ESB

Bord Solathair an Leictreachais

Electricity Supply Board
Fifty fifth Annual Report
for year ended 31st March 1982

Cover Picture: E.S.B. line construction crew working at a height of 200 feet at Rushbrook, Co. Cork.

PL 630

Tá leagan Gaeilge den Tuarascáil seo le fáil, ach é a iarraidh.



Pictured at the April meeting of the Board Members are from left: John Cohalan, Denis Hatch, Cornelius Kelleher, Liam Boyd, Patrick J. Moriarty (Chief Executive), Professor C. T. G. Dillon (Chairman), John F. Williams (Secretary), John A. Ryan, John P. Wyley, Anthony Ryder.
Inset: from left – Thomas Gilmartin, Gerard N. Power and Richard B. Godsil.

Report and Accounts for year ended 31st March 1982

Board Members
PROFESSOR C. T. G. DILLON, M.E., C. Eng., F.I.E.I., F.I.E.E., F.I.Mech.E., **Chairman**
L. BOYD, F.C.I.T.
J. COHALAN, M.Sc. (Econ.)
T. GILMARTIN
D. HATCH
P. J. MORIARTY, F.C.I.S., F.I.P.M., **Chief Executive**
G. N. POWER, F.C.A.
J. A. RYAN, M.A., LL.D.
A. RYDER
J. P. WYLEY, B.Comm.

Directors
Advance Projects **S. TINNEY,** B.E., B.Sc., M.I.E.E.
Energy Resources **J. F. LANG,** M.E., C.Eng., F.I.Mech.E., M.I.E.I., M.I.E.E., M.Inst.E.
Finance **J. B. O'Donoghue,** F.C.C.A., A.C.M.A.
Personnel **T. V. FAHY,** B.E., F.I.P.M.
Commercial/Distribution **C. McCABE,** B.E., F.I.E.I., C.Eng.
Generation/Transmission **A. G. KELLY,** B.E., Ph.D., F.I.Mech.E., Mem.A.S.M.E., F.I.E.I.

Secretary
J. F. WILLIAMS, F.C.I.S.

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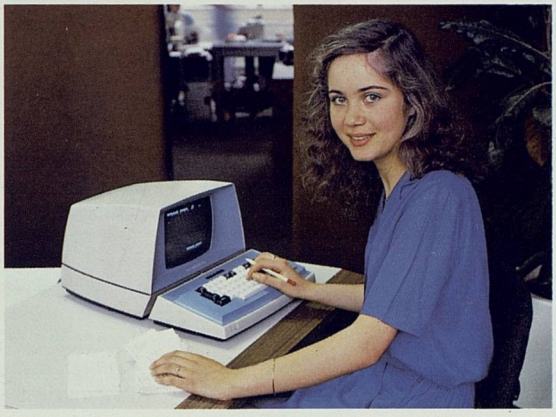


Significant Facts

	1981/82	1980/81
REVENUE Electricity	£517,837,000	£409,862,000
Appliance Sales (Net of Taxes)	£8,459,000	£7,237,000
Installations	£3,059,000	£3,500,000
Consultancy Income	£6,798,000	£3,483,000
ASSETS	£1,043,317,000	£835,991,000
PAYROLL	£159,366,000	£111,479,000
SALES (Million Units)	8,662	8,365
GENERATION CAPACITY (MW)	3,287	3,117
PEAK DEMAND	1,999	1,892
LOAD FACTOR	58.1%	60.7%
CUSTOMERS	1,096,950	1,070,049
EMPLOYEES	13,301	12,441

(Cash figures are rounded off to the nearest thousand)

Note: 1981/82 was a 53 Week Accounting Year.
1980/81 was a 52 Week Accounting Year.



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To the Minister for Industry and Energy

In accordance with the provisions of the Electricity (Supply) Acts, 1927/'81, the Board presents its Annual Report and Accounts for the year ended 31st March, 1982.

OUTCOME FOR YEAR 1981/'82

FINANCIAL

The surplus of £5.933 million for the year continues the financial recovery, begun last year, from the pattern of deficits of the 1970's. A major contribution to this satisfactory trend has come from the continued efforts of management and staff to contain costs and to improve the efficiency of the day-to-day operation of the system. Savings in fuel costs, arising from above-average hydro generation and exceptionally high availability of gas fired plant also helped in the year ending March last, as did the continued financial contribution of the ESB foreign consultancy service.

The Board is pleased to be able to report that this year's surplus, together with that of last year, has reduced the accumulated deficit to £8.475 million. The importance of this reduction cannot be over-stressed. While forced to operate with a large accumulated deficit financed by foreign borrowings in an era of high interest rates, currency weakness, severe increases in fuel costs not only in oil but also in peat and natural gas and general inflation, it was impossible for the Board to have any confidence about the future outlook for electricity prices or for the future financial health of the ESB. If, however, fuel prices, both home and imported, in the future move more or less in line with general inflation and if adequate electricity price increases are sanctioned promptly, the Board foresees that a moderation of electricity prices could be achievable in the long-term. It must, however, be stressed that some major elements of costs, such as interest and exchange rates, are completely outside the control of the ESB. In particular, it must be realised also that Government policy affects major segments of ESB costs.

For some years past the ESB experience has been that delays in sanctioning price recommendations made by the National Prices Commission have resulted in intervals of up to nine months between the submission of an application for a price increase and receipt of the extra revenue arising from the approved increase. The loss of income which this caused inevitably resulted in deficits each year which had accumulated to £21 million by 31st March, 1980. These recurring deficits had to be made up through foreign borrowing. Interest paid on these borrowings amounted to £15 million by March, 1982; this has been a significant burden on electricity costs. Delays in sanctioning price increases, inadequate increases and the resultant deficits, are a disadvantage both to the electricity customer and to the ESB. The customer must ultimately pay for the cost of the enforced borrowings and for the recovery of the lost income through higher electricity prices, as happened last year. The business and public credibility of the ESB are damaged through the artificially-inflated price, and its financial integrity is diminished by the chronic deficit in its financial position.

The Board is concerned that electricity price increases in recent years have been higher than it would have wished. It wishes to record, nevertheless, that the aggregate of price rises applied since a base year of 1976/'77 is now less than national inflation, as measured by the Consumer Price Index. This is a considerable achievement in a period of deep economic recession with an almost stagnant demand for electricity coupled with high inflation.

ELECTRICITY SALES

Sales of electricity for the 53 week accounting year 1981/'82 were 3.6% higher than in the previous 52 week year. The increase was 1.6% on a 52 week basis. Once again low consumption in the industrial sector reflected the continuing effect of the recession.

Active promotion of the use of electricity for the more productive applications to which it is particularly appropriate has been adopted by the ESB as its strategy for the coming decade. A return to a moderate growth of 3% to 5% per annum would ensure that the large element of fixed costs in the total costs of the ESB does not have a disproportionate effect on electricity prices for the future.

CURRENT COST ACCOUNTING

The Board has continued the practice, introduced last year, of presenting Current Cost Accounts as a supplement to the Main Accounts which are based on the Historical Convention. The Current Cost deficit for 1981/'82 amounted to £18.6 million, a significant reduction on the previous year's figure. This reduction is largely attributable to greater stability in fuel prices throughout the year and a relatively lower working capital requirement, as a result of specific management actions.

AWARD FOR REPORT AND ACCOUNTS

The Board was very pleased that its Annual Report and Accounts for 1980/'81 won the main Published Accounts Award of the Leinster Society of Chartered Accountants, the first occasion on which the ESB entered the competition. The Award was won in open competition with the private and public sectors and the success stands as an independent tribute to the accounting standards of the ESB and to the quality of presentation and disclosure in its Annual Report and Accounts.

It is the policy of the ESB to design and present its

Annual Report and Accounts in a manner which will be informative to the widest range of specialist and general interests. In keeping with this policy the 1981/'82 Accounts include for the first time a Value Added Statement (Schedule N).

INTERNATIONAL COMPARISON OF ELECTRICITY PRICES

In recent months there has been much misleading information published about Ireland's position in the international comparison of electricity prices. Such price comparisons must be used with caution particularly as currency exchange rates have varied so much in the past ten years. Nevertheless, the most recent survey of the position at August, 1981 conducted by the UK Electricity Council shows domestic rates of charge in Ireland to be in the middle range of the EEC countries. Rates of charge for medium-size industry are in the middle of the table. Prices to major industrial customers are high, but this is to be expected given the disabilities with which the ESB must contend compared with other EEC countries, e.g. no economy of scale, little cheap hydro, no cheap nuclear generation, no interconnection, extra taxation and social costs imposed by Government and little native heavy engineering industry. These disabilities are expensive but to ignore their reality by continuously making unfavourable comparisons with utilities with many advantages and privileges is to do less than justice to our own achievements and to damage the morale of the ESB which has a good record of commitment to public service since its foundation.

