

Forty seventh Annual Report
For year ended 31st March 1974

ELECTRICITY SUPPLY BOARD IRELAND

ELECTRICITY SUPPLY BOARD - Lower Fitzwilliam Street, Dublin 2. IRELAND

Board Members

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R. J. CONNOLLY.

BARBARA FITZGERALD.

C. GORDON LAMBERT, B.A., B.Comm., F.C.A.

T. MacMAHON, B.E., B.Sc.

J. A. RYAN, M.A.

Chief Executive

J. J. KELLY, M.E., F.I.E.I., F.I.Mech.E.

Directors

Commercial **M. J. SHIEL,** B.E., B.Sc., M.I.E.E.

Generation-Transmission **S. TINNEY,** B.E., B.Sc., M.I.E.E.

Finance **J. B. O'DONOGHUE,** F.C.C.A., A.C.M.A.

Personnel **P. J. MORIARTY,** F.C.I.S.

Secretary

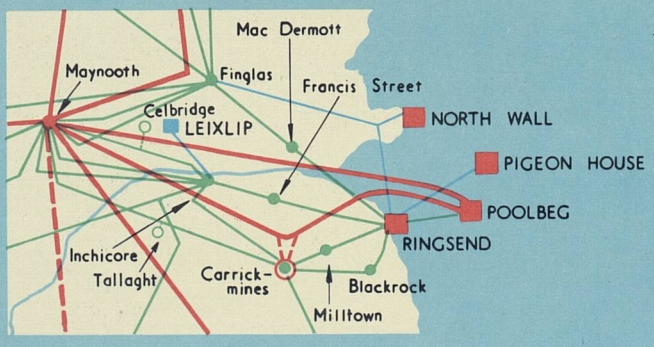
J. G. GARGAN, B.L., F.C.C.A.

GWEEDORE
Kiltoy
CLADY
Letterkenny
CATHALEEN'S FALL
CLIFF
Sligo
BELLACORICK
ARIGNA
Shankill
To N.I.E.S.
Dundalk
Louth
Carrick-on-Shannon
Castlebar
Navan
Drybridge
Platin
LANESBOROUGH
Knockumber
Mullingar
Finglas
Maynooth
Athlone
Celbridge
See inset 2 below for details
SHANNON BRIDGE
RHODE
ALLENWOOD
Inchicore
SCREEB
FERBANE
Newbridge
Tallaght
Carrick-mines
Derryfrench
Tynagh
Galway
PORTARLINGTON
GOLDEN FALLS
POLLAPHUCA
Portlaoise
Carlow
TURLOUGH HILL
Arklow
Ennis
MILTOWN MALBAY
Ahane
Shelton Abbey
Kilkenny
ARDNACRUSHA
Killonan
Thurles
Limerick
TARBERT
Rathkeale
Carrick-on-Suir
Wexford
Cahir
Waterford
Charleville
GREAT ISLAND
Butlerstown
Tralee
Fermoy
Mallow
Dungarvan
Knockraha
Midleton
Kilbarry
Dunkettle
Macroom
CAHIRCIVEEN
CARRIGADROHID
INNISCARRA
MARINA
Haulbowline
Whitegate
Trabeg
Ringaskiddy
Raffeen
Bandon
Dunmanway
See inset 1 below for details

INSET 1



INSET 2



General outline of the

GENERATION and TRANSMISSION SYSTEMS

31st March, 1974

HYDRO STATIONS
STEAM STATIONS
STEAM STATIONS PROJECTED
PUMPED STORAGE STATION
220 KV TRANSFORMER STATIONS
220 KV TRANSFORMER STATIONS PROJECTED
110 KV TRANSFORMER STATIONS
110 KV TRANSFORMER STATIONS PROJECTED
220 KV LINES
220 KV LINES PROJECTED
110 KV LINES
110 KV LINES PROJECTED
OTHER HIGH VOLTAGE LINES
NORTH/SOUTH INTERCONNECTION

Significant Facts

	1973/74	1972/73
REVENUE		
Electricity	£73,612,000	£60,321,000
Appliance Sales (Net of Taxes)	£3,530,000	£3,401,000
Installations	£1,554,000	£1,566,000
ASSETS	£345,952,000	£318,058,000
PAYROLL	£31,211,000	£25,434,000
SALES (in million of units)	6 152	5,705
GENERATION CAPACITY (MW)	1,944	1,798
PEAK DEMAND (MW)	1,384	1,383
LOAD FACTOR	60.0%	55.8%
NO. OF CONSUMERS	873,764	845,119
NO. OF EMPLOYEES	11,643	11,700

(Cash figures are rounded off to the nearest thousand)

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To the Minister for Transport and Power

The Board presents the Annual Report and Accounts for the year ended 31st March, 1974, in accordance with the Electricity (Supply) Acts 1927/'72.

The sale of electricity increased from 5,705 million units to 6,152 million units, a growth of 7.8% compared with the long-term average of 10%. Demand was up in the industrial sector by 13.4%, and in the domestic sector by 6.3%, while the commercial sector showed a growth rate of 2.3%. Total generating capacity was increased to 1,943.5 megawatts with the commissioning of two 73 megawatt units at the Turlough Hill Pumped Storage Project.

The financial result for the year was a deficit of £3,070,647. The deficit brought forward from 1972/'73 was £2,710,847 and the accumulated deficit at 31st March, 1974 is £5,781,494.

Financial

The Board is seriously concerned about the accumulating deficit position. The deficits will eventually have to be recovered from the consumer and postponement of recovery measures, which forces additional foreign borrowing, merely adds to the burden which the electricity consumer will ultimately have to bear. Moreover, if remedial measures are not initiated promptly, the Board's ability to procure capital for essential future development could be jeopardised, with unfortunate consequences for the nation's future economic development.

For the past three years the actual price of electricity charged to the consumer has been well below what was needed to enable the Board to recover the full costs of production and distribution. In the period under review there were two increases in the basic price of electricity (one of 3½% and one of 10%), but these were not sufficient to meet the increased costs of labour, capital and materials.

The Board has previously drawn attention to the dilemma posed by the recommendations of the National Prices Commission to exclude the repayments of capital borrowings as an element of cost in fixing electricity prices. The basis on which electricity price is to be determined is laid down in the legislation governing the Board's operations and has proved to be a sound one for the electricity consumer. Unless this legislation is altered, electricity prices must be based on the break-even principle set out in the Electricity Supply Acts and the Board has asked the Government to confirm its acceptance of this principle and determine electricity prices accordingly.

Energy

The dominant factor in the past year was the Middle East energy crisis and the events which followed. The first priority during the early months of this crisis was to secure fuel oil and to maintain the electricity supply. The E.S.B. succeeded in maintaining supply without interruption, largely because some years earlier it had adopted a policy of diversifying its oil sources. Another factor was the ready response from electricity consumers to the national appeals which were made for economy in the use of fuel of all kinds.

The impact of the energy crisis on the cost of electricity was substantial, as two-thirds of the total demand is produced from imported residual oil. In the new pricing structure which emerged for fuel oils generally, residual oils bore the brunt of the increased charges, the 1974 prices being approximately five times those obtaining at the beginning of 1973.

In an effort to contain the resultant increases in electricity charges and to minimise their impact on the consumer, the Board adopted two strategies:

— Electricity consumers were given the benefit of the substantial stocks of low-priced oil which were held prior to the energy crisis.

— Government approval was obtained to the introduction of a Fuel Cost Variation Clause which was designed to ensure (i) that E.S.B. recovers the actual amount of the extra fuel costs, and no more, and (ii) that the increased charges are apportioned evenly over the electricity used. The basis for the Variation Clause was approved by the National Prices Commission; it has been widely published in the national

press, and its application is subject to monthly scrutiny by the Commission.

In recent months there has been some easing of the high price levels for oil. The Variation Clause will ensure that any such benefits are automatically given to electricity consumers. The events of last year indicate, however, that the prices for all forms of energy, including electric power, will not return again to the levels prevailing in the early part of 1973.

Despite the heavy increases in the cost of primary fuels of all kinds the increase in the cost of electricity has, in fact, been relatively smaller than the increases in other forms of energy.

Plant

During the year the Board faced the problem of a plant shortage because, in the interests of safety, a number of its generating units had to be 'grounded'. This was because a serious type defect had been discovered in similar units in other countries and resulted in a general alert to all users to carry out emergency modifications. A crash programme was carried through and these units are once again in service.

Staff

The subject of industrial relations is dealt with fully elsewhere in the Report. The Board regrets the inconvenience caused to its consumers by the two strikes which led to restrictions in supply. Despite these incidents there were important developments of a positive kind in industrial relations during the year. Agreements covering a large number of employees were concluded embodying a 'peace clause' for a specified number of years and including provision for increased productivity and better industrial relations practices. A substantial improvement in productivity levels has already been achieved. The Board has worked hard to create a better working climate and one of the significant features of the recent agreements is the achievement of single status employment in the E.S.B.

The exceptionally dedicated performance of staff in the appalling conditions of the big storm in January last is evidence of the general commitment which there is to the community service provided by the E.S.B.

The Future

An adequate supply of electricity must be provided for the community and this involves entering into contractual commitments about six years ahead. At no time in the past have there been so many imponderables affecting both the calculation of future demand and the sources of primary energy. The higher costs of energy, the current political situation and general world energy problems have added new complexities to the problems of planning. The policy of the Board will be to seek to diversify still further its sources of primary energy, while maintaining maximum flexibility in its forward plans, so as to enable it to cope with changing circumstances as economically as possible.

The Board welcomes the gas find off the Southern coast and hopes that it will provide an indigenous primary energy source for up to 600 MW of generating capacity. The Board also welcomes the proposals by Bord na Mona to increase output of milled peat for electricity generation and has provided for the necessary generating plant in its own programmes. These two energy sources would not, however, be sufficient to reduce our increasing dependence on imported fuel to an acceptable level. For this reason the Board has been obliged to continue its preparations for the introduction of nuclear energy early in the next decade.

During the year site investigations for a potential nuclear station were completed at five locations and the Board indicated its preference for the site at Carnsore Point, Co. Wexford. Detailed site investigations are, at present, being carried out there and it is hoped to submit proposals to the Nuclear Energy Board and to the planning authorities by mid-1975. The building of a nuclear power station inevitably stimulates public discussion and debate which are to be welcomed, since the project is one which affects the whole community in many ways. The final decision will, however, be a matter for the Government.

