petitioned in favor of "no union." During 1973, three locations are scheduled for contract renewals. Employment of minority persons – defined by the government as Negroes, Orientals, American Indians, and Spanish Americans – increased from 6.1% of Dow's total U.S. employment to 7.0%; this was a gain of 15%, compared with a 3% rise in our total U.S. employment.

The robust condition of the economy and continuation of the healthy supply-demand balance in the chemical industry indicate another good growth year for Dow's U.S. business in 1973.

EUROPE/AFRICA – Dow's business in Europe/Africa was better than anticipated as the Continent rebounded from the world monetary crisis of 1971. Our European organization was ready with capacity and products, including imports from the U.S., to capitalize on the start of the economic upswing. Sales were up 22% but operating income was held to a 21% rise because of lower profit margins for pharmaceutical operations, particularly in Italy.

Our largest percentage gains were achieved in France and Belgium, in that order. Among products, hydrocarbons experienced the largest percentage increase in sales, followed by plastic molding and extrusion materials.

Following a record year in 1971, Dow's capital expenditures in Europe declined in 1972 to 25% of total Company expenditures, and will be approximately 25% in 1973. Major completions were Phase I of the new complex at Stade, Germany, the second naphtha cracker at Terneuzen, The Netherlands; and expanded fermentation facilities by Gruppo Lepetit S.p.A. in Brindisi, Italy. Existing facilities operated at 89% of capacity and accounted for 81% of Dow's Europe/Africa sales.

Through cost control and price increases, where competitively possible, we are continually working to offset the rising inflationary trend in Europe. With the major part of the startup at Stade behind us, we are in an excellent position to take advantage of the more buoyant European economy and to continue our profit growth.

LATIN AMERICA – Dow's Latin American operations continued their promising growth in 1972 despite unsettling economic and political conditions in some countries. Sales were up 16% and operating income 33%.

Exceptional earnings growth was recorded in Mexico, the Caribbean, Brazil, and Colombia. Among products, *Styron* brand polystyrene, polyethylene, *Tordon* herbicide, and *Ruelene* insecticide experienced the greatest improvement.

The first manufacturing units went on stream at Stade, West Germany, Dow's newest major facility in the world. Stade, near Hamburg, is located on the fringe of the most densely populated area in the Western world – a fact given careful consideration in design of pollution control measures at the site.

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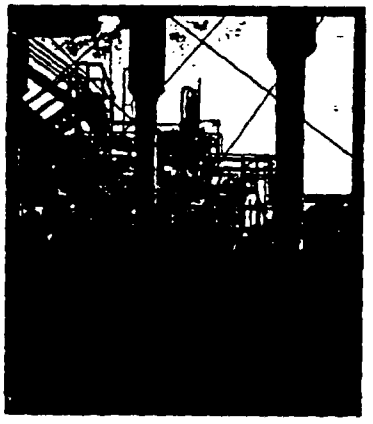

"Big 6," the world's largest chlorine plant, was the biggest addition to Dow's U.S. plant properties in 1972.

Dow extended its strong base in urethane polyols to Brazil, as our 80%-owned Propenasa venture started up its 20,000-ton-per-year plant at Guaruja, Northeast Brazil. It will be the site of a new propylene oxide and glycol complex expected to be operational by late 1975.

In October, the Chilean government seized our two plastics production facilities – Petroquimica-Dow S.A. (70% Dow-owned) at Concepcion and *Dow Quimica Chilena* S.A. (100%) at Santiago. The government claimed the plants were not making deliveries to customers during a nationwide general strike. Dow is actively opposing the seizures in the Chilean courts.

Local production capacity in Latin America continues to grow. At the same time, imports of U.S.-produced products increased 13% in 1972.

Dow expects 1973 to be a strong year in Latin America. Brazil and Mexico will continue their excellent growth, while in other regions the economic outlook should improve substantially.

CANADA – With a gain of 48%, operating income was up sharply for the second consecutive year. Sales advanced 12%.

Economic conditions were improved in all regions of the country and most sectors of the economy. Very good conditions in the construction industry had a favorable impact on our construction materials business. Sales of chlorine and caustic soda for pulp and paper production were very strong, and we were able to increase the range of our product applications in this important industry.

Our Canadian manufacturing facilities, which supplied 78% of the Dow product sold in Canada, operated at 88% of capacity.

Mercury emissions from the main plant of Dow Chemical of Canada Limited at Sarnia, Ontario, are well within Canadian government requirements and are being steadily reduced. In 1972, losses of mercury to the St. Clair River from this site averaged only one-tenth of the government limit. New facilities that will eliminate the problem entirely should be fully operational by mid-1973.

Business conditions throughout Canada are continuing to improve, and Dow Canada expects another good year in 1973.

PACIFIC – Dow's sales in the Pacific increased 20% from the previous year. Operating income was up 36%, significantly higher than the area's historical average. This performance was achieved despite the slow recovery of the Japanese petrochemical industry and a six-month recession in Australia.

Although demand for commodity chemicals remained below expectations in Japan, sales of *Dursban* insecticide, *Cygon* coccidiostat, *Chlorothene* VG solvent, and epoxy specialties maintained our business momentum there.

Strong demand for caustic soda, *Voranol* polyols and mining chemicals made a substantial contribution to fourth-quarter sales in Australia. In New Zealand, sales of *Tordon* herbicide were particularly strong.

Despite national labor union strikes that limited production operations for five weeks, Dow's manufacturing complex at Altona, Australia, supplied 15% of our nonpharmaceutical product requirements in the Pacific.

Business conditions throughout the Pacific are expected to strengthen markedly in 1973. Political stability is at a 20-year high and will provide the foundation for strong economic growth in all of our significant markets.

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Geographic results

(dollars in millions)

Sales

	1972	1971	% Change	1972 – % of Total Company
United States	$1,382.9	$1,194.5	+15.8	57.5
Europe/Africa	591.1	485.3	+21.8	24.6
Latin America	177.7	153.2	+16.0	7.4
Canada	154.7	138.7	+11.5	6.4
Pacific	97.3	81.0	+20.1	4.1
TOTAL	$2,403.7	$2,052.7	+17.1	100.0

Products and Services Operating Income

	1972	1971	% Change	1972 – % of Total Company
United States	$185.2	$149.1	+24.2	51.7
Europe/Africa	100.8	83.4	+20.9	28.2
Latin America	34.4	25.9	+32.8	9.6
Canada	20.9	14.1	+48.2	5.8
Pacific	16.7	12.3	+35.8	4.7
TOTAL	$358.0	$284.8	+25.7	100.0

Gross Plant Properties

	1972	1971	% Change	1972 – % of Total Company
United States	$1,984.1	$1,807.6	+ 9.8	66.6
Europe/Africa	670.1	611.7	+ 9.5	22.5
Latin America	62.8	76.7	−18.1	2.1
Canada	242.4	210.8	+15.0	8.1
Pacific	21.4	16.1	+32.9	0.7
TOTAL	$2,980.8	$2,722.9	+ 9.5	100.0

Capital Expenditures

	1972	1971	% Change	1972 – % of Total Company
United States	$213.4	$165.1	+29.3	59.4
Europe/Africa	88.0	158.3	−44.4	24.5
Latin America	11.6	13.4	−13.4	3.2
Canada	39.7	24.0	+65.4	11.1
Pacific	6.3	3.8	+65.8	1.8
TOTAL	$359.0	$364.6	− 1.5	100.0

Employees (thousands)

	1972	1971	% Change	1972 – % of Total Company
United States	28.9	28.0	+3.2	59.3
Europe/Africa	11.0	11.2	−1.8	22.6
Latin America	5.3	5.0	+6.0	10.8
Canada	2.5	2.5		5.1
Pacific	1.1	1.1		2.2
TOTAL	48.8	47.8	+2.1	100.0

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CHEMICALS – Operating income from inorganic chemicals and derivatives rose substantially. Over-all sales were up moderately.