THE FUTURE

While this report is chiefly concerned with the results of last year's operations, the Board wishes to place on record its views on issues which are of vital importance both to the future economic and social development of the country and to the continuing financial viability of the ESB. So far in its 55 years' history the chief characteristic of the ESB has been its ability to survive without either State equity or Exchequer subsidy. To continue in such a sound financial state for the future is seen by the Board as its major responsibility. In the much-changed post energy crisis days this is a most difficult task.

It is nearly ten years since the first oil crisis, and it is opportune to understand the significance of what has happened. It was the discovery and application of plentiful and cheap energy in the nineteenth century that made the industrial revolution and the improvement in living standards and job opportunities possible. It was not until the energy crisis of 1973 that the close connection between cheap energy and economic progress came to be fully realised. The crisis was not one of supply but of price. The price of oil has increased over twenty times since 1973 and this escalation in price is the major contributory factor to the world recession which has seriously impacted on Ireland's current difficult problems of stagnant economic growth, high inflation, and high unemployment. Likewise it has caused the down-turn in demand for electricity, whereas the increase in demand, for so long, had a moderating influence on electricity prices.

The ESB considers that planning for recovery from the recession must take account of the special role of electricity. Industrial expansion is inextricably linked to satisfactory and economic electricity supply more than to any other energy form. Modern automated technology and the complex processes of industry and commerce cannot use energy in other forms; neither can many aspects of modern domestic and social activity. The advantage in the future will lie with countries which have abundant and cheap electricity. That the world is thinking that way is evident already in the construction of mammoth industrial cities in the Middle East, in the development of major hydro-electric projects in Africa, South America and the Far East and in the development of nuclear power in the industrialised nations. The present plant construction programme of the ESB, together with the existing plant, will provide adequate capacity for electricity generation for the nation well into the nineties. Long-term contracts for fuel will ensure electricity supply from this plant.

In the view of the ESB it is also of major importance that Irish electricity prices should be as low as possible. The Board's principal strategy to achieve this has been to diversify to coal from oil which will continue to be expensive in the short-term and in short supply in the long-term. The construction of the coal-fired station at Moneypoint, Co. Clare is on target. Three 300 MW units are under construction and there is provision for a fourth unit, if and when it is necessary, to increase the capacity of Moneypoint to 1,200 MW. One unit is due for commissioning in each of the years 1985, 1986 and 1987. The ESB has negotiated long-term contracts for the supply of coal from the United States and Colombia. These contracts have built-in formulae which will guarantee far better price stability than was possible with oil contracts in the past.

Until electricity generation from coal plant comes on stream in the mid-1980's, the use of Kinsale gas at a reasonable price is vital if an acceptable measure of price stability is to be achieved. The Board is happy to report that both the Department of Industry and Energy and Bord Gais Eireann have been most helpful and co-operative in the negotiations that have concluded on these matters. Indeed, the Board feels it necessary to record that its policies and plans have always received careful and constructive consideration from all departments of the Civil Service, local authorities and other state-sponsored bodies.

Its concern to supply relatively cheap electricity to

assist the country's recovery from the recession and planned economic growth thereafter led the Board to declare as its primary objective for the eighties and nineties to be the achievement of considerably more price stability than was possible through the seventies. For the current year it appeared to the Board that this objective could be achieved. A net price increase of much less than 10% was all that was sought to cover the year up to March, 1983 on the strict understanding that no new costs would be imposed on the ESB. The application received a most detailed examination from the National Prices Commission which recommended a net price increase of 5.9% from the April/May billing period. The Government sanctioned a price increase of 5% from the June/July, 1982 billing period and also approved an ESB proposal to reduce the night rates of charge by 0.5p per unit. This latter proposal was put forward as a concession to stimulate job creation through improving the competitiveness of Irish industry which uses over two-thirds of all electricity consumed at night and which will get significant benefit from the proposal.

Initially it appeared as if this price increase would have achieved a breakeven position at 31st March, 1983. Unfortunately this is no longer the prospect. An increase in costs to the ESB of 32%, well in excess of what the National Prices Commission included in the ESB price review, has recently been sanctioned for Bord na Mona peat supplies. Legislation has been enacted imposing a rates levy on the ESB which will require an extra payment of £12½ million to the Minister for the Environment in the current ESB financial year. These substantial extra costs and the continuing weakening of the Irish currency presents the dismal prospect to the Board of having the greatest deficit in its history this year unless remedial action is taken urgently in the form of an appropriate price increase.

Such a deficit would have to be financed from foreign borrowing. The Board regrets that these developments negative the good efforts of its management and staff to return once again to profitable operation as distinct from the deficit situation that prevailed in the seventies. The Board fears that the attitude of successive Governments, not to be concerned with the damage to the ESB when loading it with a variety of expensive non-commercial obligations and extra costs, poses the most serious threat to the continued financial stability of the ESB, not only in forcing deficit financing but in pricing electricity into an uncompetitive position relative to other fuels, which do not have the burden of large capital investment. The artificial depression of growth in the demand for electricity as a result of the imposition of extra costs will, in the Board's view, create enormous difficulties for the ESB as regards financing, staffing and quality of service.

The Board wishes to emphasise that it is its most earnest wish to contain escalation in electricity charges to a level well below the national level of inflation. The implications of setting such an objective were made clear by the ESB to the present Government and to its predecessor. It has been clearly pointed out that costs arising from inflation, interest rates, currency value fluctuations and low internal resources towards capital development, are outside the control of the ESB, and that there are also other major costs over which the ESB has no control, viz., those imposed by policy decisions of Government. The latter relate primarily to taxation on fuel, the price structure for native fuels, support for Irish industry, and the recently passed legislation imposing a rates levy. It is not generally realised that the contribution of the electricity customers to the economy and the Exchequer through these various items represents over £100 million per annum. The main point which the Board wishes to make is that, however hard it tries to achieve price stability, its efforts will fail if the need for such an objective is not clearly accepted and implemented at the policy-making levels of Government. There is little the ESB can do in regard to electricity prices if it is forced to operate on the basis of deficit financing through delays in the implementation of price increases recommended by the National Prices Commission or through inadequate implementation of these recommendations, or through imposition of other extra costs on the ESB either in the pricing policy of native fuels or in additional taxation of whatever nature or by whatever means.

SUPPLEMENTARY SOURCES OF ELECTRICITY GENERATION

The Generation Plant Programme at present under construction will almost certainly be adequate to cater for any growth in demand which can reasonably be expected up to the year 1990, if not beyond. Consequently, however technically feasible they may be, projects for the use of supplementary sources of electricity generation can only be considered as possible options for long-term development. The projects being actively considered at present are wind, small hydro, biomass, solar, tidal and wave. An opinion has been expressed by some that a concentrated effort, backed by effective commitment of resources, both of finance and skill, would produce from these sources a significant contribution to Ireland's energy requirements. From extensive investigation, backed by a prudent but still sizeable expenditure of resources on pilot schemes, feasibility studies, and participation in international development work, the ESB is convinced that these sources would certainly not contribute significantly to our energy requirements over the next decade.

Indeed, any significant contribution from these sources would be unduly expensive in the foreseeable future. The ESB is also of the opinion that this position would be so irrespective of the resources which the electricity customer can afford for research and development. The reality is that it is beyond the capacity of Ireland to afford the investment in research and development which would be necessary to have any likelihood of a technical breakthrough in the economic use of supplementary sources of electricity generation in any reasonable time-scale. This position could improve if the large industrial nations devote considerably more resources to the development of plant to exploit these sources but it is quite the reverse at present with research and development expenditure in this area being scaled down in many countries including even the United States. The ESB is keeping in touch with such international developments as are proceeding and as it has always done in the past, will be able to adapt every new technological breakthrough for subsequent application in Ireland. Four wind turbines have been commissioned at a capital cost of approximately £750,000, complete with an extensive information collecting system, and the ESB will monitor and analyse the wind potential from the performance of these turbines.

The detailed work in connection with the use of short rotation forestry for the generation of electricity is proceeding. A revenue expenditure of approximately £250,000 per annum is currently being devoted to the other supplementary energy sources mentioned above.