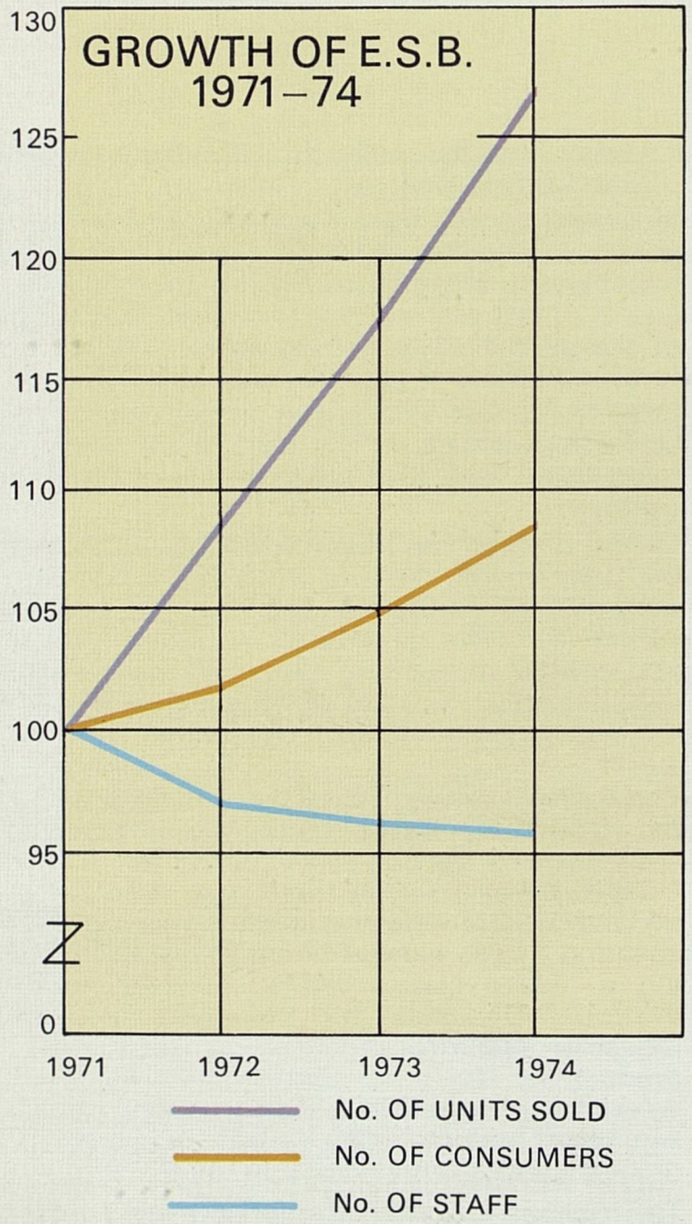
Despite the present uncertainties the Board is confident that there will be continued growth in the industry and it holds itself in readiness to make the maximum use of indigenous fuels to to meet this demand.



Oil from Russia is delivered at the Poolbeg Station.



The sod-peat fired generating station, Allenwood, Co. Kildare.



INDEX 1971 = 100

Electricity Production

System demand required the generation of 7253 million units — an increase of only 7.5% over the previous year instead of the expected 10%. During the first half of the year growth was, in fact, greater than expected; the fall-off started only in October. There were three main reasons for this: the weather was milder than normal, there were plant shortages due to breakdown and industrial disputes leading to restrictions in supply and, finally, the fuel crisis in the last half of the year.

For the same reasons the peak demand at 1384 MW on 12th December was not much higher than that of the previous year. As a result, the annual load factor rose to an abnormal 60.0% from 55.8% in 1972/'73.

During 20 days in October and November and on one day in March the industrial disputes necessitated load disconnection. On 28 other days voltage had to be reduced throughout the country — some of these reductions were due to outages of plant for safety inspection because of component failure in similar plant here and abroad.

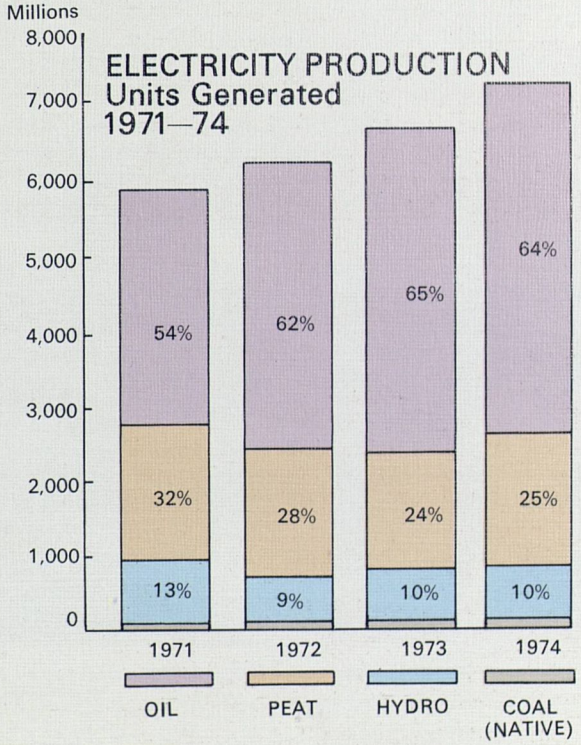
The North/South interconnector was in service only between 16th July and 8th February. Before and after these dates it was out of service owing to malicious damage. During its seven months in service the E.S.B. exported 87.1 million units and imported 92.8 million units.

System frequency was maintained between 50.13 Hz. and 49.87 Hz. for 95% of the time.

With the commissioning of the first unit in Turlough Hill in December an important new operating facility was added to the system. The second unit was in use from February.

The total installed capacity in the E.S.B. is now as follows:

Hydro plant	**219 MW**
Hydro plant (pumped storage)	**146 MW**
Steam plant (sod peat)	**117.5 MW**
Steam plant (milled peat)	**290 MW**
Steam plant (oil)	**1,128 MW**
Steam plant (coal)	**15 MW**
Gas turbine plant (oil)	**28 MW**
	1,943.5 MW



Electricity Sales

Units sold during the year increased by 7.8% (6.3% in the domestic sector, 2.3% in the commercial sector and 13.4% in the industrial sector). In the previous year, the increase was 8.2% (6.7% in the domestic sector, 6.6% in the commercial sector and 11.4% in the industrial sector).

Two factors militated against growth during the year. These were : industrial action, which interrupted supply, and the Middle East oil crisis, which caused the Board to appeal for conservation and the Government to introduce some restrictions on electricity usage over many months.

The E.S.B. has been increasing the scope of its advisory services, including lectures to organised groups and advertisements in the newspapers and on radio and television. Special emphasis was placed on the efficient and safe use of electricity.

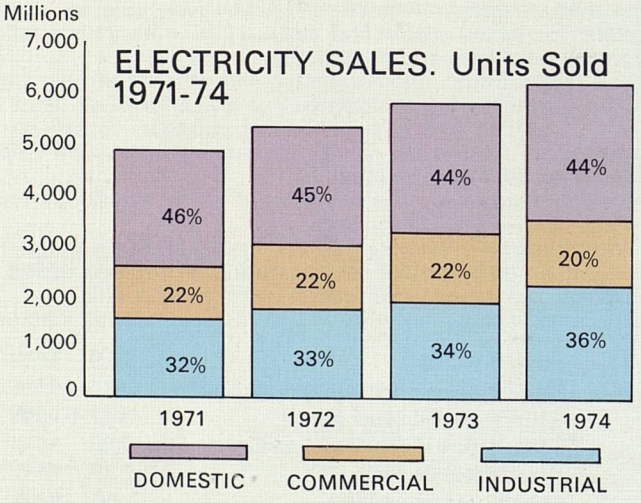
The industrial advisory service co-operated with the Confederation of Irish Industry and the Institute for Industrial Research and Standards in an audit of the fuel usage in a number of factories, with very worthwhile results. These results have since been presented to other industrialists at a number of seminars.



Improved customer facilities at the Fleet Street, Dublin Office.



Safety lectures to schools were a feature of t year's activity.



Trading

Appliance Trading

Despite the difficulties of the latter half of the year sales of electrical appliances through E.S.B. shops reached record levels. Turnover increased by 3.8% to £3,529,876. The Appliance Trading Account, having been charged with overhead expenses and interest on working capital, showed a net profit of £190,286 compared with £186,901 in 1972/'73.

Sales increased by more than 20% in the first half of the year but in the latter half were considerably below forecast as a direct consequence of the oil crisis.

Business remains depressed and increased electricity prices may retard growth in the demand for appliances for some time. The Board is confident, however, that the appliance trading activity will continue to generate a revenue surplus even in a period of retarded growth. One of the Board's primary objectives for its appliance trading activities is to improve the economic performance of the main electricity business through load shaping.

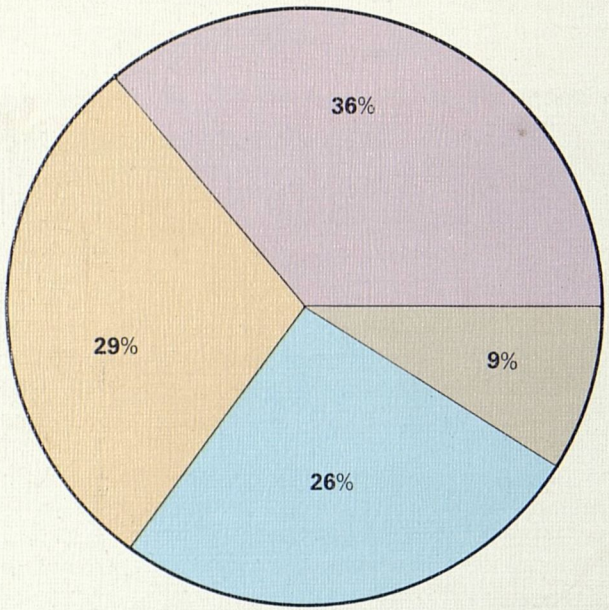
Installations Trading

The value of installations contracts completed amounted to £1,554,488 compared with £1,565,961 in the previous year. The gross profit was £306,673 representing a rate of 19.7%. The Installations Trading Account, having been charged with overhead expenses and interest on working capital, showed a record net profit of £78,269 compared with £47,298 in the previous year.



A Savings Stamps Scheme for customers, introduced during the year, met with great success.

EXPENDITURE



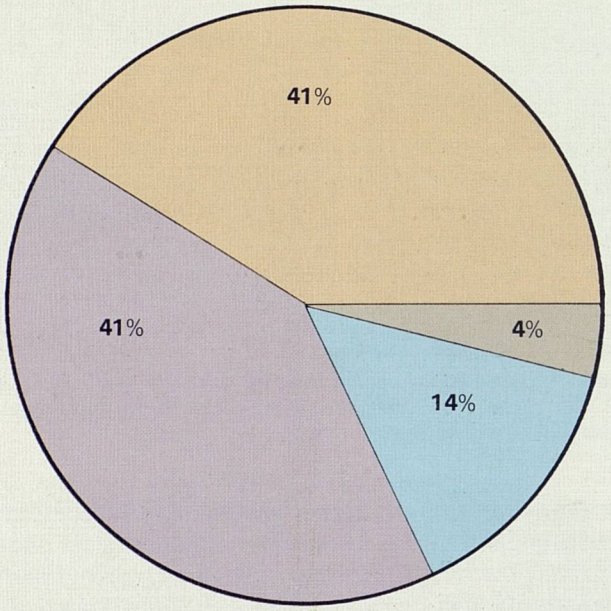
CAPITAL CHARGES incl. DEPRECIATION

FUEL

PAYROLL

MATERIALS,TRANSPORT AND SERVICES

CAPITAL INVESTMENT IN FIXED ASSETS



DISTRIBUTION

GENERATION

TRANSMISSION

GENERAL AND FISHERIES

Finance

Revenue and Expenditure

Revenue from the sales of electricity and miscellaneous revenue totalled £74,079,271, an increase of £13,269,565 over the previous year. Expenditure incurred was £77,006,478, an increase of £14,861,466 over the figure for 1972/'73.