The major factors were a continuation of the worldwide supply-demand balance and higher prices for caustic soda; a pickup in the U.S. growth rate for the popular plastic, polyvinyl chloride (for which we supply chlorine, ethylene dichloride, and vinyl chloride monomer); and strong gains by *Chlorothene* solvents based on their low toxicity and recycleability as well as increased activity in the metalworking industry.

Also in solvents, our new business in acetone, a co-product of Dow's large new phenol plant in Oyster Creek, Texas, was strong.

Among organic chemicals, phenol sales were up sharply, but operating income was off because of normal startup costs for the new plant. *Voranol* polyols for urethane foams showed exceptional growth.

Over-all chemical intermediate sales increased as the strengthening U.S. economy boosted the demand for chemical "building blocks." Epichlorohydrin and the glycerine products were especially strong performers in the U.S. market.

The ethylene oxides and derivatives business, which had been sluggish in 1971, strengthened on the basis of volume increases and improved manufacturing costs. Sales of magnesium hydroxide for refractories improved in the fourth quarter as the steel industry increased its operating rates.

Sales of ethylene dibromide, used in antiknock fluids for leaded gasoline, registered an unexpected gain, but the long-term trend can only be down. Meanwhile, brominated fire retardants for automobile interiors, construction materials, furnishings, and other uses continued their growth. Thus, as one social concern outmodes one bromine market, another builds an entirely different market.

New safety standards are spurring the development of compounds to make many products fire resistant. Here, a material sample treated with a brominated fire retardant resists burning while an untreated specimen flames brightly.

The 1973 outlook for chemicals is good. Business conditions are expected to be generally favorable throughout the world, and some of our products will be in short supply.

METALS – Sales of primary magnesium, up 10% in the U.S. but down outside the U.S., were about level with 1971. Higher sales are expected in 1973 on the basis of increased automotive business outside the U.S. and continued firming of U.S. demand for magnesium in aluminum alloying, particularly for the high-magnesium alloys utilized in beverage cans.

U.S. competition in the primary magnesium industry, which failed to materialize as expected in 1972, is emerging in 1973.

Our magnesium graphic arts business grew very strongly in 1972, principally as the result of increased use of the Dow powderless etching process and *Dowetch Deadline* photoengraving plate by newspapers.

PLASTICS – Global sales and operating income of Dow molding and extrusion resins rose substantially. *Styron* polystyrene was the major contributor. A very strong performance also was registered by *Tyril* styrene-acrylonitrile resins, used in a variety of household and automotive products where exceptional resistance to chemicals is important.

Following the 1971 banner year for low-density polyethylene, operating income from this product gained modestly in 1972. Results for high-density polyethylene were adversely affected by price attrition (which by year end had corrected itself) and by the normal startup costs for a new manufacturing facility at Tarragona, Spain.

Sales and operating income of coatings materials made good gains. Epoxy resins and vinyl chloride monomer were the group's outstanding performers.

Dow's plastic foams experienced across-the-board growth in 1972. *Styrofoam* brand plastic foam, in particular, had an outstanding year in all major use classifications. In a promising new development, the first of what may prove to be a series of ships is being outfitted in Norway with cryogenic tanks insulated with *Styrofoam* for the shipment of liquefied natural gas from the major producing areas to the highly industrialized centers of the world.

PACKAGING – Operating income rose sharply on a moderate sales increase, with major contributions from commercial films.

Polyfilm polyethylene film achieved a significant market share of the shrink overwrap market. Used for packaging of a wide variety of food, beverages, and industrial products, *Polyfilm* offers lower cost and reduced waste as major advantages.

Trycite polystyrene film and *Dow* Window Film were sold out in 1972. A significant addition to capacity was started up in January 1973, and another is planned for later in the year. The shift from glassine to plastic film by major window-envelope manufacturers provided the impetus for the sales and earnings growth of these products.

New end-use market acceptance for pouch-packaged liquids and club-packaged fresh ground beef resulted in a tight supply situation for *Saranex* co-extruded multilayered

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Product results

(dollars in millions)

	Sales			Products and Services Operating Income			Capital Expenditures		
	1972	1971	1972 – % of Total Company	1972	1971	1972 – % of Total Company	1972	1971	1972 – % of Total Company
Chemicals/Metals.....	$1,169.0	$1,006.6	48.6	$156.3	$123.9	43.6	$278.2	$291.2	77.5
Plastics/Packaging...	789.6	647.1	32.9	154.5	109.1	43.2	49.1	43.5	13.7
Bioproducts/ Consumer Products..	445.1	399.0	18.5	47.2	51.8	13.2	31.7	29.9	8.8
TOTAL.....	$2,403.7	$2,052.7	100.0	$358.0	$284.8	100.0	$359.0	$364.6	100.0

film. Additional production facilities are being scheduled for early 1974.

LIFE SCIENCES – Dow's world-wide human health business experienced a decline in operating income on a modest sales gain. Bio Science Enterprises had another good year, but profit margins declined in the operations of Gruppo Lepetit S.p.A. Start-up costs for new manufacturing facilities for *Rifadin* antibiotic and increased labor costs in Italy's inflationary economy were major factors in the decline. Non-product and services income from royalties from *Rifadin* and the sale of certain manufacturing facilities offset the decrease in operating income.

The medical significance of *Rifadin* for use in pulmonary tuberculosis therapy was reflected in increased sales in such important markets as North America and Japan. Dow cough cold products enlarged their share of the U.S. market. Sales of *Lirugen* one-shot measles vaccine increased, particularly in Latin America.

Expenditures for research were substantially increased. Lepetit expanded its entry into the medical-surgical field with products based on unique technology for orthopedics, implants, and asepsis control, of which an example is the introduction in Italy of *Panasept* cold sterilizing agent for operating rooms. Lepetit acquired several cosmetics companies in Brazil and Mexico with the aim of increasing market penetration with clinically safe products.

AGRICULTURAL PRODUCTS – Sales and operating income both rose in 1972. Intense competition lowered profit margins of coccidiostats for the control of poultry disease. However, phenoxy herbicides, *Tordon* herbicide for rangeland brush control, and *Dursban* insecticide helped expand margins for the over-all agricultural products business. *Dursban* was used increasingly in 1972 to control the cotton leafworm in Turkey and Egypt.

Plictran miticide, a joint development with M&T Chemicals Inc., was registered for U.S. use by the Environmental Protection Agency and continued its strong market penetration abroad. The product controls fruit-damaging mites but causes little harm to beneficial insects.

Overall, Dow's agricultural products business continued to thrive in the face of stricter governmental regulation worldwide.

CONSUMER PRODUCTS – Sales were slightly ahead of 1971. However, start-up costs for the new plant for *Saran Wrap* brand plastic film and a prolonged strike at the manufacturing locations for *Handi-Wrap* brand plastic film and *Ziploc* brand plastic food storage bags prevented an increase in operating income. Our total share of market for household film wraps was maintained in the U.S. and Canada. The global marketing base for our plastic wraps will be broadened in 1973 with additional distribution in Europe and the Pacific.

Dow's home-care products enjoyed their highest sales volume to date, and further growth is expected in 1973.

DOWELL DIVISION – In its 40th anniversary year, Dowell recorded substantial gains in both revenues and operating income. The division benefited from greatly expanded drilling for natural gas that followed the increase in wellhead prices. Oil-drilling rigs also were increasingly active. The forthcoming new round of government offshore leasing is expected to increase drilling activity still further and with it the market for Dowell's well-treating services.

ST0004643

Pollution control guidelines go global



In 1972, Dow issued Global Pollution Control Guidelines for all of its manufacturing operations throughout the world.

The guidelines establish the following principles with particular reference to water, air and noise pollution:

1. Each Dow site will meet Dow guidelines or local government standards, whichever are tougher.

2. At every Dow site, at least one competent person will be assigned to coordinate the environmental function.

3. Pollution control will be one of the factors considered in evaluating every line manager's job performance (along with safety, product quality, Equal Employment Opportunity, and productivity).