BOARD MEMBERSHIP

A triennial election under the Worker Participation (State Enterprises) Act, 1977 was held during the year and resulted in the return to office of the incumbent Worker Members, Mr. Thomas Gilmartin, Mr. Denis Hatch, Mr. Anthony Ryder and Mr. John P. Wyley. During the year Mr. Liam Boyd was reappointed by the Government to the Board.

Mr. Cornelius Kelleher and Mr. Richard Godsil, who were Members of the Board for the period of the Report, completed their terms of office on 30th April, 1982. The Board acknowledges with gratitude the services of these members.

ESB STAFF

The Board is pleased to report once more that as well as there being no interruption of supply attributable to industrial action, there was no significant industrial relations dispute during the year. The staff at year end numbered 13,301 of whom there were 3,044 engaged on new construction work, 10,080 on operation, maintenance and trading and 177 on foreign consultancy.

The Board wishes once again to thank them all for the manner in which they performed their duties and particularly for the excellence of the service they provided during the severe storms of December and January and for which they rightly received so much public acclaim.

(Signed) Charles T. G. Dillon, Chairman
Liam Boyd
John Cohalan
Thomas Gilmartin
Denis Hatch
Patrick J. Moriarty
Gerard N. Power
J. A. Ryan
Anthony Ryder
John P. Wyley

(Signed) J. F. Williams, Secretary
13th July, 1982

Energy

GENERATION

Production

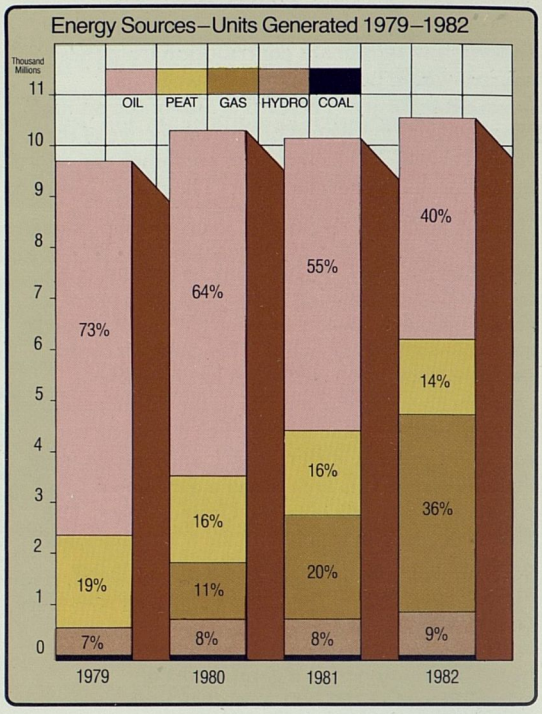
System demand required the generation of 10,386 million units, an increase of 3.5% over the previous year. However, the accounting year under review was one of 53 weeks and if comparison is made on a normal 52 week basis the increase is 1.5%. The greater part of this increase occurred in the winter months because of the cold weather but there was some small increase spread throughout the year.
The peak demand of 1,999 MW was 5.7% up on last year and occurred on two occasions, Thursday, 10th December, 1981 and Wednesday, 13th January, 1982.
The annual load factor disimproved to 58.3% as a result of the higher growth in peak demand in comparison with the growth in system demand.

Fuel Sources

During the year natural gas from the Kinsale Head field contributed 36.4% of the primary energy requirements for electricity generation making possible a reduction in the use of imported oil to 40.1%. This was achieved by attaining an exceptionally high running load factor of 93% on gas fired plant.
Only three years ago the contribution of oil had reached a peak of 73%. This rate of oil substitution achieved by the ESB is the most rapid of all European countries. It was achieved through the technical and successful changeover from oil to natural gas firing in the old Marina Station in Cork and through the ESB being able to transfer to the Aghada site a station planned for Poolbeg in Dublin and also through the speedy construction of 4 combustion turbines all designed specially to use gas from the Kinsale Head field.
The use of natural gas for electricity generation has, so far, saved electricity customers £70 million in fuel cost and saved the country an estimated £110 million on oil imports. The level of ESB usage has provided the cash flow to make a significant contribution to Exchequer funds and to the ability of Bord Gais Eireann to finance pipeline construction.
Because of the very wet weather, turf deliveries early in the year were well below normal. Later in the year deliveries improved and the proportion of electricity produced from turf for the whole year was 14% as against 16% the previous year. On the other hand, the wet weather resulted in water inflows to lakes and rivers being much above normal and the production from hydro stations was almost 25% above the historic average.

Capacity

The first of three 85 MW combustion turbines was commissioned in Aghada in May, 1981 and the



second in December, 1981. The total installed capacity at 31st March, 1982 was as follows:

	MW	%
Hydro (conventional)	219.6	6.7
Hydro (pump storage)	292	8.9
Steam (sod peat)	117.5	3.6
Steam (milled peat)	330	10.0
Steam (oil)	1,640	49.9
Steam (coal)	15	0.5
Steam (natural gas)	390	11.9
Combustion turbine (natural gas)	255	7.7
Combustion turbine (oil)	28	0.8
	3,287	100.0

Efficiency of Conversion

The overall thermal efficiency of conversion of primary energy to electricity was 33.1% compared with 32.4% last year. This was largely due to the increased use of gas fired stations.

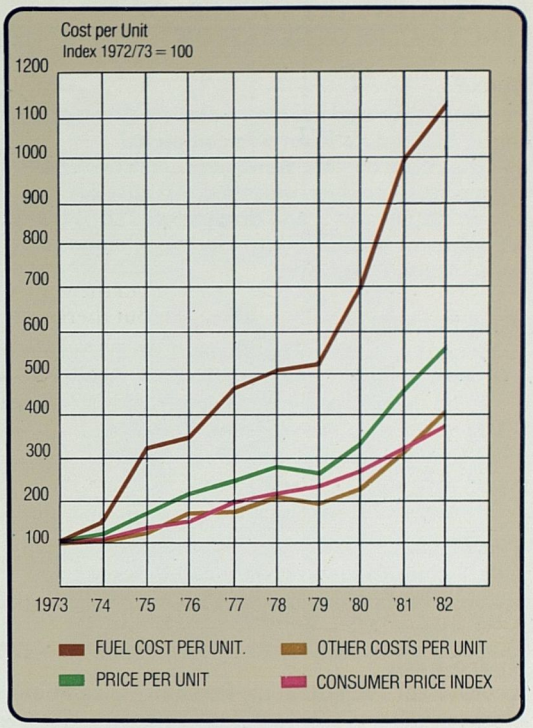
Maintenance of Supply

In order to substitute as much as possible for imported oil large efficient gas burning stations were loaded more than normal. This operating regime combined with the continued absence of the North/South Interconnector increased the risk of automatic disconnections of supply to relatively small numbers of customers arising from the sudden loss of generating plant on load. Such disconnections of supply, which were of very short duration, occurred on nine occasions during the year. The ESB regrets such disconnections but it is satisfied that the slight inconvenience was

more than justified by the substantial fuel economies which were achieved. To accept no operating risk would require a less efficient operating regime together with additional plant on hot standby resulting in excessive fuel usage. The ESB is at present installing equipment which will ensure automatic restoration of supply in such instances thereby reducing outage time to the absolute minimum.
Plant forced outage rate improved significantly during the year due to the cumulative effect of increased investment in a programme of planned maintenance instituted a few years ago. This enabled better utilisation of high merit plant with a consequential improvement in overall energy conversion efficiency.

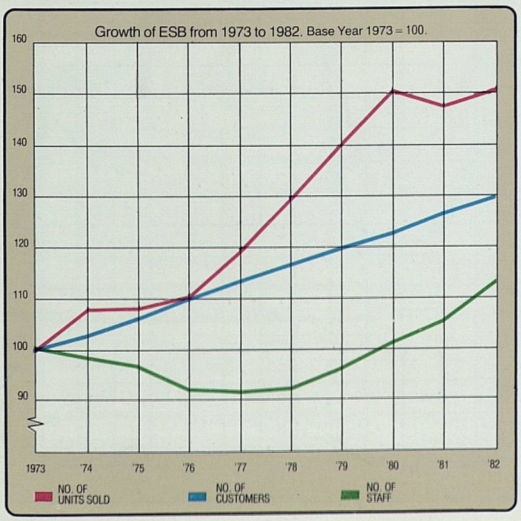
ELECTRICITY SALES

Total sales of electricity, at 8,662 million units, for the 1981/'82 accounting year (53 weeks) were 3.6% higher than in the previous year (52 weeks). The increase was 1.6% on a 52 week basis. The modest increase reflects the continuing recession and the effects of previous energy conservation programmes. While sales to the commercial sector were relatively buoyant, industrial sales were very depressed – usage by the fifty largest customers declined by 8.2% in 1981/'82.