The impact of the energy crisis on fuel oil prices is a contributory factor to the increase in both revenue and expenditure for the year. The excess of fuel oil prices above a base figure of £11 per ton accounted for £3,606,000 and £3,778,000 of the increase in revenue and expenditure respectively.

The summarised Electricity Revenue Income and Expenditure figures are as follows:

	Year ended 31st March 1974 £	*Preceeding Year* £
Fuel	22,049,283	13,659,798
Payroll and other direct costs	27,494,612	22,837,279
Capital charges including depreciation	27,462,583	25,647,935
	£77,006,478	£62,145,012
Revenue (including miscellaneous income)	74,079,271	60,809,706
	£2,927,207 (Deficit)	£1,335,306 (Deficit)

Taking credit for profits from installations and appliance sales and deducting the expenses of loan issues, the result for the year was a deficit of £3,070,647 which increases the total deficit carried forward to 1974/'75 from £2,710,847 to £5,781,494.

Capital Borrowing

The capital expenditure in the year was financed by —

(a) borrowings brought forward from the previous year,
(b) internal resources arising mainly from provisions for depreciation and capital contributions,
(c) private placements with European banks,
(d) further instalments of the loans from the World Bank,
(e) medium term credits for purchase and erection of major plant,
(f) rural subsidy from the Minister for Finance.

The Electricity (Supply) (Amendment) Act, 1971 authorises capital expenditure not exceeding £450 million for general purposes including rural electrification. At 31st March, 1974 the Board had approved expenditure totalling £436,626,320 of which £313,681,031 represents electricity assets in commission, the balance of £122,945,289 represents work in progress and work approved.

Legislation has been introduced to increase the limit of capital expenditure to £700 million.

Capital Expenditure

Investment continues at a high level and new assets to the value of £38,500,008 were brought into commission during the year. Rural electrification accounted for £4,758,571 of this total. The total investment in assets in productive use at 31st March, 1974 was:

	£
Generation	128,426,588
Transmission	43,575,536
Distribution (including Rural £58,225,854)	127,616,575
Premises and General assets	14,062,332
	313,681,031

In addition expenditure of £32,270,922 was incurred on capital works still under construction at the end of the year.

Major Construction Works

The growing doubt voiced by the Board in previous reports regarding the availability and cost of future oil supplies became a reality in the year under review.

The oil crisis and the natural gas find off the coast of Cork have led to changes in the forward construction programme. Our priority now is to reduce our dependence on imported oil and diversify our energy sources as widely as is practicable. This cannot be achieved in the short term and the oil fired stations under construction must remain part of the programme.

The natural gas find offers the possibility of gas fired plant both through the conversion of existing plant at the Marina station and the construction of new plant in the Cork area. The planned development of further peat bogs by Bord na Mona will provide fuel for 160 MW of additional generating plant.

The feasibility of using imported coal for some future plant is being examined.

Other possible energy sources such as tidal power, wind power, solar power, refuse incineration, etc. are kept under constant review but, so far, none has proved economically feasible.

Tarbert Station Extension, Co. Kerry (Oil Fired) 2 — 250 MW Sets

Progress was impeded during the Winter and early Spring by very heavy rainfall and high winds. Contractors industrial disputes on site also had a delaying effect, but to a lesser extent. Further delays were caused by a general shortage of materials, particularly copper, and the effect of the oil crisis and the short working week in Great Britain.

Despite these difficulties the programme was reasonably close to target at the end of the year.

The civil engineering work associated with the first generating unit was substantially completed. Most of the foundations for the second unit were finished and the erection of the structural steel frame for the engine room and boiler house was in progress. The boilers for the extension are of the once-through design and are the first of this type to be ordered by the E.S.B. The first of these boilers was in course of erection.

Shannonbridge Station Extension, Co. Offaly (Milled Peat Fired) 1 — 40 MW Set

The main civil engineering work started and the main foundations were completed. Structural steel erection for the extension of the station building had commenced.

The turbo-alternator was completed in the works. The scheduled completion date for this project is 1976.

Poolbeg Generating Station Extension, Dublin (Oil Fired) 2 — 250 MW Sets

Two 250 MW boilers and associated turbo-alternators had been ordered for the extension of this station. The first unit was originally scheduled for commissioning in 1978 and the second in 1979 but, with the projected down-turn in growth rates, the date for commissioning of the second set has been deferred. Contracts were placed for the fabrication of the structural steel for the main buildings and for piling of the foundations and the contract for the main civil construction works was being prepared. Work on the piling had commenced.

Turlough Hill Pumped Storage Scheme, Co. Wicklow 4 — 73 MW Sets

The first two units of this scheme were commissioned on schedule on a 5 year programme.
The first machine was synchronised to the network in late November and the second in February.

Civil engineering work on this project was completed except for minor structural details and ancillary items such as road surfacing, landscaping and amenity features. The upper reservoir filling and testing operation proceeded satisfactorily and was almost complete. The remaining two units will be in operation in early 1974/'75.

Nuclear Generating Station Project

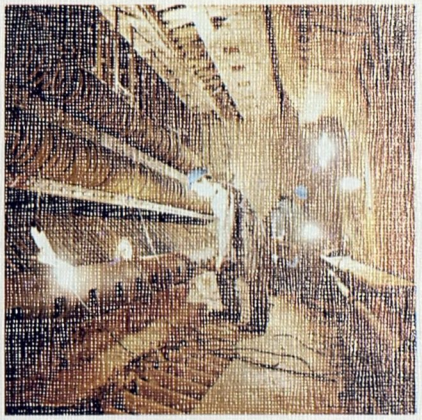
The Government has given the Board approval in principle to proceed to the precontract stage with a nuclear station of approximately 650 MW capacity. Preparation of the design and specification of a nuclear plant and of the turbo-alternators is in hand. The issue of these enquiries is scheduled for 1974.

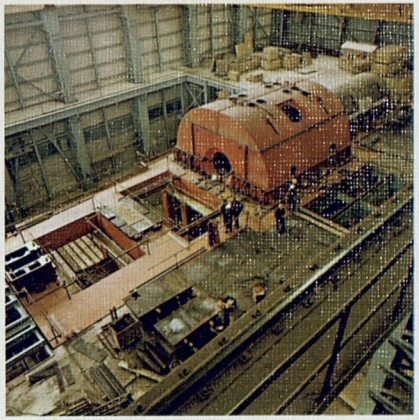
Surveys for selection and planning of this project and detailed site investigations commenced.
The tentative commissioning date is 1982/'83.

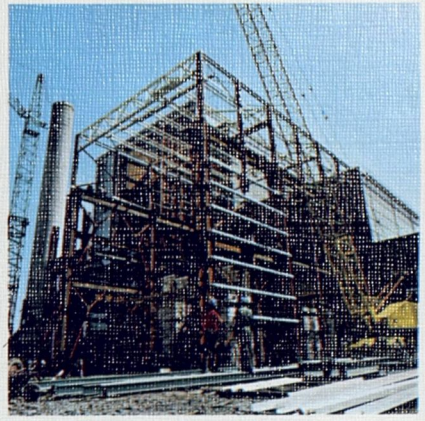
General Investigations

General studies, assessment and investigation of all aspects of possible generating station locations continued.









Top left: Turlough Hill Pumped Storage Project, Co. Wicklow.

Top right: Work in progress to extend the life of the Portarlington sod-peat fired station.

Bottom left: Erection of the 250 mw turbo-alternator at Tarbert Generating Station

Bottom right: Construction of the extension to the milled-peat fired station at Shannonbridge

Transmission

220 kV Transformer Stations

The 220 kV station at Turlough Hill was completed and the first bank of 175 MVA transformer to step-up the output from the generators to 220 kV was commissioned. The second transformer bank is ready for operation. Work continued on two new stations and the extension of three existing stations had commenced. Design work was in progress on three other major projects.

110 kV Transformer Stations

Two new stations were commissioned during the year and construction was in progress on three others.

Major extensions or upratings were completed at eight stations and the programme of equipment replacement continued in older stations. Two new stations and three extensions were at the design stage.

Lines and Cables

The two 220 kV lines and cables to Turlough Hill from Great Island and Maynooth were completed and commissioned. Erection had commenced on the 220 kV line from Tarbert to Killonan. Surveys were completed or were in progress for five other 220 kV lines.

During the year a total of 54 Kms. of 110 kV lines were erected and 219 Kms. were under construction. The programme of replacing the old 95 mm^2. copper lines continued.

General

A Liaison Committee and a Working Group, with representation from the E.S.B. and Department of Posts and Telegraphs, were set up to investigate the effect of the proposed solid earthing of the 110 kV neutral on telecommunications circuits and to suggest solutions.

The first high speed electronic busbar scheme was installed at Maynooth and other major schemes are in hand.

Transmission lines and stations stood up very well to the two severe storms in January 1974 and the fault outages which occurred were mainly due to flying debris and salt pollution. A helicopter was used to patrol the entire transmission network; in this way faults were quickly located and repaired and lines were not left in a dangerous condition.



A special crane used to expedite erection of towers for high-voltage lines

Distribution

One of the most severe storms in the history of the E.S.B. occurred on 11th January, 1974 and left 240,000 consumers without electricity. Emergency crews from all over the country were deployed to the worst affected areas and within forty-eight hours supply had been restored to almost 200,000 consumers. A further storm on 22nd January affected 80,000 consumers. Repair costs came to £550,000.

Consumers paid many tributes to the efficiency of the repair crews.

The 10 kV and low voltage network comprises some 100,000 Kms. of overhead lines, 30,000 Kms. of service wire and 84,000 transformers. About 25% of this network is more than 20 years old. Due to the heavy new works programme required to supply new consumers and the special emphasis given to completion of the Rural Electrification Scheme, maintenance of the network has tended to be confined to the immediate essential aspects.

It is the intention on the basis of a detailed survey to restore the network to the desired standard over a seven year period at a cost of £12,000,000 at present day prices.

Further progress was made during the year in the use of computer techniques. Single line diagrams depicting equipment and its arrangement in 38 kV/10 kV substations, which were previously drawn and revised by hand, are now drawn by the computer.