4. Capital authorization requests must include plans for preventing waste problems.

5. Each site will have programs to contain accidental spills and emergency plans to minimize their environmental impact.

6. Dow landfills will be managed in such a way as to make land reclamation possible.

7. Deep wells are *not* a long-term solution for waste problems except for brine recycling and disposal of salt water.

8. Ocean disposal of waste materials is *not* acceptable except for spent brine or salt water, where we return like to like.

9. Dow will periodically repeat basic environmental analyses to establish natural, or baseline, levels and to verify if changes have occurred.

10. Since no discharge standard is adequate for all time, Dow plants will determine the need for continuing improvement.

11. Dow will continue to cooperate with enforcement agencies to develop effective and realistic environmental standards.

Ecology Councils in each of the Company's five geographic areas will oversee implementation of the guidelines in cooperation with the Corporate Ecology Council. The latter group includes the president or general manager of each area.

Mallards used in ecology impact studies are a common sight in the effluent streams of Dow's Louisiana Division. The ducks also are frequently seen on the plant's streets, where they have the right of way.

ST0004644



A concern for products from proposal to disposal

Dow in 1972 intensified its stewardship over the products it makes.

Dow's "Product Stewardship" program represents the coordination and acceleration of a number of ongoing activities, some of 40 years' or more standing. Their purpose is "responsible care" for Dow products.

Dow management has instructed employees to use their best efforts to design, produce, and market products that are not harmful to the health of customers, or to public health, or to the general environment. This includes careful instructions as to the safe use of every Dow product.

Customers are being given more uniform and detailed guidance on the use and disposal of Dow products. Toxicological properties and handling characteristics of chemicals are being emphasized more than ever – in a field which Dow has pioneered since the 1930's.

Dow's Research and Development personnel have been asked to emphasize even more in their project selection the essential characteristics of the end product or processes which will enable safe handling, use and disposal. Strong manufacturing and marketing involvement are also required. In fact, the dedicated participation of every Dow employee is essential.

Other activities included under Product Stewardship are adherence to Dow's safety standards, provision for the safe packaging and safe shipment of products.

Equally important are the profit opportunities in Product Stewardship. The market for environmentally safe, technically sound products is increasing.

Product Stewardship in Action – A Dow-developed compound performed exceptionally well as a barnacle preventive in marine paints but flunked this ecology test. Dow shelved the product for the application after the Company's ecological testing program demonstrated that after leaching from the paint it bioaccumulates in algae, thus getting into the aquatic food chain.

ST0004646



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GIANT IN TEXAS *Freeport, Texas* – Chlorine 6, the world's largest chlorine production plant and the sixth to be built in the Texas Division, came on stream. Affectionately dubbed "Big Six" by the men who run her, the new plant includes a caustic waste recycling process and other new systems to protect the environment. The plant was the largest U.S. project completed in a year that saw Dow's U.S. capital spending again exceed expenditures in foreign countries.

STARTUP AT STADE *Stade, Germany* – First phase of Dow's new chemical complex was completed early in 1973. The first production units, costing in excess of $100 million, include chlor-alkali and solvents facilities. The total investment at Stade is expected to reach $250 million by the end of 1975.

CONFERENCE ON CANCER *Cuernavaca, Mexico* – Fifty molecular biologists from seven countries participated in a symposium on cancer and other cell abnormalities sponsored by Gruppo Lepetit S.p.A., Italian-based international pharmaceutical manufacturer majority-owned by Dow. Lepetit is the creator of *Rifadin* antibiotic used in pulmonary tuberculosis therapy. Derivatives of the antibiotic on which *Rifadin* is based are being studied for their effect on possible viral forms of cancer.

It is often, and truthfully, said that its employees are a company's greatest asset. In 1972, talented newcomers to Dow and its affiliates increased the Company's "people assets" both in the U.S. and abroad. Among them was Chon Chang Song, shown with his wife Yoo Young Ja and their daughters Hae Jung and Hae Sun in their home in Ulsan, Republic of Korea. Mr. Chon is a technical clerk with Korea Pacific Chemical Corporation, a Dow joint venture company, which completed a new petrochemical plant near Ulsan.

SUPPORT FOR SCRANTON *Scranton, Pennsylvania* – Dowell Division of Dow Chemical U.S.A. commenced a demonstration project to backfill worked-out coal mines beneath a 20-acre area of this city to prevent surface cave-ins.

ON TWO CONTINENTS *Guarujá, Brazil, and Altona, Australia* – The first plants in South America and Australia for the production of polyether polyols, a major component of urethane foams, were started up by Dow. The Company's polyols for urethanes are sold worldwide under the trademark *Voranol*.

FOR THE RECORD BOOK *Terneuzen, The Netherlands* – The second giant naphtha cracker at Dow's chemical complex here produced high-quality ethylene only 23 hours after going on stream. The cracker also demonstrated the ability to operate at *100%* of designed rate during its first year.

PLANTING AT THE PLANTS *Sarnia, Ontario, and Midland, Michigan* – In a new aspect of environmental responsibility, Dow Chemical of Canada, Limited, launched a program of grass, shrub and tree planting to enhance the appearance of its manufacturing locations. Plans for a similar "green belt" program were announced by Dow's plant in Midland, Michigan, as a lasting memento to the Company's 75th anniversary year.

BIRD COUNT UP *Freeport, Texas* – The area within which Dow's Texas and Oyster Creek Divisions are located produced a new record of 226 species in the Audubon Society's annual bird census. This was the high mark for the entire U.S.

TESTED AND APPROVED *New York* – Dow was selected as one of five winners of *Business Week* Awards for Business Citizenship. The judging period covered the year 1971. Dow was chosen for its work in environmental improvement.



This Scranton house is a victim of a subsidence problem that a Dowell project is designed to combat.

STREAMLINED PLANT FOR FAMOUS FILM *Midland, Michigan* – *Saran Wrap* brand plastic film is observing its 20th anniversary in a new home. Formerly produced in a converted metals fabrication plant, Dow's oldest consumer product moved in September, 1972, to a new building designed from the ground up for its prestigious tenant.

ST0004648

Research: filling needs around the world

In Indonesia, a farmer is gratified to find that his rice harvest last year was his best ever—one reason being that *Dursban* insecticide has been enormously effective.

In West Germany, a worker uses a solventless, powdered coating for automotive parts instead of a conventional paint thinned with a hydrocarbon solvent. This new coating system eliminates a pollution problem (when a hydrocarbon solvent is used, the hydrocarbon is vented to the atmosphere from paint drying ovens) while achieving a superb finish.

In Canada, a student opens a new textbook and is impressed by the quality of the locally made paper—which, incidentally, is coated with a styrene-butadiene paper grade latex.

And in Brazil, a crew of workers installs impact-resistant pipe made from PVC (polyvinyl chloride) which utilizes *Dow* CPE (chlorinated polyethylene) as the impact modifier. Because of the pipe's exceptionally rugged qualities, it will serve that industrial area well for many years to come.

The point of these few examples is obvious. Increasingly, results of research and development by Dow scientists in the United States and elsewhere are filling real needs and improving the quality of life throughout the world.

During 1972, Dow spent more than $100 million on research—a record for the Company. With the exception of drug research (much of which is carried out by Lepetit S.p.A., one of Italy's largest pharmaceutical manufacturers and a part of Dow's Life Sciences Department) almost all of Dow's research is based in the United States. In other parts of the world, the emphasis is on development work aimed at adapting the results of U.S. research to fit local needs and conditions.

Increasingly, European autos utilize molded seats of urethane flexible foam (which uses Voranol polyether polyols). More recently, U.S. automakers have become interested in the same application for U.S.-produced autos.

Laboratories geared primarily for developmental work are located in such widely separated locations as Horgen, Switzerland; Sarnia, Canada; and Altona, Australia. Their primary objective is to make the results of Dow research fit local situations.

Often, the developmental work that is necessary is both difficult and delicate.