Marketing

The ESB share of the energy market in 1981 was 33.5%. This share has been increasing (31% in 1979 and 32.4% in 1980) but in the context of a decline in the total market.
As well as being a reflection of economic and social development a moderate growth in demand for electricity through the eighties and nineties is vital to the long-term financial viability of the ESB and thereby of considerable benefit to its customers in terms of containing electricity prices. The Board has, therefore, commenced active promotion of the use of electricity for the more productive and economic applications to which it is particularly suited in the different sectors of its market.



Interruptible load installations for which industrial customers receive a rebate are being encouraged and the qualifying load limit has been reduced to 500 kW. Fundamental to all sales promotion will be the encouragement of the wise and economic use of electricity through having available energy-efficient domestic appliances in ESB shops and through giving advisory service to industrial, commercial and domestic customers.
During the year Load Management Programmes reduced potential peak load by 41 MW while the off-peak allowance to major industrial customers produced a reduction of 85 MW.

Liaison

The ESB continues to participate actively in committees of the Electro Technical Council of Ireland and during the year under review was pleased to see the completion and publication of the Industrial Wiring Regulations. Through its membership of the Electrical Industries Federation of Ireland the ESB maintains close communication with the manufacturers, contractors and traders within the electrical industry.

District Heating

A major study of the technical and economic feasibility of combined heating and electricity production in Dublin and Cork was commenced and it is expected that the report will be published in a few months.

SUPPLEMENTARY SOURCES OF ELECTRICITY GENERATION

Hydro
The feasibility study of hydro-electric development on the Ballisodare River was completed. Investigations of other small hydro-electric and pumped storage sites continued. An advisory service to individuals and firms interested in private development of small hydro-electric schemes is available from the ESB.

Wave Power
Participation in the International Energy Agency's wave energy project continued and the Agency's report on the first phase was completed but had not been published at the year end. The wave measurement programme in Irish waters continued.

Tidal Power
A consultant's report on the possibilities of a Shannon estuary development was commissioned.

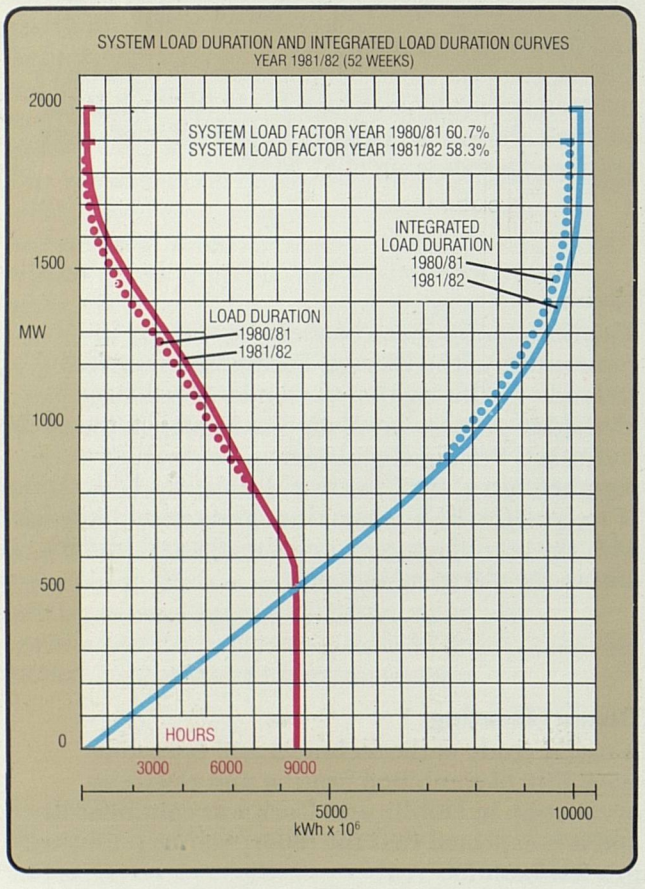
Hydro-Aero
A consultant's report on the feasibility of combining a large number of wind turbine generators with a storage reservoir for hydro-electric generation was completed.

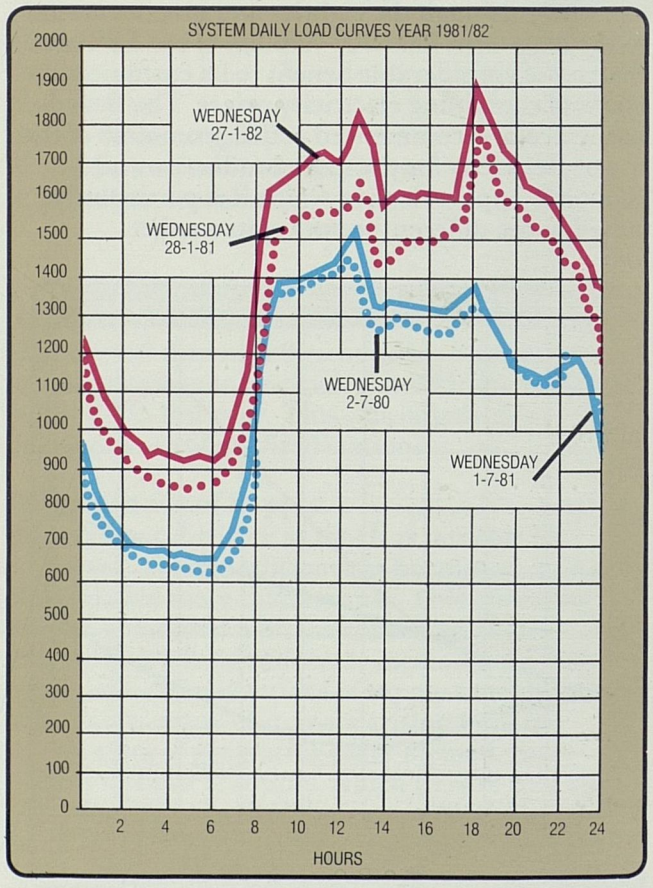
Biomass
Detailed testing, inspection and survey work was carried out on the 5 MW Unit at Screeb Generating Station in preparation for the use of short rotation forestry for the generation of electricity. This is part of an EEC funded research programme.

Irish Coal
A fluidised bed combustion test rig was commissioned at the National Institute for Higher Education in Limerick. This EEC funded rig will be used to determine the feasibility of using native high sulphur coals for electricity generation.



Microwave communications repeater station under construction at Cheekpoint, Co. Waterford.





Finance

SUMMARY OF RESULTS

Revenue

Income at £517,837,000 was £107,975,000 higher than the previous year while expenditure at £510,881,000 was £108,125,000 higher.

Summary of Electricity Revenue/Expenditure Figures

	Year Ending 31st March, 1982*	Preceding Year
	£	£
Expenditure:		
Fuel	232,722,209	197,904,350
Payroll and other direct costs	155,338,899	115,155,558
Capital Charges including depreciation	122,819,632	89,695,830
	510,880,740	402,755,738
Revenue Income	517,837,029	409,862,167
	£6,956,289 (Surplus)	£7,106,429 (Surplus)

Note: 1981/'82 was a 53 week accounting year.
1980/'81 was a 52 week accounting year.

After taking account of the trading and consultancy activities and deducting expenses on new borrowings, the result for the year was a surplus of £5,933,000 which decreases the total deficit carried forward to 1982/'83 to £8,475,000.

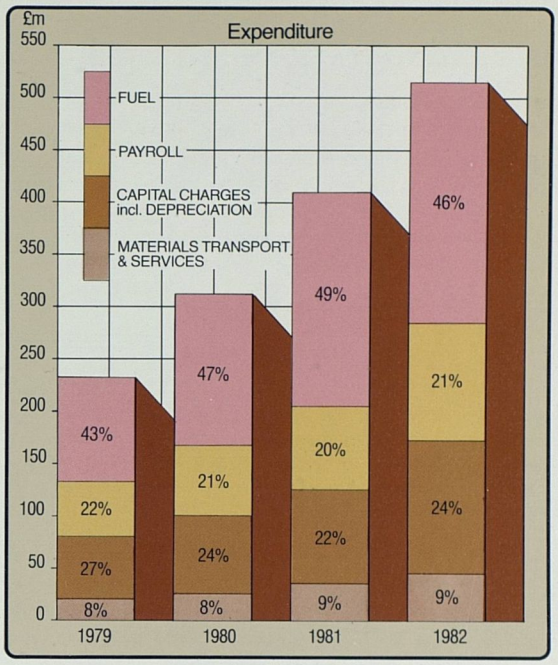
The payroll figure must be looked at in the light of compensation for acceptance by the staff of the Comprehensive Agreement, increased staff numbers and increased involvement in Consultancy. It includes ESB contributions to the Superannuation funds, Social Insurance payments and staff expenses.