The world shortage of commodities affected both prices and supplies during the year. Due to the co-operation of the Board's suppliers, however, serious shortages of materials were avoided and the future outlook is now more hopeful.

Rural Electrification Scheme 1973/74

During the year 11,261 new rural consumers were connected. By the end of the year residents in 610 of the 792 Rural Areas into which the country is divided had been given an opportunity of availing themselves of supply under the final phase of the subsidised Rural Electrification Programme.

Capital expenditure was £5,111,650 which brings the total investment in the Rural Electrification Scheme to date to £60,383,979, of which £21,339,826 was by way of Government subsidy.

A typical scene during the storms of January 1974.



Personnel

There were two industrial relations issues during the year which led to power cuts. The Board regrets that there was any incident which caused inconvenience to the public but wishes to record that the great majority of its employees pursue a peaceful course of industrial relations. During the year over 250 separate Trade Union claims were settled; agreement was reached in 75% of these cases through direct negotiations and the remainder were referred to the Industrial Council. The Council is a voluntary body which was set up under an independent Chairman following agreement between the Trade Unions and the E.S.B. in 1970. At present Mr. Con Murphy is Chairman, Mr. Brian Hillery acts as alternate Chairman. The Council has the support and confidence of both sides in the electricity industry and it is performing a very valuable role in the process of industrial relations.

In any industry other than electricity the industrial relations record of the past year would have been considered satisfactory, but the Board realises that the vital nature of its service to the community requires a continuing effort to establish a climate in which there will not be even isolated instances of interruption of supply. To this end many significant agreements were concluded with the Trade Unions during the year. All of these embody a peace clause for a specific number of years, include provision for increasing productivity and establish an improved code of industrial relations practice. A progressive feature of the agreements also is the establishment of single status employment for everybody employed in the E.S.B. The Board is hopeful that the good relations between the Trade Unions and management which have generally characterised the past year will achieve an industrial relations situation in which there can be full public confidence.

The Board and the Trade Unions are co-operating in the development of greater worker participation in areas within its own control through the establishment of Joint Working Parties and Review Bodies and also through the creation of effective works councils at each main centre of employment.

The Board has implemented in full the Government's intentions in regard to equality of opportunity for women. The last remaining differential in the E.S.B. was removed during the year when conditions of employment which required women to resign on marriage were removed.

The Board's training and development programmes continued during the year. Over 2,000 adult employees received special training and the number of apprentices in training is 550. Joint working parties of Trade Unions and management have continued to contribute to the identification of specific training needs of staff to meet the future requirements of the organisation.

For the third consecutive year there has been an actual reduction in the numbers of staff. This has been brought about by the implementation of productivity agreements which represent a notable achievement considering that the business of the Board has increased by up to 39% since April 1970.

The total number of staff in the E.S.B. at the end of the year was 11,643. The Board wishes to thank all of them for the manner in which they performed their duties during the year.

Fisheries and Environment

The Board continued its programme of development of the Fisheries and Environmental areas under its control. The extent of the involvement under this heading is shown by the expenditure of £186,985.

Income from the sale of salmon and eels was the highest ever at £95,000.

The E.S.B. plays a major role in pollution control, particularly in the River Shannon catchment area, and due in a large measure to the efforts of the Board's staff there is now a more general awareness of the ecological dangers threatened by indiscriminate pollution. The Government legislation is awaited with great interest.

Further investigation was made into the possibilities of rearing salmon to market stage in sea water. Plans were finalised and a pilot scheme will be initiated in the coming year.

The Pollaphuca Wild Life Sanctuary was established. Other areas for development were examined.

The Board's annual Fisheries Report, published separately, treats of these activities in more detail.

(Signed) *T. Murray,* Chairman
R. Connolly
B. Fitzgerald
C. Gordon Lambert
T. MacMahon
J. A. Ryan

(Signed) *J. G. Gargan,* Secretary
9th July, 1974

Note: Mr. B. O'Cearbhaill was a member of the Board up to 30th April 1974.



The ESB created a new amenity area near the Leixlip hydro-station.

Financial Accounts and Appendices for year ended 31st March, 1974

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Electricity Income and Expenditure Account

No. 1

	£	£	1972/73 £
Generation			
Fuel	22,049,283		
Operation, maintenance and local charges	8,595,110		
General charges	2,175,197		
Depreciation	5,066,669		
Interest	3,999,006		
Loan amortisation	2,750,420		
Preservation and operation of fisheries (net cost)	89,962		
		44,725,647	33,627,132
Transmission			
Operation, maintenance and local charges	1,083,334		
General charges	662,021		
Depreciation	1,563,640		
Interest	1,463,266		
Loan amortisation	1,061,032		
		5,833,293	4,977,077
Distribution			
Operation, maintenance and local charges	12,286,497		
General charges	2,602,491		
Depreciation	4,880,691		
Interest	3,931,998		
Loan amortisation	2,745,861		
		26,447,538	23,540,803
		£77,006,478	£62,145,012

	£	1972/73 £
Electricity Sales	73,612,212	60,321,031
Miscellaneous Income	467,059	486,675
Balance carried to Profit and Loss Account	2,927,207	1,335,306
	£77,006,478	£62,145,012

Notes:

1. Charges include: Local Rates £525,884 (1972/73 £521,414), Central Transport and Stores Depot Costs £481,781 (1972/73 £386,666), General Publicity £328,023 (1972/73 £350,503), Bad Debts £160,010 (1972/73 £97,677), Purchased Electricity £598,221 (1972/73 £6,079), Audit Fee £11,000 (1972/73 £11,000), Board Members' Remuneration (including full time Chairman) £12,040 (1972/73 £10,190).
2. Fuel pricing policy was changed from December 1973 following the introduction of a Fuel Price Variation Clause; this change had no material impact on the year's results.
3. Electricity Sales are exclusive of V.A.T. — £4,563,804 (1972/73 Turnover Tax and V.A.T. £2,406,876).

No. 2

Appliance Sales Account

	£	£	1972/73 £
Cost of Appliances sold		2,543,739	2,519,452
Direct costs		143,968	117,509
Gross profit carried down		842,169	764,034
		£3,529,876	£3,400,995
Overheads:			
Payroll costs	370,886		
Publicity	23,476		
Property charges including rent and rates	67,440		
Sundry expenses	47,561		
General charges and interest, as apportioned	142,520		
		651,883	577,133
Profit transferred to Profit and Loss Account		190,286	186,901
		£842,169	£764,034

	£	1972/73 £
Sales exclusive of VAT — £600,791	3,529,876	3,400,995
	£3,529,876	£3,400,995
Gross profit brought down	842,169	764,034
	£842,169	£764,034

No. 3

Installations Contracts Account

	£	£	1972/73 £
Direct cost of contracts completed and charged		1,247,815	1,292,523
Gross profit carried down		306,673	273,438
		£1,554,488	£1,565,961
Overheads:			
Payroll costs	120,335		
Sundry expenses	19,821		
General charges and interest as apportioned	88,248		
		228,404	226,140
Profit transferred to Profit and Loss Account		78,269	47,298
		£306,673	£273,438

	£	1972/73 £
Credit taken for contracts completed and charged — exclusive of VAT — £112,757	1,554,488	1,565,961
	£1,554,488	£1,565,961
Gross profit brought down	306,673	273,438
	£306,673	£273,438

Profit and Loss Account

No. 4

	£		£	£
Electricity Income and Expenditure (deficit)	2,927,207	Appliance Sales — Profit	190,286	
Loan Issue expenses	411,995	Installations Contracts — Profit	78,269	
				268,555
		Balance (deficit) carried down		3,070,647
	£3,339,202			£3,339,202
Balance brought forward from last year's account	2,710,847	Sale of scrap and credits from assets retired		1,148,191
Balance brought down	3,070,647	Balance carried forward		5,781,494
Transfer to Depreciation Reserve (per contra)	1,148,191			
	£6,929,685			£6,929,685

No. 5.

Balance Sheet

31st March, 1973 £		£	£	31st March, 1974 £
318,057,763	**Total Investment in Capital Assets** including work-in-progress, (at cost) as per Appendix A			345,951,953
318,057,763				
—	**Deferred Expenditure**			763,000
	Current Assets			
308,602	Cash at bank and in hand		545,240	
20,000,000	Temporary cash investment		11,573,537	
30,503,531	Debtors, materials and repayable jobs-in-progress, as per Appendix B		45,769,226	
50,812,133			57,888,003	
	Less:			
22,824,672	**Current Liabilities,** as per Appendix B		28,527,992	
27,987,461	**Net Current Assets**			29,360,011
	Investments at cost			
4,632,749	Loan sinking fund investments		4,824,107	
1,380,364	ESB stocks (nominal value £2,061,265)		1,422,626	
—	European Units of Account (nominal value £567,255)		530,384	
6,013,113				6,777,117
£352,058,337	**Assets less Current Liabilities**			£382,852,081
	Financed as follows:			
	Borrowings			
188,443,526	Stocks, bonds and long-term loans, as per Appendix C		201,499,429	
7,824,949	Short and medium term loans, including Hire Purchase Bills block discounted		9,991,524	
196,268,475				211,490,953
	Reserves			
153,241,139	Capital, as per Appendix D		171,639,488	
4,684,570	Loan sinking funds		4,928,134	
	Revenue Reserves:			
500,000	Plant, self-insurance	500,000		
75,000	Others	75,000		
			575,000	
(2,710,847)	Profit and Loss Account balance (deficit)		(5,781,494)	
155,789,862				171,361,128
£352,058,337				£382,852,081

Note: At 31st March, 1974 contractual capital commitments amounted to approximately £40,000,000 (1973 — £31,000,000)

Signed: T. MURRAY *Chairman*

Signed: J. J. KELLY *Chief Executive*

J. B. O'DONOGHUE *Director, Finance*

Statement of Capital Assets

A

	Total at 31st March, 1973 £	Changes in Year * £	Total at 31st March, 1974 £
Generation	108,289,736	20,136,852 (a)	128,426,588
Transmission	38,648,725	4,697,854 (a)	43,575,536
		228,957 (b)	
Distribution	116,414,111	10,985,205 (a)	127,616,575
		217,259 (b)	
General Buildings, Transport and Working Equipment	13,268,098	1,064,658 (a)	13,886,540
		(-) 446,216 (b)	
Fisheries	175,792		175,792
	276,796,462	£36,884,569	313,681,031
Work-in-Progress, including payments on account	41,261,301		32,270,922
Total Investment in Capital Assets (at cost)	£318,057,763		£345,951,953
Deduct Depreciation Reserve, as per Appendix D	100,139,497		111,745,485
Net Investment in Capital Assets	£217,918,266		£234,206,468

* Additions less Retirements (a) & Revision of classification (b)

Statement of Current Assets and Current Liabilities

B

Current Assets (excluding cash at bank, in hand and temporarily invested)