For example, the paper coating market is particularly important to Dow in various parts of the world. Dow's latex coatings are useful in each of these separate world markets, so long as modifications are made.

In Europe, paper has different characteristics than paper made in the U.S. simply because different types of wood are used. In addition, European paper generally has a very thin base sheet, which means that far more performance is expected out of the coating than is expected in the U.S.

Dow Europe solves the adaptability problem by the use of a large pilot coater located at the Horgen laboratories. The coater is capable of utilizing a customer's base stock with the particular coating he prefers, just as individual drying conditions, calendering factors, and printing conditions can be simulated. Thus, the results of U.S. research are greatly expanded in terms of usefulness.

Localized development of agricultural chemicals is necessary because of varied growing conditions and farming practices. Also, government registration requirements differ from country to country.

In a few instances, Dow has been able to sell products outside of the U.S. first, even though the research has been done in the U.S. For example, *Coyden* coccidiostat passed the registration requirements of several nations before gaining registration in the U.S.

In some cases, the development work carried out in other parts of the world becomes highly useful in the U.S. An example which shows signs of becoming a classic of its kind involves the use of urethane foams in automobile seats.

Several years ago, European auto makers became interested in utilizing molded seats of urethane flexible foam (which uses *Voranol* polyether polyols). Dow scientists in the U.S. had already done a great deal of work on the foam, but it was up to developmental personnel at Horgen to meet the European auto makers specifications. They succeeded handsomely, and one result is that the foam is now found in many European autos. Another result is that their work has given Dow an edge with American auto firms, which more recently have become interested in the same application for U.S.-produced autos.

Dow's corporate director of Research, Dr. Julius E. Johnson, is convinced that in the case of Dow, it makes sense to continue to carry out most of the Company's research effort in the U.S.—but to continue to strengthen localized developmental work to meet special needs.

"In fact, it's a necessity," he says. "The cost of research has increased so much in recent years that it is essential to get maximum utilization of the results of our R&D effort. Without localized development work throughout the world, we wouldn't be able to afford to spend almost 5% of our total sales on research. But as matters stand, we're getting a good return on our investment."

ST0034650

Partly owned companies

Dow's share of the sales of 20%-50% owned companies totaled approximately $410 million, up 17% from 1971. Dow's equity in the net income of these companies, which is consolidated in our financial statements, was $25.2 million, compared to $18.9 million in 1971, both before extraordinary items.

Dow Badische Company and its subsidiaries experienced another good year in 1972. Sales of caprolactam (a raw material of nylon-6) and other chemicals were strong. Fiber sales growth (nylon, polyester, and acrylics) exceeded the industry rate.

Dow Badische fibers became fully competitive on a quality basis, and cost improvement received continued emphasis. Of special interest was the improved financial performance of Dow Badische's carpet-fiber products and the acceptance by the industry of the concept of static control in carpeting based on *Zefstat* anti-static yarn. Bentex Mills, Inc., a 90% Dow Badische-owned double-knit facility, underwent a tripling of capacity with accompanying startup costs, but profit improvements are now evident.

Dow Corning Corporation generated sales and operating income significantly above 1971. All nine Dow Corning businesses showed improvement. In Europe, productivity increases continued within the former Midland Silicones operation, which was acquired by Dow Corning in 1971. One Dow Corning joint venture, Shin-Etsu Handotai, continued as the leading semiconductor manufacturer in Japan, another, Toray Silicone, grew more rapidly than Japan's silicone industry.

Dow Corning purchased the technology and all tangible assets of the soft silicone contact lens portion of Mueller-Welt Corporation. An expanded line of industrial sealants and mold making materials was successfully introduced.

Dow Corning Bathtub Caulk in decorator colors more than doubled its anticipated first-year sales. A significant new "tough rubber" silicone technology was launched. New products introduced during 1972 ran 26% ahead of 1971 and continue to account for an increasing share of the company's total sales.

The artificial kidney manufactured and marketed by **Cordis Dow Corp.** met with excellent acceptance for both home and dialysis-center use. A plant based on a new and more efficient manufacturing process was to begin operation in the spring of 1973 at Miami Lakes, Florida. Cordis Dow is a joint venture of Dow and Cordis Corporation, of Miami.

Oasis Pipeline Company (30% Dow owned) completed its 36-inch pipeline from West Texas to Houston and began delivering natural gas at nearly full capacity ahead of schedule. Through the Oasis system, Dow is assuring itself of a long-term gas supply for its production facilities at Freeport, Texas.

Dowell Schlumberger, which performs the same oil-field services in the rest of the free world as our Dowell Division in North America, reported substantial earnings growth. Operations in Argentina, Brazil, and Indonesia were particularly outstanding.

Dow sold its 50% interest in **Poliolefinas Colombianas S.A.**, which manufactures polyethylene at Barrancabermeja, Colombia, to the Colombian government, holder of the other 50% interest.

In its 20th anniversary year, **Asahi-Dow Ltd.** had one of the best earnings records of any chemical company in Japan, but earnings were off slightly because of the general recession in that country's chemical industry.

Late in 1972, successful test operations of the low density polyethylene and vinyl chloride monomer plants of **Korea Pacific Chemical Corporation** at Ulsan, Korea, were carried out. Near capacity commercial operations are planned for all of 1973. The company is a joint venture of Dow and Chungju Fertilizer, a Korean government enterprise.

Consolidated Fertilizers Ltd. in which Dow holds a 20% interest, enjoyed buoyant sales as the result of strong demand in world markets for Australian primary agricultural products. The company, which was formed in 1971, made good progress toward profitable operation.

ST0004651

Consolidated Statement of Income

The Dow Chemical Company and Subsidiary Companies

	Year Ended December 31	
	1972	1971
Products and Services		
Net sales	$2,403,709,379	$2,052,711,344
Operating costs and expenses:		
Cost of sales	1,760,779,411	1,517,253,844
Selling and administrative	284,938,970	250,706,483
	2,045,718,381	1,767,960,327
Products and services operating income	357,990,998	284,751,017
Non-Products and Services		
Investment and financial:		
Profit (loss) on investment turnover	(1,391,813)	4,442,978
Income from sundry investments	2,766,499	3,052,358
Equity in earnings of non-consolidated subsidiaries	4,035,377	2,777,858
Administrative expenses	(1,456,533)	(1,767,849)
	3,953,530	8,505,345
Equity in earnings of associated companies and minority investments exceeding 20%	25,214,716	18,923,896
Interest expense – net	(85,834,176)	(78,516,402)
Sundry income – net	22,709,166	16,456,403
Non-products and services loss	(33,956,764)	(34,630,752)
Income Before Provision for Taxes on Income	324,034,234	250,120,265
Provision for Taxes on Income	127,100,000	91,000,000
Income Before Minority Interests	196,934,234	159,120,265
Minority Interests' Share in Income	7,963,037	4,726,821
Income Before Extraordinary Items	188,971,197	154,393,441
Extraordinary Items – Net of Tax	217,709	335,688
Net Income	$ 189,188,906	$ 154,729,129
Earnings per Share		
Income before extraordinary items	$4.14	$3.40
Extraordinary items – net of tax		.01
Net Income	$4.14	$3.41