Capital

Expenditure in the year was £210,271,000. After allowing for retirements of assets of £2,945,000, investment in capital assets increased to £1,043,317,000 (see Schedule F). Assets brought into commission during the year were £86,896,000, bringing the total value of assets in service at year end to £756,474,000. Work in progress was £286,843,000.

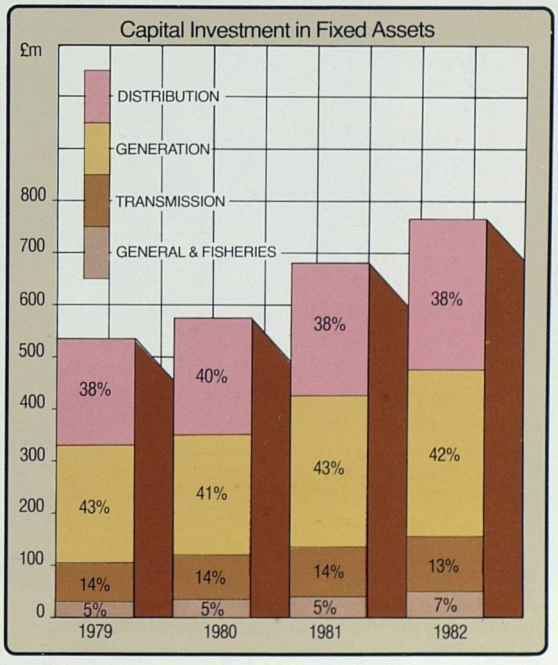
RAISING OF CAPITAL

The ESB capital development programme approved by the Government is designed primarily to diversify from oil in electricity generation and to strengthen networks and stations to provide high standards of continuity and reliability. The largest proportion of the £210 million invested this year was spent on the Moneypoint coal fired generating station. Investment of the order of £240 million per annum will continue through the mid-1980's until the Moneypoint project is completed. The capital programme was financed (i) from the Irish market by a stock issue and a syndicated bank loan; (ii) from abroad by the European Investment Bank, trade credits and private placements from banks, and (iii) from internal resources by charges for depreciation of assets and by supply contributions.



INTERNAL RESOURCES

The low level of internal financing of capital expenditure, which has declined from 40% in the late 1970's to a current level of about 20%, continues to be a cause of concern. The consequential heavy reliance on foreign currency borrowings leaves the ESB open to higher financial risks and costs as the Irish Pound remains weak in international currency markets. The undue reliance on foreign borrowings could impact adversely on electricity costs at the end of the decade when many of the loans now incurred fall due for repayment.



Construction

GENERATING STATIONS

Aghada, Co. Cork. (Gas/Oil Fired)
3 x 85 MW Combustion Turbines. Two 85 MW combustion turbines were commissioned, one in May, 1981 and the other in December. The erection of a third similar set was completed and this set is scheduled for commercial operation by October, 1982.

Shannonbridge Extension, Co. Offaly (Milled Peat Fired)
1 x 45 MW Set. Civil Engineering work was substantially completed and the erection of the boiler, turbo generator and electrical plant was well advanced. The extension is planned to be completed by December, 1982.

Lanesboro Extension, Co. Longford (Milled Peat Fired)
1 x 45 MW Set. Civil construction work was well advanced. The chimney and main station buildings were nearing completion. Erection of the boiler and turbo generator plant was about to commence. The extension is planned to be completed in 1983/'84.

Moneypoint, Co. Clare (Coal Fired)
3 x 300 MW Sets. The main foundations and the concrete shells for both chimneys were completed. Structural steel erection for the first unit to be commissioned was completed and cladding and roofing had commenced. Structural steel erection for the other units was continuing. Jetty construction was proceeding on programme as was work on the cooling water works. Erection of the first boiler unit had started.

North Wall Extension, Dublin (Gas/Oil Fired)
2 x 100 MW Combustion Turbines. Two combustion turbines, one on open cycle and one with combined cycle in conjunction with existing steam turbo generator units, are being installed. The combustion turbines were delivered and were placed on their foundations. Erection of the heat recovery boiler was well advanced and erection of the auxiliary plant and systems was proceeding. It is planned to have the combustion turbines in commission in 1982/'83 and the combined cycle ready in early 1983/'84.

Arigna Extension (Coal Fired)
1 x 45 MW Set. Government approval was received for the construction of this extension to use low grade 'crow' coal. The unit is based on an atmospheric fluidised bed boiler and is scheduled for completion in 1987/'88.

Wind Turbine Generators
The 4 wind turbine generators in the range 10 kW to 120 kW have been erected and commissioned, as part of a demonstration and test programme to assess the potential and use of wind energy in Ireland. The work is being carried out in close co-operation with the Department of Industry and Energy. The data logging equipment was being installed and commissioned for test work to commence in the Summer of 1982.

TRANSMISSION SYSTEM

The transmission system withstood the severe blizzards of December and January without experiencing any damage.

Transformer Stations and Lines

400 kV
Site work commenced on the first ESB 400 kV Station at Woodland near Dunboyne, Co. Meath and orders were placed for electrical equipment. Design work for all three stations associated with the Moneypoint generation development progressed according to programme. Survey work was completed on the line from Moneypoint to Woodland and construction had commenced. Survey work on the line from Moneypoint to Dunstown, near Kilcullen, was well advanced.

220 kV
Work continued on the new stations at Inchicore and North Wall in Dublin, at Raffeen, near Cork and at Arklow. An extension of the metalclad switchgear installation at Poolbeg, Dublin was nearing completion.
The line from Flagford, near Carrick-on-Shannon, to Louth was completed. Construction started on the Arklow-Carrickmines line and was well advanced on the line from Arklow to Great Island. Survey was completed and steel was ordered for the loop lines into Woodland 400kV Station.

Transmission System at 31st March, 1982

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	14	Nil	600,000 at 275/220 kV	Nil
			3,253,000 at 220/110 kV	+ 375,000
			1,180,000 at 20/220 kV	Nil
			420,000 at 13/220 kV	Nil
			647,000 at 10/220 kV	+ 250,000
			410,000 at 110/ 38 kV	Nil
			357,000 at 10/110 kV	Nil
			20,000 at 110/ 6 kV	Nil
110 kV Stations	76	+ 5	3,067,000 at 110/ 38 kV	+ 189,000
			184,000 at 110/ 10 kV	Nil
			55,000 at 110/ 6 kV	Nil
			114,400 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 km	Increase or decrease for year km	Description
275 kV Lines	10.5	Nil	6 x twin 485 sq. mm. double circuit SCA
220 kV Lines	53.4	+ 0.6	6 x 600 sq. mm. double circuit SCA
220 kV Lines	1,041.1	+ 109.4	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	Nil	3 x 425 sq. mm. twin, SCA
110 kV Lines	1.8	Nil	6 x 95 sq. mm. double circuit copper
110 kV Lines	69.8	– 2.3	3 x 95 sq. mm. single circuit copper
110 kV Lines	108.4	+ 4.4	6 x 200 and 6 x 300 sq. mm. double circuit SCA
110 kV Lines	3,228.1	+ 41.9	3 x 200 to 3 x 425 sq. mm. single circuit SCA
220 kV Cables	16.5	Nil	High pressure oil pipe-type
220 kV Cables	32.5	+ 0.6	Oil filled
110 kV Cables	42.0	+ 1.2	Oil filled
110 kV Cables	25.6	Nil	Pipe compression
110 kV Cables	0.7	+ 0.4	Cross-linked polyethylene



View of Moneypoint Site looking across the jetty construction area.

110 kV

Five new 110 kV stations, including two to supply large industrial customers, were completed. Construction was in progress on a further four at Killarney, Kilrush, Monaghan and Moneypoint. Transformer capacity was increased at Navan and Kilbarry. Design work for the installation of automatic frequency restoration in fifty existing stations had started.
52 km of new lines were erected and commissioned (including 2 km to supply an industrial customer). 8 km of lines were decommissioned.
A total of 215 km of line was under construction and survey work was continuing on an additional 75 km.