31st March, 1973 £		£	£	31st March, 1974 £
	Debtors (less provision for doubtful debts):			
	Electricity: billed	6,870,041		
	unbilled	13,535,251		
14,057,450			20,405,292	
4,648,890	Trading Debtors including Hire Purchase		6,301,119	
1,443,387	Miscellaneous		1,525,558	
20,149,727				28,231,969
	Materials at cost:			
2,007,855	Fuel		7,737,286	
7,486,726	Others		8,889,771	
9,494,581				16,627,057
859,223	Repayable Jobs-in-Progress at cost			910,200
£30,503,531				£45,769,226
	Current Liabilities			
10,907,372	Trade Creditors			11,897,123
369,480	Progress Payments on Repayable Jobs-in-Progress			728,098
2,177,000	Loans — Less than Twelve Month Term			582,000
4,131,618	Accrued Interest on Borrowings			5,346,246
1,318,905	Consumers' Deposits			1,736,647
3,920,297	Accrued Charges and Provisions			8,237,878
£22,824,672				£28,527,992

C

Statement of Outstanding Stocks, Bonds and Long Term Loans and their Redemption

Amount of Borrowing		Balance Outstanding 31st Mar. 1973 £	Borrowed during year £	Adjustment for currency changes £	Redeemed during year £	Balance Outstanding 31st Mar. 1974 £
	Minister for Finance:					
£68,450,236	Advances under the Electricity (Supply) Acts and the Shannon Fisheries Act, 1935	**52,853,043**			1,082,509	**51,770,534**
		52,853,043			1,082,509	**51,770,534**
	Public Issues:					
	Stocks:					
£10,000,000	5% redeemable 1966-1975	**6,070,556**			363,052	**5,707,504**
£ 5,000,000	6% redeemable 1968-1978	**3,238,637**			172,319	**3,066,318**
£12,000,000	6% redeemable 1982-1987	**8,771,384**			804,500	**7,966,884**
£16,500,000	6% redeemable 1984-1989	**11,992,177**			713,596	**11,278,581**
£13,000,000	7% redeemable 1986-1991	**11,087,269**			495,902	**10,591,367**
£ 7,000,000	7¼% redeemable 1988-1993	**6,410,131**			203,540	**6,206,591**
£ 9,250,000	9½% redeemable 1985-1990	**8,880,066**			217,096	**8,662,970**
£ 3,250,000	6% Premium, redeemable 1975 (repayable at 20% premium)	**3,146,760**			111,373	**3,035,387**
£ 2,800,000	6% Premium, redeemable 1976 (repayable at 20% premium)	**2,614,838**			100,024	**2,514,814**
£12,000,000	9% redeemable 1992-1995	**11,734,159**			318,599	**11,415,560**
		73,945,977			3,500,001	**70,445,976**
	Bonds:					
E.U.A. 15,000,000	European Units of Account 8¼% — repayable by yearly instalments 1972/86	**7,241,682**		735,283	517,263	**7,459,702**
B. Francs 1,000,000,000	Belgian Franc 7½% Registered Bonds — repayable in full 1983	**10,126,582**		295,513		**10,422,095**
B. Francs 700,000,000	Belgian Franc 7½% Registered Bonds — repayable in full 1983		7,070,559	224,907		**7,295,466**
B. Francs 1,000,000,000	Belgian Franc 8¾% Registered Bonds — repayable by yearly instalments 1980/89		10,642,716	(-) 220,621		**10,422,095**
Sw. Francs 50,000,000	Swiss Franc 7% Bearer Notes — repayable in full 1980		6,869,547	55,661		**6,925,208**
		91,314,241	24,582,822	1,090,743	4,017,264	**112,970,542**
	Long Term Loans:					
£500,000	New Ireland Assurance Co. Ltd. 6% — repayable by ½ yearly instalments 1962/87	**364,639**			17,242	**347,397**
£14,865,000	Central Bank of Ireland 7¼% — repayable by ½ yearly instalments 1972/87	**14,290,613**			616,785	**13,673,828**
$14,500,000	International Bank for Reconstruction and Development 6½% — repayable by ½ yearly instalments 1974/94	**6,415,697**	354,294	487,270		**7,257,261**
$20,000,000*	International Bank for Reconstruction and Development 7¼% — repayable by ½ yearly instalments 1976/87	**832,305**	1,974,236	48,025		**2,854,566**
$15,000,000*	International Bank for Reconstruction and Development 7¼% — repayable by ½ yearly instalments 1977/88	**239,520**	466,661	9,383		**715,564**
$30,000,000	Japanese Banks 7¾% — repayable by yearly instalments 1973/92	**12,133,468**		366,262	589,993	**11,909,737**
£10,000,000	Northern Bank Finance Corporation (Leader of a Bank syndicate)	**10,000,000**			10,000,000	
		44,276,242	2,795,191	910,940	11,224,020	**36,758,353**
	Total	**£188,443,526**	£27,378,013	£2,001,683	£16,323,793	**£201,499,429**

*Drawdown scheduled over phased period.

Statement of Capital Reserves

	£	£	£
Non-Repayable Capital Contributions:			
Contributions from Minister for Finance under Electricity (Supply) Acts towards capital cost of supplying rural areas — as at 31st March, 1973	20,039,826		
Received in year	1,300,000		
		21,339,826	
Other contributions — as at 31st March, 1973	3,711,853		
Received in year	521,997		
		4,233,850	
			25,573,676
Repaid Capital Reserve:			
Loan amortisation, less intangible assets, foreign loans revaluations and loan discounts written off — as at 31st March, 1973		29,349,963	
Movements in year:			
Loan Amortisation	7,293,782		
Discount on Loans	(353,076)		
Borrowings in Foreign Currencies — long and medium term; net changes at year end values — see note 8 of Accounting Policies, Appendix H	(1,970,342)		
		4,970,364	
			34,320,327
Depreciation Reserve:			
Provision for depreciation of assets, together with proceeds of disposal or stores value of assets retired, less assets retired, as at 31st March, 1973		100,139,497	
Movements in year:			
Depreciation of assets	12,073,236		
Credits arising on disposal of assets retired	1,148,191		
Assets retired against Reserve	(1,615,439)		
		11,605,988	
			111,745,485
Total as at 31st March, 1974.			**£171,639,488**

Statement of Generation and Transmission Costs

Generation	Fuel £	Operation £	Maintenance £	Local Charges £	WORKS COST 1973/1974 £	Per Unit Sent Out Pence	WORKS COST 1972/1973 £	Per Unit Sent Out Pence	Depreciation £	TOTAL COST 1973/1974 £	TOTAL COST 1972/1973 £
Coal/Oil											
Marina	1,699,995	280,683	204,756	68,978	**2,254,412**	.492	1,257,855	.289	284,250	**2,538,662**	1,538,659
Ringsend	2,935,562	519,270	468,599	92,445	**4,015,876**	.490	2,777,231	.279	630,560	**4,646,436**	3,403,713
Arigna	494,467	119,310	49,664	28,779	**692,220**	1.081	572,737	.888	45,774	**737,994**	618,383
Great Island	3,045,418	252,321	262,473	88,995	**3,649,207**	.366	1,629,496	.250	689,372	**4,338,579**	2,292,365
Tarbert	2,239,239	186,893	145,904	56,774	**2,628,810**	.327	1,045,768	.223	411,535	**3,040,345**	1,455,885
Poolbeg	3,233,531	285,400	192,553	69,298	**3,780,782**	.298	2,689,121	.174	929,200	**4,709,982**	3,605,638
Sod Peat (Machine)											
Portarlington	669,605	212,287	179,694	38,994	**1,100,580**	.937	1,046,655	.792	77,810	**1,178,390**	1,124,123
Allenwood	946,992	239,168	174,377	43,102	**1,403,639**	.818	1,041,769	.835	116,891	**1,520,530**	1,159,335
Lanesborough	435,215	123,437	50,306	17,709	**626,667**	.690	470,053	.653	48,804	**675,471**	518,639
Milled Peat											
Ferbane	1,659,791	361,045	274,205	68,848	**2,363,889**	.636	1,802,128	.575	276,933	**2,640,822**	2,077,303
Rhode	1,383,884	255,706	275,911	59,373	**1,974,874**	.585	1,627,825	.499	219,453	**2,194,327**	1,846,523
Bellacorick	573,708	197,567	132,680	37,609	**941,564**	.674	962,853	.576	123,512	**1,065,076**	1,086,129
Shannonbridge	672,183	233,432	98,652	38,819	**1,043,086**	.542	799,851	.460	133,525	**1,176,611**	932,813
Lanesborough	722,904	123,438	77,124	25,501	**948,967**	.451	798,519	.413	134,923	**1,083,890**	933,219
Sod Peat (Hand-Won)											
Four 5 MW Stations	179,834	139,575	76,035	21,907	**417,351**	1.838	434,297	1.452	67,984	**485,335**	502,215
Peak Station											
North Wall	266,141	154,582	154,422	33,210	**608,355**	—	359,238	—	124,426	**732,781**	495,210
Stand-by											
Pigeon House	292,593	159,075	75,890	25,323	**552,881**	—	282,113	—	82,090	**634,971**	363,957
Total Fuel Stations	21,451,062	3,843,189	2,893,245	815,664	**29,003,160**	.472	19,597,509	.341	4,397,042	**33,400,202**	23,954,109
Hydro											
Shannon	—	137,164	219,742	70,440	**427,346**	.129	344,298	.120	136,629	**563,975**	480,570
Erne	—	84,137	104,510	34,398	**223,045**	.088	195,180	.081	197,844	**420,889**	392,900
Liffey	—	41,652	51,310	19,227	**112,189**	.215	113,716	.320	48,412	**160,601**	162,118
Lee	—	48,039	48,517	21,041	**117,597**	.133	92,424	.136	123,434	**241,031**	215,757
Clady	—	18,485	12,662	2,536	**33,683**	.229	27,987	.219	27,142	**60,825**	55,097
Pumped Storage											
Turlough Hill	—	23,474	18,653	65,628	***107,755**	—	—	—	136,166	**243,921**	—
Total Hydro Stations	—	352,951	455,394	213,270	**1,021,615**	.133	773,605	.120	669,627	**1,691,242**	1,306,442
Total All Stations	21,451,062	4,196,140	3,348,639	1,028,934	**30,024,775**	.434	20,371,114	.319	5,066,669	**35,091,444**	25,260,551
Transmission	—	188,897	572,387	280,615	**1,041,899**	—	886,873	—	1,563,640	**2,605,539**	2,174,656
Grand Total	21,451,062	4,385,037	3,921,026	1,309,549	**31,066,674**	—	21,257,987	—	6,630,309	**37,696,983**	27,435,207
									Electricity Purchased in bulk	**598,221**	6,079
									Interest:		
									Generation 3,999,006		
									Transmission 1,463,266	**5,462,272**	5,238,860
									Loan Amortisation:		
									Generation 2,750,420		
									Transmission 1,061,032	**3,811,452**	3,550,046
									Central Transport and Stores	**62,832**	55,715
									General Charges:		
									Generation 2,175,197		
									Transmission 662,021	**2,837,218**	2,226,565
									Fisheries (Net Cost)	**89,962**	91,737
									TOTAL COST	**£50,558,940**	£38,604,209