See Accounting Principles and Notes to Financial Statements

STD 7652

Consolidated Balance Sheet

The Dow Chemical Company and Subsidiary Companies

ST0004653

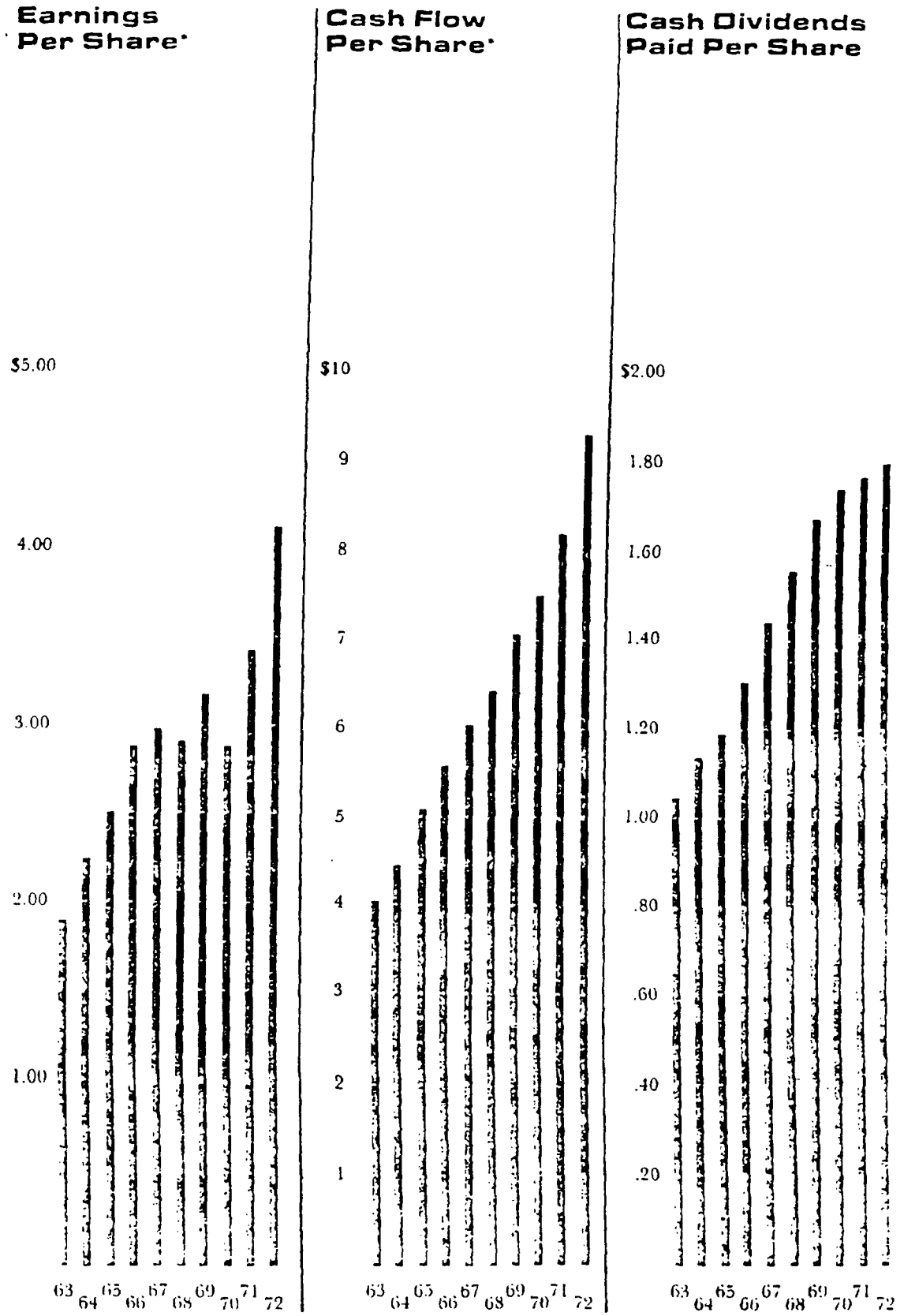
ASSETS	December 31 1972	1971
Current Assets		
Cash	$ 19,682,558	$ 40,501,724
Marketable securities and interest-bearing deposits (at cost – approximately market)	142,837,705	65,612,213
Accounts and notes receivable:		
Trade, less allowance for doubtful receivables (1972, $12,500,820; 1971, $10,749,008)	475,008,228	368,435,898
Miscellaneous	108,396,543	125,829,174
Deferred income tax benefits	12,044,690	10,091,608
Inventories:		
Finished and in process	303,863,266	279,732,535
Materials and supplies	119,994,216	115,727,122
	1,181,827,206	1,005,930,274
Investments		
Capital stock – at cost plus equity in accumulated earnings (less reserves – 1972, $1,985,488; 1971, $1,508,662):		
Banking and insurance subsidiaries	41,828,545	38,655,829
Associated companies (50% owned)	164,392,066	177,489,541
Other	50,602,868	30,984,225
Sundry – at cost (less reserves – 1972, $3,217,251; 1971, $1,947,736)	44,747,309	50,917,952
Noncurrent receivables (less reserves – 1972, $2,679,614; 1971, $2,313,328)	52,275,398	88,302,339
	353,846,186	386,349,886
Plant Properties	2,980,845,425	2,722,899,185
Less – accumulated depreciation	1,331,177,286	1,158,792,051
	1,649,668,139	1,564,107,134
Goodwill	79,890,532	77,523,487
Deferred Charges and Other Assets	47,496,382	45,096,692
TOTAL	$3,312,728,645	$3,078,807,399

See Accounting Principles and Notes to Financial Statements

ST0004654

LIABILITIES	December 31 1972	1971
Current Liabilities		
Notes payable	$ 269,646,540	$ 368,264,346
Long-term debt due within one year	37,613,103	35,180,686
Accounts payable	218,935,508	180,513,967
United States and foreign taxes on income	101,681,612	56,431,754
Accrued and other current liabilities	170,145,274	151,118,123
	798,022,037	791,508,876
Long-Term Debt	1,094,047,875	1,010,136,133
Other Liabilities and Reserves		
Minority interests in subsidiary companies	38,339,482	34,665,997
Deferred employee benefits	29,800,839	26,262,248
Deferred investment grants	1,177,640	8,248,031
Deferred income taxes	14,961,015	5,950,490
Loss on foreign investments	6,000,000	5,000,000
	90,278,976	80,126,766
Stockholders' Equity		
Common stock (1972 – issued, 48,252,071 shares)	241,260,353	239,095,170
Capital surplus	542,797,165	520,935,018
Retained earnings	657,817,916	553,448,631
	1,441,875,434	1,313,478,819
Less – Treasury stock at cost (1972 – 2,358,285 shares)	112,395,677	116,443,203
	1,329,479,737	1,197,035,616
TOTAL	$3,312,728,645	$3,078,807,391

See Accounting Principles and Notes to Financial Statements



*Before extraordinary items

ST0004655

Consolidated Statement of Capital Surplus
Consolidated Statement of Retained Earnings

The Dow Chemical Company and Subsidiary Companies

ST0004956

CAPITAL SURPLUS	Year Ended December 31 1972	1971
Balance at Beginning of the Year	$520,935,018	$585,046,077
Add (Deduct):		
Excess of selling or market price over par value of common stock issued to employees	21,368,281	15,189,085
Excess of face value of debentures over par value of common stock issued on conversion	189,252	313,951
Transactions related to acquisition of subsidiaries	104,614	
Transfer to common stock relative to three-for-two stock split		(79,614,095)
Balance at End of the Year	$542,797,165	$520,935,018

RETAINED EARNINGS	Year Ended December 31 1972	1971
Balance at Beginning of the Year	$553,448,631	$479,779,007
Add (Deduct):		
Net income	189,188,906	154,729,129
Adjustments related to consolidation of subsidiaries	189,291	(31,943)
Retirement of treasury shares	(2,677,183)	
Cash dividends	(82,331,729)	(81,027,562)
Balance at End of the Year	$657,817,916	$553,448,631