Cable

Work continued on the major 220 kV circuit from Poolbeg to Inchicore and the looping-in of North Wall Generating Station to the 220 kV grid started. An order was placed for 13 km of 110 kV pipe type compression cable for installation between Finglas and Grange, near Baldoyle. Lengths of 220 kV oil filled cable were installed at Aghada, Poolbeg and North Wall Generating Stations.

DISTRIBUTION SYSTEM

Some 27,000 new customers, mostly in urban areas, were connected to the system during the year. £83.5 million was spent on new connections and on the operation, maintenance and strengthening of the system.
Last year's figure of 86% spent in Ireland on labour, materials and services was maintained, reflecting the sustained efforts to encourage Irish suppliers. Surprisingly, wood poles have still to be imported in large quantities.
Twelve new 38/10 kV transformer stations were commissioned as part of the general reinforcement of the system, at Achill; Ardfinnan; Ballymote; Belmullet; Bushfield, Co. Westmeath; Emyvale; Graiguenamanagh; Killimer; Lawlesstown, Co. Tipperary; Manor Street, Waterford; Mountgorry, Co. Dublin and Talbots Inch, Co. Kilkenny.
The blizzard in December and the major snow storm in January were unprecedented in their extent and in the number of customers affected. Because of the deep snow drifts during the January storm, it took nearly six days to restore supply to isolated pockets of customers in the Wicklow and Wexford areas
On both occasions, storm contingency plans were put into operation and with the strenuous efforts of outdoor staff, many of whom worked long hours in the most difficult conditions, outage times were kept to the minimum possible. Two helicopters from Irish Helicopters supplemented the specialised ESB equipment and transport in identifying and reaching breakdowns.
Considering the severity of the conditions, the distribution network withstood both storms satisfactorily. This reflected on both the quality of the initial design and the systematic planned maintenance of the rural networks, begun in 1975.

Much of the damage during these storms was caused by falling trees and branches which landowners were reluctant to have felled or lopped. The final cost of the storm damage was nearly £2 million.

Dublin Suburban Rail Electrification

Construction work on the provision of the 20 MVA supply to feed this major CIE project was on schedule.

Electricity Supply to Off-Shore Islands

Network construction was completed on Inisboffin and Clare Islands. Delays, caused by external factors, occurred in the construction of buildings to house the generators but these buildings were expected to be completed in Summer 1982 and supply available in Autumn 1982.
Supply to Inis Turc is still under discussion with the islanders. Arrangements regarding supply to the five other islands that already had electricity are continuing satisfactorily.

Distribution System at 31st March, 1982 (Incl. Rural Networks)

STATIONS

Trafo. Station	No. in Commission	Increase (+) or Decrease (–) for year	Total Capacity in kVA	Increase (+) or Decrease (–) for year in kVA
38kV Stations	360	+ 12	2,647,300	+ 124,200
10kV Stations (excl. U.R.D.)	114,838	+ 3,267	3,422,329	+ 193,474
10kV Stations U.R.D.	1,880	+ 1	108,611	+ 175
5kV Stations	53	Nil	32,590	Nil

LINES

Distribution Lines & Cables	Length km	Increase (+) or Decrease (–) for year km	Description
38kV Lines	5,387.2	+ 73.2	3 x 25 to 3 x 300 sq. mm. Cu. & SCA
38kV Cables	258.3	+ 6.0	3 x 95 to 3 x 680 sq. mm. copper and aluminium.
10kV Lines	72,252.6	+ 690.6	Single and three phase
10kV & 5kV Cables	2,914.8	+ 135.8	2 x 16 to 3 x 240 sq. mm. copper and aluminium.
3.3kV Cables	3.7	Nil	3 x 185 sq. mm.

PREMISES

The extension to Head Office, which will incorporate the new National System Control Centre, progressed satisfactorily. The new Head Office stored programme telephone exchange was installed and commissioned during the year and is the largest of its kind in the country.
The Cork District Headquarters at Wilton was nearing completion while planning had started for a new Cork city centre customer facility in Academy Street.
New operation and customer service centres were completed at Cavan, Macroom, Midleton, Ballincollig and Carrigaline and those at

Official opening, in November 1981, of Aghada 270 MW natural gas fired station by Michael O'Leary, T.D., the former Tanaiste and Minister for Industry and Energy.



ESB crew restoring supply in County Wicklow during the January snow storms.

Carrick-on-Suir, Kanturk and Shannon were nearing completion.
Other work completed included extensions to the District Headquarters and Line School at Portlaoise, Roscommon Depot, and the offices, workshop and canteen at Shannonbridge Station.
Work was nearing completion on the refurbishment of Central Stores, Dublin, and Sligo Headquarters; substantial progress had been made on the headquarters for the Southern Generating Region at Marina and the Limerick city centre customer service facility at Cecil Street.
Major developments were at the planning stage for integrated District headquarters for Limerick (Dooradoyle) and Dundalk (Long Avenue). New or extended depots for Clondalkin, Carlow, Listowel, Rathkeale and Newcastle West were also planned, as were headquarters for the Transmission Organisation Dublin and extended transformer workshops for Dublin City District.

Central Computers

Capacity of the existing central computer installation was increased by 40% with the installation of an Attached Processor at the end of the year.
Overall capacity at the central site has grown by a factor of six since 1974. The computers installed currently support a wide range of commercial and engineering applications. The volume of transactions handled by some of these applications is very large: for example, under the Customer Accounting System 6,500,000 bills are produced annually, with 25,000 payments and 30,000 meter readings being processed daily.
A network of computer terminals has been installed in Head Office and in District Offices throughout the country. These terminals help to provide a more effective service to our customers. Through these terminals also the power of the computer is made available in widely separated locations for a variety of technical and managerial tasks.

People in the ESB

EMPLOYMENT

The number of people employed at 31st March, 1982 was:

By Category		By Activity	
Engineers and other Technical	2,359	Operation and Maintenance	9,640
Administrative/ Clerical	2,360	New Works	3,044
Craft and General Workers	8,582	Trading	440
		Consultancy	177
	13,301		13,301

This compares with 12,441 the previous year. Factors requiring additional staff were similar to last year, viz. strengthening and maintaining the networks; improving plant availability; combatting theft of electricity through meter security programmes and eradication of illegal connection; staffing additional consultancy projects.
Over the past decade staff numbers have grown by 13% while generating capacity has increased by 96%, unit sales by 64% and customers by 34%.

INDUSTRIAL RELATIONS

It is a major objective of the ESB that, as far as possible, industrial relations conflicts should be contained within negotiated procedures so as not to involve the community. This objective was successfully achieved during the year. There was no major industrial relations upset causing interrruption of electricity supply or curtailment of services. This satisfactory situation is mainly due to the Comprehensive Agreement, signed during the year by the Trade Unions and the ESB, which provides a framework for industrial peace and the implementation of change. Credit for the fulfilling of the promise of the Agreement in its first year of operation is due to the positive approach of all



Telephonists at work at their consoles in the new Head Office Telephone Exchange. Inset: Stored programme exchange.

concerned – staff, Trade Unions and management – to their respective undertakings and commitment. In the one regrettable lapse where a small number of staff in Poolbeg Generating Station took brief unofficial action, the security of supply was maintained and the matter of redress for the ESB was put into procedure with the Unions. Following the failure of wage negotiations at national level, direct negotiations led to acceptance of a wage formula produced by the ESB Industrial Council which was broadly in line with the Civil Service pay agreement and which included commitments on pay moderation as a contribution to the national policy of containing inflationary wage costs.
The Industrial Council assisted in the settlement of disputes unresolved in direct negotiations and all its 100 recommendations were accepted through their Unions by the staff concerned. Mr. Con Murphy accepted the unanimous invitation of the Unions and the ESB to serve a further three-year term as the Council's Chairman and Dr. Aidan Kelly of UCD became Deputy Chairman in succession to Mr. Andrew Ryan of the College of Industrial Relations whose term expired and for whose contribution the Board is most appreciative. In the triennial election for the staff representatives on the Council, the two sitting members were re-elected.

HEALTH

Seminars were held for Managers and Supervisors as part of the educational side of the continuing Alcoholism Programme. These were of a practical nature and aimed to show how staff with alcohol dependency and other associated problems could be helped.
Staff participated in a number of voluntary health programmes, including anti-flu vaccination, cancer screening and Mediscan.
The overall level of absenteeism for the year represents a further improvement and reflects favourably on staff morale and management application.