*Recently Commissioned

Fisheries — Commercial and Conservation Operations

F

1972/73 Total Cost			Total Cost	Analysis of Commercial and Conservation Operations: Commercial	Conservation
£		£	£	£	£
118,414	Direct Costs		**136,187**	54,165	82,022
	Overheads and General Charges:				
29,995	Payroll expenses and charges	34,880		10,830	24,050
6,000	Depreciation	7,000		3,366	3,634
6,455	Interest and Loan Amortisation	8,918	**50,798**	3,812	5,106
£160,864			**£186,985**	£72,173	£114,812
	Less:				
69,127	Sales of fish, letting of fishing rights and miscellaneous income		**97,023**	92,607	4,416
£91,737	**Net Cost as per Electricity Income and Expenditure Account**		**£89,962**	£20,434 (surplus)	£110,396

G

Statement of Interest and Loan Amortisation

	£	£	1972/1973 £
Interest:			
Interest payable to the Minister for Finance	2,378,667		
Interest on ESB Stocks and on other loans (less temporary investment earnings)	8,612,622		
Stock management charges	36,195		
		11,027,484	10,648,036
Loan Amortisation:			
Repayment of capital advances from the Minister for Finance	1,082,509		
Sinking fund provisions for redemption of ESB Stocks and other Loans	5,477,256		
		6,559,765	6,037,824
		£17,587,249	£16,685,860
Allocated as follows:			
Interest:			
Income and Expenditure Account:			
Generation	3,999,006		
Transmission	1,463,266		
Distribution	3,931,998		
Installations Account	55,700		
Appliance Sales Account	42,800		
Fisheries	6,466		
Capital Works	1,528,248		
		11,027,484	10,648,036
Loan Amortisation:			
Income and Expenditure Account:			
Generation	2,750,420		
Transmission	1,061,032		
Distribution	2,745,861		
Fisheries	2,452		
		6,559,765	6,037,824
		£17,587,249	£16,685,860

NOTES ON AND FORMING PART OF THE FINANCIAL ACCOUNTS AND APPENDICES

The Accounts are prepared in accordance with the Electricity (Supply) Acts

Accounting Policies

1. Capital Assets:
Capital Assets are valued at cost. Cost includes prime cost, overheads and interest costs during construction.

2. Depreciation of Capital Assets:
Assets are grouped and allotted lifespans in line with international practice. Depreciation is provided on the straight line method on all assets in commission on 1st April each year (other than on new generation stations) even where they have exceeded their allotted lifespans. In the case of new generation stations depreciation commences from the date of commissioning if prior to 31st December.
Assets when retired from service are charged against, and proceeds of disposal or stores value are credited to, Depreciation Reserve.

3. Materials:
Stocks of materials and fuel are valued at average cost; prior to December, 1973 fuel was valued at delivered cost (See note under Electricity Income and Expenditure Account).

4. Repayable Jobs-in-Progress:
Installations Contracts are valued at direct cost together with appropriate overheads; sundry jobs at direct cost.

5. Debtors:
Bad Debts are written off as they arise. A provision for doubtful debts, considered adequate in relation to the size and nature of the business, is maintained.

6. Loan Amortisation:
Long Term Loans and Public Issues (Appendix C) — Amortisation is in line with the contractual agreements.
Medium and Short Term Loans — These are repaid in accordance with the contractual agreements but amortisation is provided on a 20 year basis.
Where loan proceeds are used for a period in excess of six months in the year of drawdown, revenue is charged with proportionate amortisation in that year.

7. Capital Borrowings:
Borrowings are classified in accordance with the total duration of contracted repayment terms, irrespective of phased repayment arrangements, and of the lapsed portion of repayment period.
Discounts on loans are charged against the Repaid Capital Reserve. Other borrowing costs are charged against Profit and Loss Account.

8. Borrowings in Foreign Currencies:
Irish Pound equivalent is at exchange rates ruling at year end to reflect significant changes in parities. Changes are reflected in the Capital Reserve.

9. Hire Purchase Transactions:
Profit on Hire Purchase sales is taken in the year of sale. Credit for interest is taken in equal instalments over the Hire Purchase term.

10. Apportionments:
(a) Capital Expenditure bears interest on the average value of (1) work-in-progress, (2) Stocks held and (3) advances made to suppliers in respect of capital works, at the rates appropriate to the financing of individual projects, and a proportion of general overhead expenses calculated at a percentage rate on the prime cost of work paid for during the year.
(b) Appliance Sales, Installations Contracts and Fisheries bear their relevant proportion of general overhead expenses and interest.
(c) The proportion of Appliance Sales and Installations Contracts overhead expenses related to the promotion of sales of electricity is included in the overhead expenses charged to Electricity Income and Expenditure Account.

11. Taxation:
The Board is liable for Income Tax but is exempt from Corporation Profits Tax. Because of large continuing capital expenditure, liability to tax will not arise in the foreseeable future and a tax equalisation reserve is not deemed necessary.

Other Notes

1. Deferred Expenditure:
This represents the revenue element, relating to Electricity Income and Expenditure of lump sum payments, to achieve future benefits under productivity agreements and is being charged to that account over a three year period.

Auditors' Report

As Auditors appointed by the Minister for Transport and Power, with the consent of the Minister for Finance, we have examined the Balance Sheet, Financial Statements numbered 1 to 4 and Financial Appendices A to H of the Electricity Supply Board, which have been prepared in accordance with the Electricity (Supply) Acts.

We have obtained all the information and explanations which we considered necessary for the Audit and the Financial Statements and Financial Appendices thereto are in agreement with the books of account.

In our opinion:

(a) Proper books of account have been kept and proper Returns have been received from offices not visited by us.

(b) The Balance Sheet, Financial Statements numbered 1 to 4 and the Financial Appendices, when read in conjunction with the Notes appearing thereon, give, in the context of the Electricity (Supply) Acts, (which require the charging of loan amortisation as set out in Appendix G against Revenue Income, in fixing the Board's rates and scales of charges for electricity) and the accounting policies of the Electricity Supply Board, a true and fair view of the outcome of the Revenue operations of the Board for the year ended 31st March, 1974 and of the state of the Board's affairs as at that date.

Harcourt House,
Harcourt Street,
Dublin 2.

STOKES KENNEDY CROWLEY & CO.
Chartered Accountants

19th July, 1974

Statistical Appendices

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Appendix 1

Number of Consumers and Electricity Sales

District	No. of Consumers at 31st March		Electricity Sales Units sold in year ended 31st March	
	1974	1973	1974 (Millions)	1973 (Millions)
Athlone	49,356	47,965	212.8	196.5
Cork	98,537	95,842	751.3	682.3
Dublin City	136,892	136,377	1,103.1	1,065.6
Dublin North West	89,084	81,995	803.3	729.2
Dublin South	54,961	52,503	443.6	441.3
Dundalk	67,612	65,324	523.3	473.7
Galway	49,259	47,443	256.9	238.3
Limerick	80,318	77,821	656.8	598.9
Portlaoise	58,505	56,469	372.6	340.4
Sligo	79,017	76,749	278.6	253.6
Tralee	41,437	40,265	193.6	176.7
Waterford	68,786	66,366	556.1	508.6
Totals	873,764	845,119	6,152.0	5,705.1

Growth of Electricity Sales and Number of Consumers

Appendix 2

Year Ended 31st March	Units Generated (and Purchased) Millions	Units Sold to Consumers Millions	Revenue from Electricity Sales Thousands	Average Price per Unit sold Pence	Total Consumers
			£		
1930	60.9	43.2	478	1.108	48,606
1935	206.1	157.0	1,258	0.800	103,037
1940	407.0	318.6	1,946	0.612	172,545
1945	406.3	319.0	2,458	0.771	228,008
1950	784.8	626.2	4,774	0.763	310,639
1955	1,461.7	1,192.2	9,522	0.800	461,901
1960	2,096.0	1,692.2	14,724	0.871	610,946
1961	2,262.3	1,863.6	16,263	0.871	628,241
1962	2,453.0	2,005.1	17,731	0.883	642,753
1963	2,714.9	2,238.5	19,445	0.867	659,932
1964	2,900.8	2,375.9	20,383	0.858	678,054
1965	3,240.2	2,682.6	22,488	0.838	697,491
1966	3,546.2	2,953.3	24,077	0.817	716,113
1967	3,851.0	3,238.1	26,690	0.825	726,561
1968	4,246.4	3,570.1	29,898	0.838	745,430
1969	4,749.0	4,012.3	34,457	0.858	765,213
1970	5,245.7	4,411.6	39,400	0.892	786,500
1971	5,921.0	4,862.1	44,082	0.907	805,736
1972	6,234.2	5,271.7	51,750	0.982	818,516
1973	6,749.1	5,705.1	60,321	1.057	845,119
1974	7,253.1	6,152.0	73,063*	1.188	873,764

The above table shows, quinquennially, from 1930 to 1960, and for each year since, the number of units generated and sold, the revenue, the average price per unit, and the number of consumers.