See Accounting Principles and Notes to Financial Statements

Consolidated Statement of Changes in Financial Position

The Dow Chemical Company and Subsidiary Companies

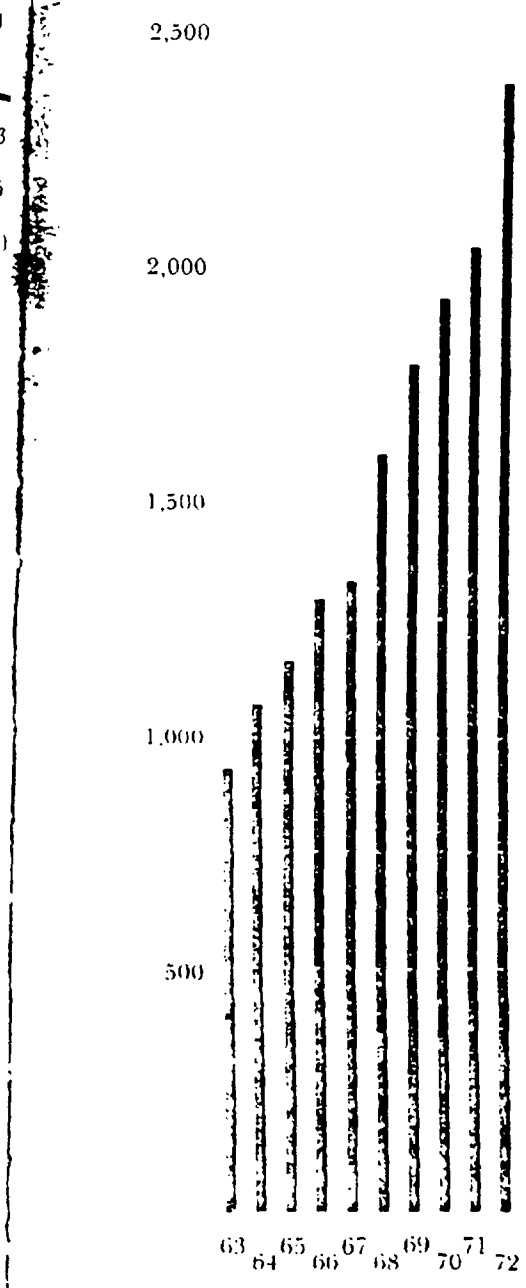
ST0004657

	Year Ended December 31 (in thousands)	
Source of Working Capital	**1972**	**1971**
Net income before extraordinary items	$188,971	$154,39
Charges (credits) to income not involving working capital:		
Depreciation	234,886	218,75
Equity in earnings of non-consolidated companies, less dividends received	(23,335)	(14,61
Other—net	9,835	16,68
Proceeds from sale of investments, less gains reflected in net income	16,325	10,406
Provided from operations	426,682	385,624
Extraordinary items	935	9,317
Issuance of debentures	100,000	26,000
Decrease (increase) in noncurrent assets	49,014	(10,736)
Sale of common stock to employees	23,700	16,538
Increase in other liabilities and reserves	5,480	8,263
Disposal of plant property and sundry	18,274	5,312
	624,085	440,35
Use of Working Capital		
New plant and equipment	358,993	364,66
Cash dividends	82,332	81,02
Purchase of treasury stock		21,05
Decrease (increase) in revolving credit and other long-term debt	2,088	(11,48
Increase in deferred charges and other outlays	8,082	10,95
Acquisitions of subsidiaries and purchase of minority interests	2,506	14,93
	454,701	481,09
Increase (Decrease) in Working Capital	$169,384	$(40,77
Increase (Decrease) in Current Assets		
Cash and marketable securities	$ 56,406	$ 27,471
Receivables	86,140	55,656
Deferred taxes	1,953	3,750
Inventories	28,398	27,229
Decrease (Increase) in Current Liabilities		
Notes payable and current portion of long-term debt	96,185	(112,20
Accounts payable	(38,421)	(29,04
Income taxes and accruals	(64,277)	(12,60
Increase (Decrease) in Working Capital	$169,384	$(40,77

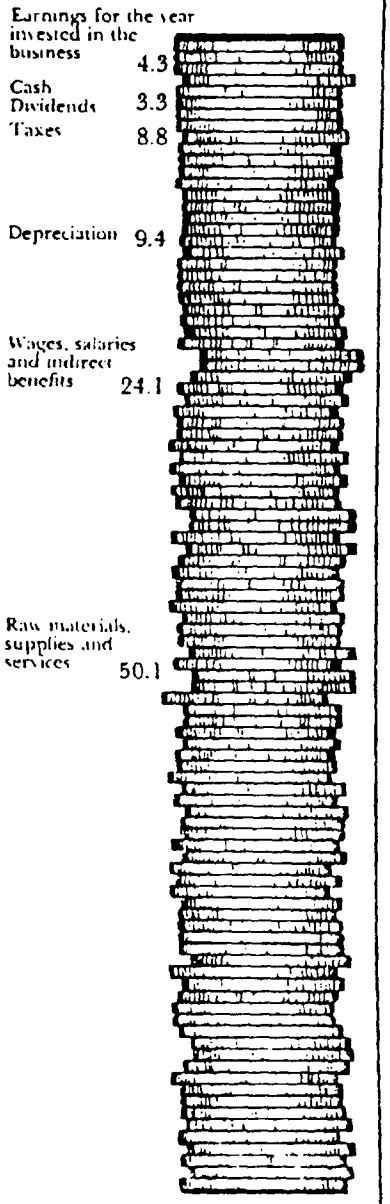
See Accounting Principles and Notes to Financial Statements

Sales

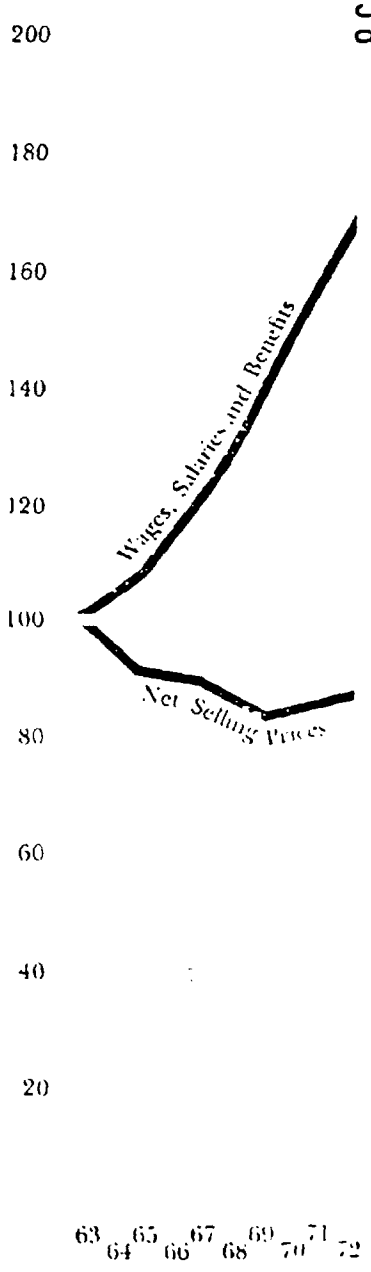
(millions of dollars)



Distribution of 1972 Income Dollar



Dow Wage/Selling Price Index (U.S.)



ST0004658

Accounting Principles

ST0004659

Consolidation The assets, liabilities, revenues and expenses of all significant subsidiaries are included in the accompanying consolidated statements, except for banking and insurance subsidiaries, both wholly owned. Because of the nature of their operations, the accounts of the bank and insurance company are not consolidated. However, their earnings are included in consolidated net income under the equity method of accounting.

Investments in companies which are 20%-50% owned are carried on the equity basis. Other investments are carried at cost.

Translation of Foreign Currencies Property in foreign countries is translated into United States dollars at the exchange rates which prevailed at the dates the assets were acquired. All other assets and liabilities are translated generally at current rates of exchange. Revenues and expenses are translated at the average exchange rates for the year, except that depreciation reflects the historical rate. Wherever available, the parities established by the International Monetary Fund are used as the current rate. Where parities have not been established, appropriate year-end commercial rates are used. All translation gains or losses attributable to currencies of developing countries (principally Latin America) are credited or charged to income currently. In developed countries, gains or losses on translation of long-term debt, net of losses or gains on translation of assets and other liabilities, are deferred and amortized over the life of the debt.

Inventories Finished materials and work in process are stated at standard costs, which approximate the current production costs, or market if that is lower. Standard cost includes labor, material, depreciation and other overhead. Raw materials and supplies are stated at cost under the first-in, first-out method.