TRAINING AND DEVELOPMENT

The ESB continues to train most of the skilled and craft personnel necessary for its business. Some 4,900 staff attended internal courses and 400 attended external courses.
The new Training Centre in Lower Mount Street, Dublin, was formally opened by the Tanaiste and Minister for Energy in May, 1981. This major facility has enabled the ESB to rationalise many of its own training programmes and to extend the scope of the training provided for overseas power utilities on a consultancy basis while continuing to train for AnCO and the Industrial Development Authority.
The Board acknowledges the continuing financial support given by the EEC Social Fund to a number of its technical training programmes.
The ESB also co-operated in providing paid education/work experience programmes and in-company training schemes with the Department of Labour, National Rehabilitation Board, third level colleges and educational institutes. During the year over 100 students and trainees were accommodated.

RECRUITMENT

The influence of the current recession was seen in an increase of 35% in the number of applications for a smaller number of advertised vacancies and in the enhanced rating given by younger interviewees to job security as a desirable feature of employment. Over 1,000 people were recruited to new jobs and to replace those retiring or resigning. Further job opportunities were provided for handicapped people.
Participation in Careers Exhibitions continued to be a feature of the year's work and liaison with colleges and universities was maintained. Planning models were introduced as an aid to longer term identification of staffing requirements by category.



Above: Trainees under instruction at the Personnel Training Centre, Dublin.

Below: Group of trainees on visit to Turlough Hill Pumped Storage Station.



Consultancy

GENERAL

It is pleasing to report a substantial expansion in consultancy activity this year. Major new assignments have been secured, mainly in Saudi Arabia. The number of staff doubled and the operation again made a welcome contribution to the finances of the ESB.

Marketing efforts were continued with encouraging results and liason was maintained with the World Bank and other funding organisations. A successful seminar for senior staff of African electrical utilities was organised in association with DEVCO (the body co-ordinating the overseas involvement of State-sponsored bodies).

STAFF

60 staff were working on overseas projects at peak. Support services at home were provided by 130 working wholetime and 100 others giving part of their time. The Northern Ireland Electricity Service co-operated in providing staff on secondment to the ESB for work in the Middle East.



Trainees from Saudi Arabia under instruction at the Portlaoise Line School.

MAIN CONTRACTS

Bahrain

Work on the three principal projects, viz., transmission, system control centre and development of management/technical/financial systems, progressed satisfactorily and during the year the number of staff assigned increased from nine to thirty five.

Saudi Arabia

The partnership arrangement with Saudi Consulting House (SCH), a Government agency, commenced operation and two ESB managers were appointed in Riyadh.

Jubail

The first major assignment won by the SCH/ESB partnership was for the planning, design and site supervision of the electrical distribution system for Jubail, a major industrial city and port now under construction.

Tabuk

Studies were submitted on accounting/administrative systems, organisational structures, management and manpower planning. Work relating to the expansion of the electricity system was in progress.

Saudi Consolidated Electric Companies (East and West)

Varied studies were carried out for these utilities recently formed by the amalgamation of numbers of smaller companies. Management and organisational structures and manpower requirements were reviewed and assistance provided on a transmission project, tender assessment and recruitment of staff.

Riyadh Electricity Corporation

Specialist engineers are assisting, mainly, on the evaluation of new capital projects.

Lesotho

The long-term provision of management personnel to the Electricity Corporation under the Department of Foreign Affairs Bilateral Aid Fund continued.

Sudan

The ESB is co-operating with a Co. Wicklow firm of architects in the design of a new training centre building and is also advising on training equipment and programmes.

Sierra Leone

Comprehensive reports were submitted to the Government of Sierra Leone and to the World Bank on legal, financial, engineering and personnel matters relating to the proposal for a hydro-electric scheme in Bumbuna. Legislation was drafted for the setting up of a National Power Corporation of the Republic of Sierra Leone.

TRAINING

Training in the English language, power technology and accounting/administrative practices was provided for utilities' staff from Bahrain, Saudi Arabia, Sudan, Lesotho and Uganda. At the year end fifty overseas students were undergoing training in Ireland.

CUSTOMERS BY DISTRICT AND UNIT SALES

District	No. of Customers at 31st March		Electricity Sales Units sold in year ended 31st March	
	1982	1981	1982 (Millions)	1981 (Millions)
Athlone	60,947	59,577	378.2	357.1
Cork	123,502	120,501	1,138.0	1,089.2
Dublin City	147,372	145,623	1,325.8	1,271.7
Dublin North West	136,353	130,840	1,096.5	1,080.8
Dublin South	69,969	67,825	555.3	535.7
Dundalk	84,717	83,054	842.1	852.6
Galway	65,848	63,901	374.2	356.8
Limerick	98,363	96,015	848.2	797.0
Portlaoise	73,267	71,450	548.6	528.4
Sligo	98,124	96,033	526.3	482.3
Tralee	52,736	51,354	337.3	324.8
Waterford	85,752	83,876	691.2	688.2
TOTAL	1,096,950	1,070,049	8,661.7	8,364.6

GROWTH OF ELECTRICITY SALES AND NO. OF CUSTOMERS

Year ended 31st March	Units generated (and purchased)* Millions	Units sold to Customers Millions	Revenue from Electricity Sales Thousands £	Average Price per Unit sold Pence	Total Customers
1930	60.9	43.2	478	1.108	48,606
1940	407.0	318.6	1,946	0.612	172.545
1950	784.8	626.2	4,774	0.763	310,639
1960	2,096.0	1,692.2	14,724	0.871	610,946
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
1975	7,298.7	6,153.1	111,261	1.808	901,000
1976	7,534.6	6,259.0	136,277	2.177	931.469
1977	8,160.5	6,783.2	173,429	2.557	959,428
1978	8,828.4	7,329.9	210,029	2.865	986,256
1979	9,602.7	7,965.3	222,768	2.797	1,015,636
1980	10,213.6	8,560.3	300,024	3.505	1,043,428
1981	10,038.4	8,364.6	408,965	4.889	1,070,049
1982	10,385.9	8,661.7	517,029	5.969	1,096,950

* Excluding Units absorbed by Storage Pumping

ANALYSIS OF UNITS SOLD

Class of Supply	Year ended 31st March 1982 (Millions)	Year ended 31st March 1981 (Millions)	Increase (Millions)	% Increase
DOMESTIC				
General Supply	3,518.2	3,369.1	149.1	4.4
Night Rate	140.7	145.4	−4.7	−3.2
	3,658.9	3,514.5	144.4	4.1
COMMERCIAL				
Lighting and Motive Power	521.3	517.1	4.2	0.8
Heating, Cooking and Waterheating	360.5	352.0	8.5	2.4
Night Space Heating	196.1	192.0	4.1	2.1
Public Lighting	115.7	107.9	7.8	7.2
Maximum Demand	469.8	378.4	91.4	24.2*
Miscellaneous	223.6	226.4	−2.8	−1.2
	1,887.0	1,773.8	113.2	6.4
INDUSTRIAL				
Maximum Demand				
High Tension	2,238.9	2,237.8	1.1	0.0
Low Tension	751.1	707.4	43.7	6.2
Miscellaneous	125.8	131.1	−5.3	−4.0
	3,115.8	3,076.3	39.5	1.3
TOTAL	8,661.7	8,364.6	297.1	3.6

* The increase arises mainly from transfer to maximum demand of customers whose consumption was recorded in previous years under other headings; and from the connection of new customers on maximum demand.

Note: 1981/'82 was a 53 week accounting year.
1980/'81 was a 52 week accounting year.

Fisheries and Conservation

The Board has a statutory responsibility for the preservation and development of rivers on which the Board has hydro-electric power stations. The salmon stocks in these rivers, with the exception of the River Lee, continued to decline. The concern for the exceptionally poor state of the salmon stocks nationally, consistently expressed in recent years by the ESB, is now generally shared by all sections of the industry.

The ESB plans for a major expansion of its smolt rearing units were well in hand. The first stage will be in production on the River Erne before the end of the year where a new hatchery and rearing station for half-a-million smolts is being constructed. It will be followed in 1983 by other new facilities at Carrigadrohid and Parteen. This re-stocking with salmon smolts must be augmented by a national plan of development if the salmon industry, with all its attendant benefits to the country, is to expand.

In view of the poor state of the salmon stocks, the Board continued to refrain from commercial salmon fishing on the rivers under its control.

Steady progress was maintained in the new salmon farm at Mulroy Bay, Co. Donegal, confirming the ESB's view of the capacity in this country to compete internationally in this field. The ESB hopes to stimulate expansion of fish farming in the years ahead, if possible, in association with local co-operatives.