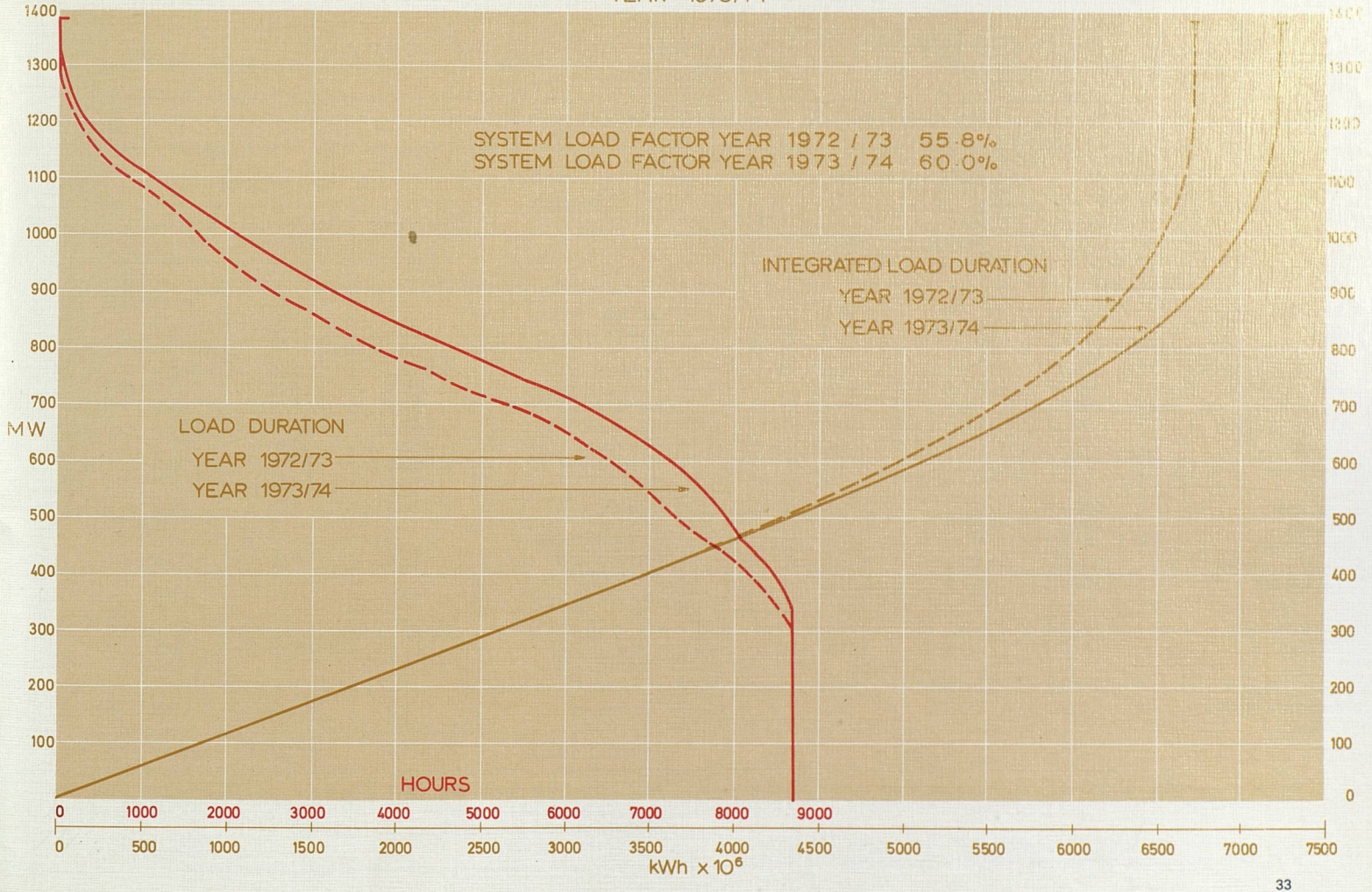
*The figure of £73.063 million represents revenue from electricity sales to Board consumers. Additional revenue of £549,239 net accrued from E.S.B./N.I.E.S. interchange making a grand total of £73,612,212.

Appendix 3

Analysis of Units Sold

Class of Supply	Year ended 31st March 1974 (Millions)	Year ended 31st March 1973 (Millions)	Increase (Millions)	Percentage Increase
DOMESTIC				
General Supply	2,362.4	2,226.3	136.1	6.1
Night Space Heating	330.8	307.0	23.8	7.8
	2,693.2	2,533.3	159.9	6.3
COMMERCIAL				
Lighting	235.3	228.1	7.2	3.2
Heating, Cooking and Waterheating	322.5	318.6	3.9	1.2
Motive Power	219.4	216.8	2.6	1.2
Night Space Heating	228.0	228.8	— 0.8	— 0.3
Public Lighting	69.2	63.1	6.1	9.7
Miscellaneous	184.6	175.7	8.9	5.1
	1,259.0	1,231.1	27.9	2.3
INDUSTRIAL				
Maximum Demand	2,032.7	1,761.0	271.7	15.4
Lighting	14.9	17.6	— 2.7	— 15.3
Heating, Cooking and Waterheating	36.2	40.0	— 3.8	— 9.5
Motive Power	105.7	112.0	— 6.3	— 5.6
Night Space Heating	10.3	10.1	0.2	2.0
	2,199.8	1,940.7	259.1	13.4
Total	6,152.0	5,705.1	446.9	7.8

SYSTEM LOAD DURATION AND INTEGRATED LOAD DURATION CURVES
YEAR 1973/74



Appendix 5

Generation Statistics for the Year 1973/74

Station	Year 1973/74			Year 1972/73
	Generated million units	Station use million units	Sent out million units	Sent out million units
Ardnacrusha	332.4	2.5	329.9	286.7
Cliff	74.9	1.4	73.5	70.5
Cathaleen's Fall	181.3	1.8	179.5	170.5
Carrigadrohid	25.3	0.5	24.8	19.4
Inniscarra	63.9	0.8	63.1	48.5
Pollaphuca	27.5	0.9	26.6	17.3
Golden Falls	10.2	0.2	10.0	7.0
Leixlip	15.6	0.1	15.5	11.2
Clady	14.8	0.1	14.7	12.8
Ferbane	402.6	31.3	371.3	313.2
Rhode	363.0	25.5	337.5	326.5
Bellacorick	151.2	11.7	139.5	167.1
Shannonbridge	205.9	13.4	192.5	173.8
Lanesboro	322.2	21.1	301.1	265.2
Portarlington	125.5	8.1	117.4	132.2
Allenwood	181.5	10.1	171.4	124.8
Cahirciveen	7.9	0.9	7.0	14.4
Miltown Malbay	0.4	0.2	0.2	1.7

Station	Year 1973/74			Year 1972/73
	Generated million units	Station use million units	Sent out million units	Sent out million units
Screeb	0.2	0.2	—	2.1
Gweedore	17.1	1.6	15.5	11.7
Poolbeg	1,324.3	57.9	1,266.4	1,546.1
Pigeon House	40.3	5.8	34.5	14.0
North Wall	56.4	5.2	51.2	36.9
Ringsend	869.0	50.1	818.9	996.5
Marina	482.4	24.6	457.8	435.1
Great Island	1,050.9	54.1	996.8	652.6
Tarbert	839.0	37.3	801.7	468.7
Arigna	68.9	4.9	64.0	64.5
Turlough Hill (generation)	32.5	0.2	32.3	—
Turlough Hill (pumping)	42.9	—	42.9	—
E.S.B. Import	92.8	—	92.8	—
E.S.B. Export	87.1	—	87.1	—
Purchased	3.2	—	3.2	2.7
System Demand	7,253.1	372.5	6,880.6	6,393.7
Maximum daily generation (including 1.1 exported) million units			27.5	26.5
Maximum load generated (including 2,000 exported) in kW			1,386,000	1,383,000

The total system demand was 7253 million units, an increase of 504 million units (7.5%) over the previous year. Production from native sources provided 35.6% of the total demand.

Note: System demand is the total units generated by all stations including Turlough Hill plus E.S.B. Import and units purchased, less Turlough Hill (pumping) and E.S.B. Export.

Particulars and Performance of Generating Plant

Hydro Stations

Station	Location	Average annual generation million units	Plant Particulars		Plant Performance in year ended 31/3/'74		
			Generating Sets		Units sent out millions	Plant load factor %	Works cost per unit sent out new pence
			No.	Capacity (MW)			
Ardnacrusha	Shannon	331	4	85	329.9	44.8	0.129
Pollaphuca	Liffey	48	2	30	52.1	10.5	0.215
Golden Falls			1	4		29.2	
Leixlip			1	4		44.6	
Cliff	Erne	269	2	20	253.0	42.9	0.088
Cathaleen's Fall			2	45		46.1	
Carrigadrohid	Lee	85	1	8	87.9	36.2	0.133
Inniscarra			2	19		38.5	
Clady	Clady	14	1	4	14.7	42.4	0.229
Turlough Hill — Pumped Storage *	Co. Wicklow	—	2	146	32.3	—	—
Turlough Hill — Pumped Storage (under Construction)	Co. Wicklow	—	2	146	—	—	—

*This station has recently been commissioned

Appendix 6 CONT.

Particulars and Performance of Generating Plant

Steam Stations

Station	Location	Plant Particulars					Plant Performance in year ended 31/3/'74			
		Generating Sets		Boilers			Units sent out millions	Plant load factor %	Fuel cost per unit sent out new pence	Works cost per unit sent out new pence
		No.	Total Capacity MW	No.	Total Capacity Tonne/hour	Fuel Type				
Arigna	Co.Ros-common	1	15	1	75	Coal	64.0	52.6	0.772	1.081
Lanesborough	Co. Longford	2	60	1 1	100 173	Sod Peat Milled Peat	90.8 210.3	54.5 64.9	0.479 0.343	0.690 0.451
Rhode	Co. Offaly	3	80	3	364	Milled Peat	337.5	51.9	0.410	0.585
Bellacorick	Co. Mayo	2	40	2	191	Milled Peat	139.5	43.3	0.411	0.674
Shannonbridge Shannonbridge (under construction)	Co. Offaly	1 1	40 40 80	1 1	173 173	Milled Peat Milled Peat	192.5	58.9	0.349	0.542
Great Island	Co. Wexford	3	240	3	853	Oil	996.8	50.1	0.305	0.366
Tarbert Tarbert (under construction)	Co. Kerry	2 2	120 500 620	2 2	473 1600	Oil Oil	801.7	80.0	0.279	0.327
Poolbeg	Dublin City	2	240	2	760	Oil	1,266.4	56.5	0.255	0.298
		2	28	Gas Turbine Sets						