Plant Properties and Depreciation Properties are carried at cost less accumulated depreciation. For book purposes, depreciation is based on the estimated service lives of depreciable assets. For tax purposes, depreciation on United States facilities acquired after January 1, 1971 is based on asset lives established under Class Life Depreciation guidelines. Depreciation is computed using the declining balance method in the United States and Canada. In other countries, the straight line method is generally used.

Expenditures for renewals and betterments are capitalized, and maintenance and repairs have been charged to income.

Generally, assets that are fully depreciated have been eliminated from property and the reserve for depreciation at the end of each year. In 1972, the Company adopted the practice of retaining on the books those assets which became fully depreciated in 1972 but still remain in use. In the case of disposals, the assets and related reserves are removed from the accounts and the net amount, less proceeds from disposal, is charged or credited to income.

Goodwill The excess of the cost of investments in consolidated subsidiaries over carrying value of assets acquired is shown as goodwill. Goodwill arising after October 1970 is amortized over 40 years. In the opinion of management, goodwill arising prior to that date requires no amortization.

Retirement Plans The Company and certain subsidiaries have plans to provide retirement benefits for eligible employees. The major plan covers substantially all full time employees. The policy is to accrue and fund pension cost as computed by an actuary.

Investment Turnover The profit or loss resulting from the disposal of assets held for investment and resale is segregated in the statement of income as investment turnover.

Taxes on Income and Investment Credits The companies compute and record income taxes currently payable based upon their determination of taxable income which may be different from pretax accounting income. These differences may arise from recording in pretax accounting income transactions which enter into the determination of taxable income in another period. The tax effect of these timing differences is recognized by adjustment currently to the provision for taxes.

Provision is made for income taxes on unremitted earnings of subsidiaries and 20%-50% owned companies as required under United States income tax laws, or as such earnings are determined not to be permanently invested.

Laws governing the determination of United States and certain foreign income taxes provide for investment credits or allowances which are deductible generally upon completion of qualified facilities. Such credits are reflected as a reduction of income tax expense on the flow-through basis in the year in which they are deductible.

In addition to tax credits, certain foreign countries provide investment incentives in the form of tax-free grants which offset development and start-up expenses of new facilities to which they relate. The excess, if any, of grants earned over expenses incurred are amortized over the life of the facilities.

Research and Development All research and development costs are charged to income as incurred.

ST0004660

A. Consolidated Group During 1972, the Company acquired several small subsidiaries, two of which were accounted for as poolings of interests. The effect of these acquisitions on the results of current and prior years' operations was not material.

Unremitted earnings of subsidiaries and 20%-50% owned companies represent approximately two-thirds of consolidated retained earnings at December 31, 1972. Substantially all unremitted earnings are permanently invested in manufacturing and selling operations. Consequently, the remittance thereof is indefinitely postponed.

B. Investments The Company's equity in the net assets of investments accounted for by the equity method approximates the carrying value of such investments.

C. Extraordinary Items A summary of significant extraordinary items, net of the related income tax is shown below.

	(In millions) 1972	1971
Gain on disposition of subsidiary and associated companies		$ 8.2
Plants and projects abandoned	$(1.9)	(9.7)
Equity in extraordinary items of 20%-50% owned companies—net	3.1	3.4
Other	(1.0)	(1.6)
Net income after tax	$ .2	$ .3

The Company continued in 1972 its program of phasing out its chlor-alkali facilities in Canada to eliminate the use of mercury in its operations. Accordingly, income for 1972 was charged with $1,919,338 after tax as compared with $4,338,362 after tax in 1971.

D. Goodwill Amortization of goodwill arising after October 31, 1970 was not material.

E. Plant Properties Properties and accumulated depreciation at December 31, 1972 were:

Classifications	*(In thousands)* *Cost*	*Accumulated Depreciation*
Land	$ 64,224	
Land and waterway improvements	83,690	$ 29,121
Buildings	314,008	140,060
Machinery and other equipment	2,200,102	1,109,513
Wells and brine systems	41,421	24,008
Furniture and fixtures	32,560	17,619
Other	19,710	10,856
Construction in progress	225,130	
Total	$2,980,845	$1,331,177

F. Long-Term Debt and Available Credit Facilities Details of long-term debt were:

	(In thousands) December 31 1972	1971
Promissory notes:		
4.5%, final maturity 1990	$ 105,000	$ 110,000
5.0%, final maturity 1991	88,000	92,000
Debentures:		
4.35%, final maturity 1988	71,950	75,928
6.70%, final maturity 1998	96,000	100,000
7.75%, final maturity 1999	100,000	100,000
8.875%, final maturity 2000	150,000	150,000
8.90%, final maturity 2000	150,000	150,000
7.40%, final maturity 2002	100,000	
Debentures, subordinate convertible, 3% due 1982 (1972 – 14,318 common shares reserved)	505	728
Note payable under revolving credit agreement, due 1975 (total available facilities $110,000,000)*	-	30,000
Other (various rates and maturities):		
Foreign currency loans	176,925	149,816
Dollar loans	58,232	51,664
	1,096,612	1,010,136
Less unamortized debt discount (1971 discount of $1,810,000 was included in deferred charges)	1,664	
Total	$1,094,948	$1,010,136

** In addition to the $110 million of unused credit under this agreement, there is $179 million of committed credit available under agreements with various United States banks. The Company also has 900 million Deutsche marks available from the 1.0 billion Deutsche mark agreement with a group of major German banks.*

The promissory notes and debentures are payable generally in annual installments beginning at various dates. Installments (stated in millions) due on long-term debt in the five years after 1972 are: 1973, $37.6; 1974, $37.5; 1975, $47.8; 1976, $79.0; 1977, $41.9.

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G. Stockholders' Equity At December 31, 1972, authorized capital stock consisted of 100,000,000 common shares and 25,000,000 preferred shares of $5 and $1 par per share, respectively.

The changes in the number and amount of issued shares of common stock during 1972 were:

	Shares	*Amount*
Issued January 1	47,819,034	$239,095,170
Sold to employees	426,296	2,131,480
Conversion of debentures	6,741	33,703
Issued December 31	48,252,071	$241,260,353

At December 31, 1972, there were 45,893,786 shares of common stock outstanding, after deducting 2,358,285 shares of treasury stock. No preferred shares have been issued.

In 1972, stockholders authorized the 1972 Option Plan which permits the granting during the ensuing five years to officers and key employees options to purchase 750,000 shares of common stock at the fair market value at date of grant. Stockholders authorized similar plans in 1967 and 1964. The 1964 Plan also provided for the granting of Dividend Units. Options for 7,500 shares outstanding under the 1964 Plan were exercised in 1972. Changes during 1972 in Dividend Units and in the number of shares optioned under the 1972 and 1967 plans were:

	1972 Option Plan	*1967 Option Plan*	*Dividend Units**
Outstanding January 1		514,890	92,880
Granted	193,700	20,750	7,240
Exercised		197,037	
Expired or terminated		861	
Outstanding December 31	193,700	337,722	100,120
Not optioned December 31	556,300		274,880
Price range on outstanding options at December 31	$88.56 to 97.38	$40.96 to 91.63	

** A dividend unit is the right to receive for a specified period cash payments equivalent in value to cash dividends paid during such period on one share of common stock.*

The Company's Award Plan permits the granting, during the ten-year period ending May 1979 of 525,000 shares of Restricted or Deferred Stock, or a combination thereof, to selected employees in lieu of cash for services. During 1972, 3,660 shares of Deferred Stock were awarded; no Restricted Stock was issued. At December 31, 1972, there were 164,370 shares available for grant. The Plan also extended to May 1979 the previous authority for granting dividend units.

A management incentive plan provides for granting to key employees, including officers and directors, incentive awards which are related to consolidated net income. Awards may be made in cash, Dividend Units, Deferred Stock and Restricted Stock, or a combination thereof. The aggregate amount charged to expense under this plan in 1972 and 1971 was $1,869,524 and $868,750, respectively.