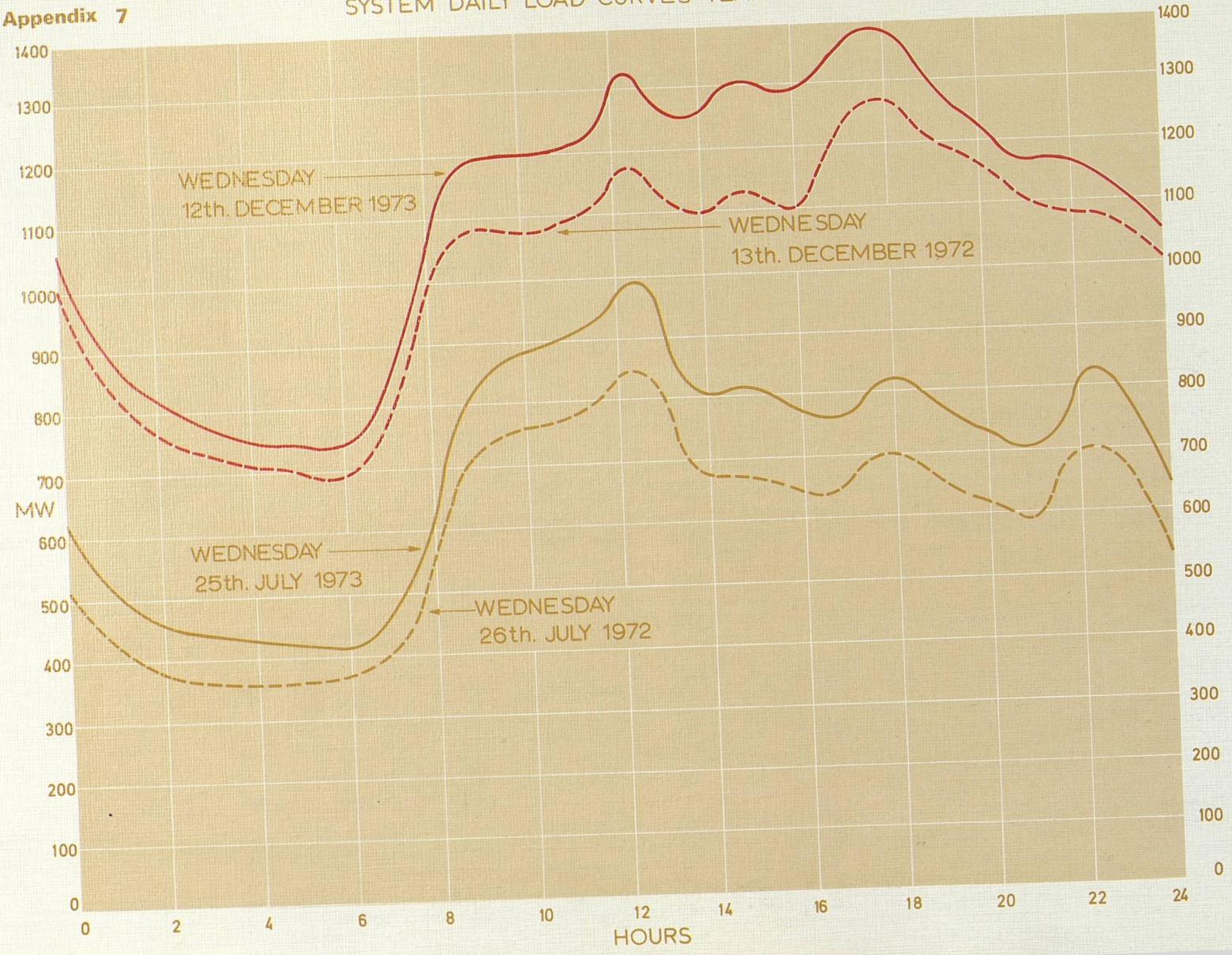
Particulars and Performance of Generating Plant

Steam Stations

Station	Location	Plant Particulars					Plant Performance in year ended 31/3/'74			
		Generating Sets		Boilers			Units sent out millions	Plant load factor %	Fuel cost per unit sent out new pence	Works cost per unit sent out new pence
		No.	Total Capacity MW	No.	Total Capacity Tonne/hour	Fuel Type				
Pigeon House (Stand-by Station)	Dublin City	5	90	8	364	Oil	34.5	—	—	—
North Wall (Peak Station)	Dublin City	3	48	3	225	Oil	51.2	12.3	—	—
Portarlington	Co. Laoise	3	37.5	3	205	Sod Peat	117.4	38.3	0.570	0.937
Allenwood	Co. Kildare	2	40	4	273	Sod Peat	171.4	51.9	0.552	0.818
Marina	Cork City	3	120	4	522	Oil	457.8	46.0	0.371	0.492
Ringsend	Dublin City	6	270	7	1114	Oil	818.9	36.8	0.358	0.490
Ferbane	Co. Offaly	4	90	4	430	Milled Peat	371.3	51.2	0.447	0.636
Miltown-Malbay	Co. Clare	1	5	1	28	Sod Peat	22.7	14.7	0.790	1.838
Screeb	Co. Galway	1	5	1	28	Sod Peat				
Cahirciveen	Co. Kerry	1	5	1	28	Sod Peat				
Gweedore	Co. Donegal	1	5	1	28	Sod Peat				

Appendix 7

SYSTEM DAILY LOAD CURVES YEAR 1973/74



Transmission System at 31st March, 1974

Transmission Stations

Transformer/Switching Stations	No. in commission	Increase for year	Total capacity in kVA	Increase or decrease in capacity for year in kVA
220 kV Stations	9	1	600,000 at 275/220 kV	Nil
			1,253,000 at 220/110 kV	Nil
			420,000 at 13/220 kV	Nil
			222,000 at 10/220 kV	+175,000
			310,000 at 10/110 kV	Nil
			20,000 at 110/ 6 kV	Nil
110 kV Stations	62	*2	2,552,500 at 110/ 38 kV	+189,000
			59,000 at 110/ 10 kV	Nil
			60,000 at 110/ 6 kV	Nil
			110,400 at 38/ 10 kV	Nil
			1,151,000 at 10/110 kV	Nil
			88,000 at 10/38/110 kV	Nil
			5,000 at 10/38 kV	Nil

Transmission Lines and Cables

Lines and cables	Length kms.	Increase or decrease for year kms.	Description
275 kV lines	10.5	Nil	6 x twin 485 sq. mm double circuit SCA
220 kV lines	20.1	Nil	6 x 600 sq. mm. double circuit SCA
220 kV lines	474.3	+164.5	3 x 600 sq. mm. single circuit SCA
220 kV lines	276.8	Nil	3 x 425 sq. mm. single circuit SCA
220 kV lines	3.9	+3.9	3 x 425 sq. mm. twin, SCA
110 kV lines	7.4	Nil	6 x 95 sq. mm. double circuit copper
110 kV lines	514.5	—54.2	3 x 95 sq. mm. single circuit copper
110 kV lines	91.6	Nil	6 x 200 and 6 x 300 sq. mm. double circuit SCA
110 kV lines	2566.7	+54.4	3 x 200 to 3 x 425 sq. mm. single circuit SCA
220 kV cables	30.5	+3.4	3 single core oil filled
110 kV cables	21.0	+0.6	3 single core oil filled
110 kV cables	17.9	Nil	3 core oil filled
110 kV cables	25.6	Nil	3 core pipe compression

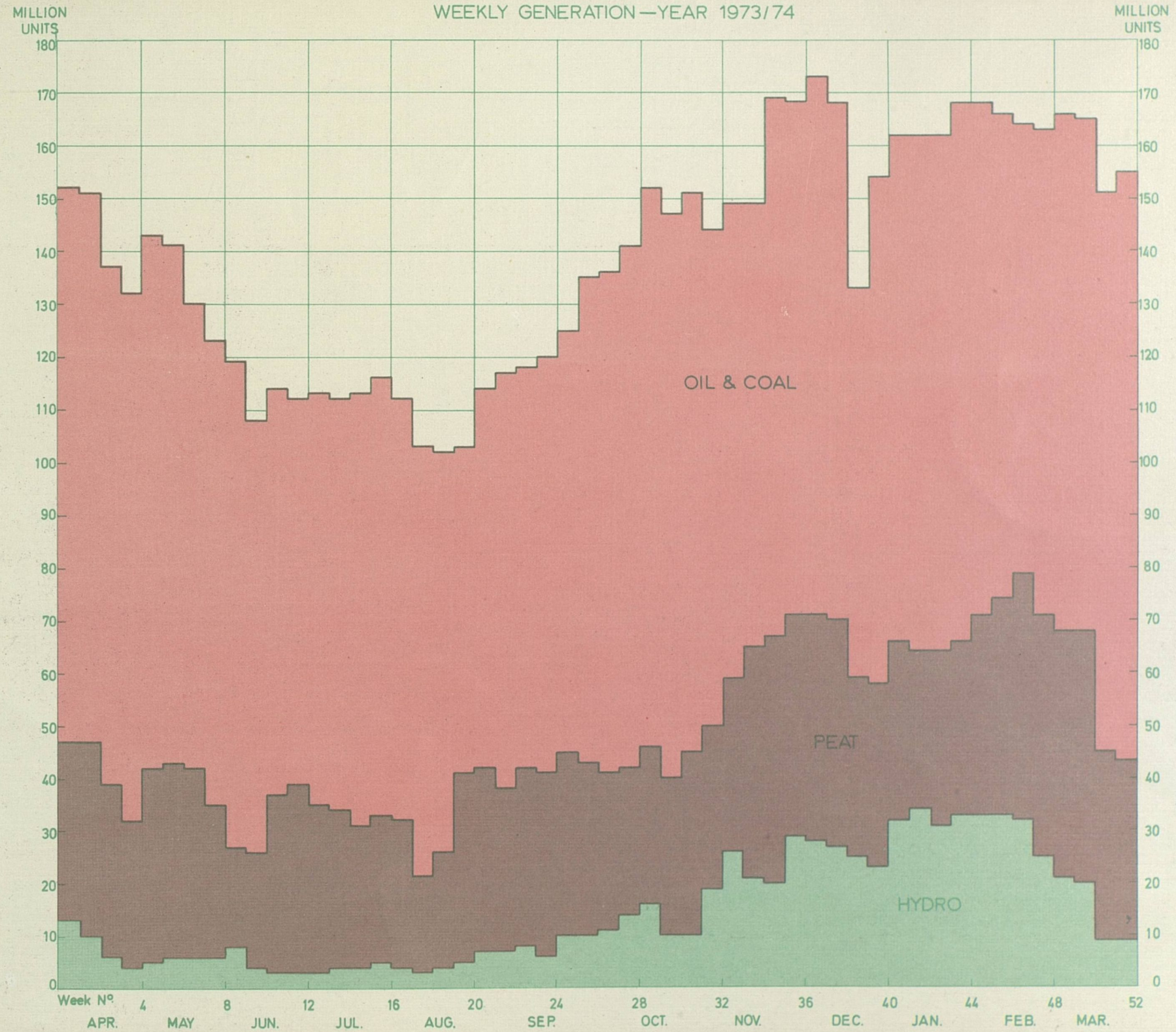
Appendix 9

Distribution System at 31st March, 1974

Distribution System (Excluding Rural Networks)

Transformer stations	No. in commission	Increase (+) or Decrease (—) for year	Total Capacity in kVA	Increase (+) or decrease (—) for year in kVA
38kV Stations	308	+ 3	2,038,700	+ 70,000
10kV Stations (Excl. U.R.D.)	7,677	+648	1,749,330	+ 148,550
10kV Stations U.R.D.	1,538	+108	88,229	+ 6,075
5kV Stations	53	Nil	32,590	Nil

Distribution lines and cables	Length kms.	Increase (+) or Decrease (—) for year kms.	Description
38kV Lines	4,835.5	+ 20.5	3 x 25 to 3 x 300 sq. mm. Cu. and SCA.
38kV Cables	241.0	+ 17.5	3 x 95 to 3 x 680 sq. mm. Solid, oil filled and Polyethelene.
10kV Lines	6,245.3	+ 39.0	Single and three phase.
10kV and 5kV Cables	2,035.0	+ 80.3	2 x 16 to 3 x 185 sq. mm.
3.3kV Cables	3.7	—	3 x 185 sq. mm.


WEEKLY GENERATION—YEAR 1973/74
MILLION UNITS
MILLION UNITS
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
OIL & COAL
PEAT
HYDRO
Week Nº.
4
8
12
16
20
24
28
32
36
40
44
48
52
APR.
MAY
JUN.
JUL.
AUG.
SEP.
OCT.
NOV.
DEC.
JAN.
FEB.
MAR.

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