In May 1972, the Company made an offering of common stock to its employees at $78.75 a share, payable generally through payroll deductions. At December 31, 1972, there were unfilled subscriptions for 138,200 shares which may be cancelled at the option of the employee. Partial payments on these subscriptions aggregating $6,973,863 are included in current liabilities.

In computing earnings per share, no adjustment was made for common shares issuable under stock purchase and option plans or upon conversion of 3% debentures because there would be no material dilutive effect.

H. Foreign Exchange Pre-tax income was charged $2,287,106 and $5,376,706 in 1972 and 1971, respectively, representing loss on foreign exchange. The 1972 amount includes $857,542 for amortization of losses deferred in 1971.

A proposal to increase the price of gold and devalue the dollar was announced on February 12, 1973. Results of operations are not expected to be materially affected.

I. Retirement Plans The cost of pension plans for companies in the consolidated group in 1972 and 1971 was $24,965,998 and $20,580,388, respectively. Pension fund assets exceed the actuarially-computed value of vested benefits. Payments from the pension fund to beneficiaries of the Company's major plan in 1972 and 1971 were $8,734,010 and $7,797,536, respectively.

The major plan as revised in 1970 provides for certain early retirement benefits. Amounts paid to early retirees under the program previously in effect, which are charged to income when paid, were $3,305,459 and $4,582,927 in 1972 and 1971, respectively.

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Investment Grants Investment grants credited to income in 1972 and 1971 amounted to $5,097,735 and $894,405, respectively.

Contingent Liabilities and Commitments Suits have been started against the company and certain subsidiaries because of alleged product damage and other claims. All suits are being contested and the amount of uninsured liability thereunder is considered to be adequately covered by provisions made.

Lease rental payments (stated in millions) due in each of the five years after 1972 are: 1973, $49.1; 1974, $40.9; 1975, $35.3; 1976, $30.6; 1977, $28.2.

Capital expenditures are expected to approximate $400 million in 1973.

L. Taxes on Income The provision for taxes consists of:

	(In millions) 1972	1971
Current provision	$130.5	$ 90.3
Investment credits	11.3	5.0
Taxes currently payable	119.2	85.3
Tax effects of timing differences	7.9	5.7
	$127.1	$ 91.0

Effective consolidated tax rates for the years 1972 and 1971 were 39.2% and 36.4%, respectively. Principal reasons for variation between the consolidated effective rate and the United States corporate statutory rate include taxation of foreign income at a variety of tax rates, investment tax credits and foreign investment allowances, depletion allowances and capital gains or losses.

Agreement has been reached with the Internal Revenue Service for all years through 1966.

Opinion of Independent Public Accountants

THE DOW CHEMICAL COMPANY

We have examined the consolidated balance sheet of The Dow Chemical Company and its subsidiary companies as of December 31, 1972 and the related consolidated statements of income, retained earnings, capital surplus, and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, such financial statements present fairly the financial position of the companies at December 31, 1972 and the results of their operations and the changes in their financial position for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Haskins & Sells

Detroit, Michigan, February 15, 1973

Condensed Comparative Statements

The Dow Chemical Company and Subsidiary Companies

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		1972	1971	1970	1969	1968	1962	1952
Financial Condition (in millions)	*Current Assets:*							
	Cash and marketable securities	$ 162.5	$ 106.1	$ 78.6	$ 133.4	$ 141.7	$ 43.5	$ 112.6
	Receivables (less reserves)	595.4	504.3	445.1	430.0	357.9	147.7	43.6
	Inventories	423.9	395.5	368.2	289.1	276.3	165.4	76.7
	Total current assets	1,181.8	1,005.9	891.9	852.5	775.9	356.4	232.9
	Current Liabilities:							
	Notes payable	269.6	368.3	229.3	337.8	246.5	59.5	51.5
	Accounts payable and accruals	426.7	366.8	330.6	291.1	272.4	96.7	43.2
	Taxes on income	101.7	56.4	56.8	51.6	52.5	39.6	98.8
	Total current liabilities	798.0	791.5	636.7	680.5	571.4	195.8	193.6
	Working Capital (A)	383.8	214.4	255.2	172.0	204.5	160.6	39.3
	Property (at cost)	2,980.8	2,722.9	2,524.3	2,305.1	2,060.4	1,254.9	518.4
	Depreciation	1,331.1	1,158.8	1,086.1	1,010.1	933.4	677.0	128.6
	Net property (B)	1,649.7	1,564.1	1,438.2	1,295.0	1,127.0	577.9	389.8
	Other Assets (C)	481.2	508.7	474.7	498.5	441.6	101.1	14.4
	Investment (A) plus (B) plus (C) (D)	2,514.7	2,287.2	2,168.1	1,965.5	1,773.1	839.6	443.5
	Long-term Indebtedness	1,094.9	1,010.1	969.8	798.0	684.6	125.6	150.5
	Other Liabilities and Reserves	90.3	80.1	70.8	61.0	46.6	1.2	32.3
	Total (E)	1,185.2	1,090.2	1,040.6	859.0	731.2	126.8	183.1
	Common Stockholders' Equity (D) minus (E)	$1,329.5	$1,197.0	$1,127.5	$1,106.5	$1,041.9	$ 712.8	$ 260.4
Income (in millions)	Net sales of products and services	$2,403.7	$2,052.7	$1,941.1	$1,797.1	$1,652.5	$ 926.2	$ 407.2
	Cost of sales	1,760.8	1,517.3	1,417.8	1,348.7	1,225.2	704.4	272.6
	Selling and administrative expenses	284.9	250.7	233.7	208.7	198.8	93.6	27.6
	Products and services operating income	358.0	284.7	259.6	239.7	228.5	126.2	107.0
	Investment and sundry income—net	51.8	43.9	36.0	43.9	32.0	11.9	5.7
	Interest income (expense)	(85.9)	(78.5)	(73.5)	(54.3)	(33.9)	(6.9)	(2.4)
	Non-products and services income (loss)	(34.0)	(34.6)	(37.5)	(10.4)	(1.9)	5.0	3.3
	Taxes on income	127.1	91.0	88.1	81.5	92.0	59.6	73.7
	Minority interests' share in income	7.9	4.7	4.0	5.2	4.0		1
	Net income before extraordinary items	$ 189.0	$ 154.4	$ 130.0	$ 142.6	$ 130.6	$ 71.6	$ 36.5
	Net income after extraordinary items	$ 189.2	$ 154.7	$ 102.1	$ 142.6	$ 130.6	$ 71.6	$ 36.5
Other Statistics (in millions)	Additions to property	$ 359.0	$ 364.6	$ 348.1	$ 370.6	$ 306.3	$ 69.0	$ 146.1
	Depreciation	234.9	218.8	207.7	177.9	157.2	99.6	32.5
	Research and development expenses	104.7	95.3	91.5	87.3	83.8	55.9	15.3
	Taxes (major)	218.0	161.8	136.5	140.7	144.5	84.1	80.2
	Wages and salaries paid	516.4	464.7	433.2	410.6	385.1	231.6	95.1
	Cost of employee benefits	85.4	72.2	64.4	56.3	47.9	21.5	8.5
	Number of employees at year-end (thousands)	48.8	47.8	47.4	47.4	47.4	31.1	19.0
	Cash dividends declared on Common Stock	82.3	81.0	78.5	77.3	72.5	46.6	16.3
	Per share of Common Stock (in dollars) (*):							
	Earnings before extraordinary items	4.14	3.40	2.87	3.14	2.89	1.58	.93
	Earnings after extraordinary items	4.14	3.41	2.26	3.14	2.89	1.58	.93
	Cash dividends paid	1.80	1.77	1.73	1.67	1.57	1.03	.41
	Market closing price on December 31	101.50	78.88	49.08	45.75	52.00	35.64	21.14

(*) Adjusted for stock splits and stock dividends.