The ESB spent £1,016,793, including amortisation, on its fisheries activities during the year and when sales of fish and income from angling are taken into account, there is a net cost on fisheries and conservation of £710,288. The Board's Annual Fisheries Report, published separately, deals with these activities in more detail.

ESB fresh-farmed salmon from Mulroy Bay being exported to France.



Social Responsiveness

The ESB, as an essential nationwide community owned service organisation, is very conscious of its social responsibilities and a high concern for these is a central feature of its management philosophy. Social responsiveness is seen by the ESB as a critical factor in its overall business success.

Full employment in the ESB was provided for 1,000 people last year through new jobs and replacements and short-term employment was provided for a further 1,500 people. Handicapped people have been recruited to jobs identified as suitable for them. In addition, suitable employment is provided for ESB staff unable to carry out their normal duties due to illness, age or accidents.

ESB consultancy not alone provides employment for skilled Irish people both at home and abroad, but has enabled state agencies and other Irish consultancy and manufacturing firms to establish themselves in overseas markets.

Irish materials and services are used whenever possible and the development of Irish sources to reduce imports is encouraged. Approximately 50% of expenditure on generating stations is on Irish materials and services and out of a total expenditure of £84 million on distribution work, £72 million was spent in Ireland.

One example of support for Irish industry is the manner in which the ESB approached the purchase of office furniture for a number of new buildings being equipped during this year. A joint study group of staff was set up to determine the general parameters of office furniture. A designer of international repute was engaged and out of the process emerged the "Fitzwilliam" range of office furniture which is of high quality, exceptional design and capable of adaptation for every possible type of office condition. An initial contract valued at £300,000 for the manufacture of this range has been placed with a company in Co. Carlow and the ESB hopes that this will provide a base for the successful launching of the "Fitzwilliam" range in international markets.

The ESB continues to monitor the environment around its generating stations and it is sponsoring a university research project on this subject. The effects of ESB operations on town and country are important and every effort is made in consultation with Planning Authorities to position poles, masts and other facilities and to trim trees so as to minimise the impact on the environment.

Hydro stations are usually situated in areas of high amenity value and, where possible, the ESB develops these areas through afforestation and creation of picnic sites. The ESB fisheries policy is aimed at river development. Salmon smolt production is being increased to 2 million per annum. The smolts will help to restock rivers with reduced salmon runs and to supply the emerging salmon farm industry.

With a significant presence throughout the country, the ESB is very much involved in community development by way of involvement in Regional Development Organisations, Tourist Development Associations, Agricultural Development, etc. Besides the ESB's official involvement, its staff are active, with the full support of management, in the cultural, social, economic and sporting life of the country.

Two exhibition kitchen units with appliances adapted for use by disabled persons, designed and manufactured for the Year of the Disabled, have been presented to organisations dealing with incapacitated people – one to a Regional Health Board and one to the Polio Fellowship.

ESB input to Ireland's Economy 1981-1982		£ millions
Fuel Natural Gas Peat Native Coal	£££££££££	97
Irish Suppliers of Goods & Services including Capital work	£££££££££	108
Government Tax on Oil	££	16
Payroll including Capital Projects	£££££££££££££	159
Interest Paid to Irish Lenders & Stockholders	££	22
		402

Visit for handicapped people, organised by the station staff, to the "Open Day" at Ringsend Generating Station.



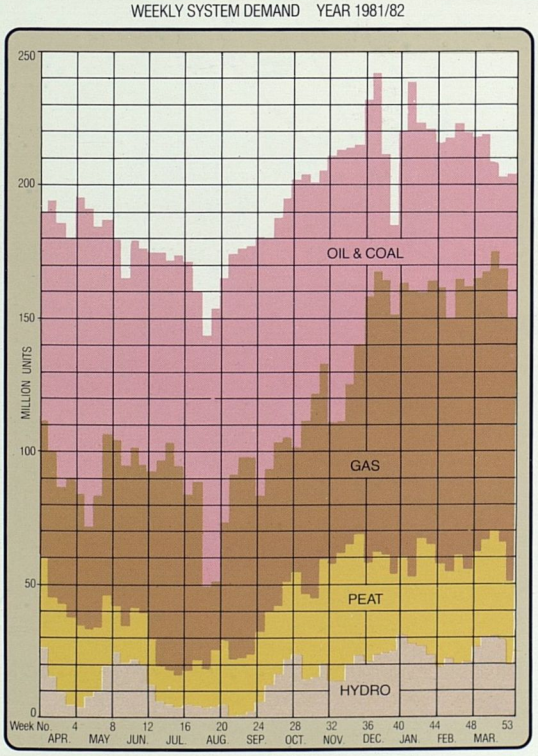
CUSTOMER SERVICE

Running through the entire range of ESB activities is a consistent and practical emphasis on the individual customer as the user of the electricity service. Customer service on a personal level is a constant objective and it expresses itself in different ways and with different features to meet changing circumstances.

In the year under review a particular feature was the concern to help all customers through providing practical payment methods which would be helpful in managing the household budget. Such methods are tailored to customers' needs and have proved to be increasingly popular. These schemes have been well publicised, notably in Customer News Leaflets which are sent to customers with their bills from time to time to keep them informed on all aspects of the electricity service. Active promotion of payment schemes is continuing.

It is, unfortunately, necessary in any reference to customer relations to draw attention to the continuing problem of the theft of electricity. Some £500,000 was recovered from 2,000 customers making illegal connections during 1981/'82. More sophisticated detection methods have been developed and are now in use throughout the country. The ESB is determined to stamp out this very dangerous practice which is in effect stealing from all other customers.

WEEKLY SYSTEM DEMAND YEAR 1981/82



Trading

The overall results of the year's trading activities were again a disappointment and were basically a reflection of the recession on the retail trade generally. In a difficult year turnover in appliance sales activities rose by 22% representing some increase in the volume of sales but the loss on the activity increased due to rising costs.

Negotiations with the trade unions on reorganisation of the sales activity concluded shortly after the end of the year and the Board looks forward to a planned return to profitability as a result of the changes which will now be possible.

The under-recovery of costs on appliance repairs was due to increased labour, material and travelling costs which, because of price control procedures, cannot be fully recouped in price increases on this nationwide activity.

The contracting business yielded an improved profit on a slightly lower turnover. Concentration on special projects and material intensive work, together with the benefit of improved efficiencies, contributed to the favourable results.



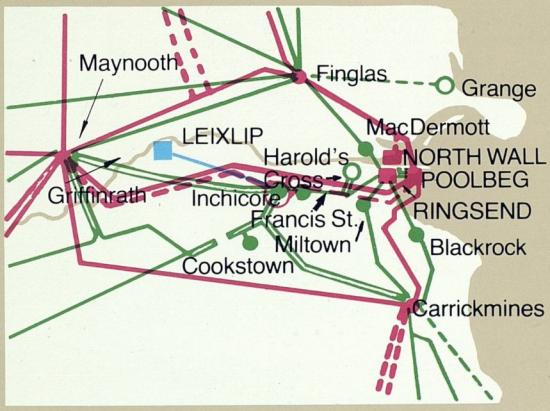
New range of electric fires being assembled for ESB shops.


GWEEDORE
CLADY
Kiltoy
Letterkenny
CATHALEEN'S FALL
CLIFF
Tawnaghmore
BELLACORICK
Moy
Sligo
ARIGNA
Carrick-on-Shannon
Flagford
Castlebar
Lisdrum
to N.I.E.S.
Dundalk
Shankill
Louth
Richmond
LANESBOROUGH
Drybridge
Platin
Navan
Knockumber
Nevinstown
Woodland
Mullingar
See inset 1 for details
Maynooth
Finglas
Griffinrath
Inchicore
SCREEB
Athlone
RHODE
Cashla
SHANNON-BRIDGE
Galway
ALLENWOOD
Carrickmines
Cookstown
FERBANE
Newbridge
Fassaroe
Derryfrench
Tynagh
PORTARLINGTON
Dunstown
GOLDEN FALLS
POLLAPHUCA
Portlaoise
TURLOUGH HILL
Ikerrin
MILTOWN MALBAY
Ennis
Carlow
Shelton Abbey
Arklow
Drumline
Tullabrack
ARDNACRUSHA
Ahane
Thurles
Moneteen
Killonan
MONEYPOINT
Aughinish
Limerick
Kilkenny
TARBERT
Rathkeale
Crane
Trien
Cahir
Doon
Ballydine
Wexford
Charleville
Anner
GREAT ISLAND
Tralee
Waterford
Barrymore
Butlerstown
Knockeragh
Mallow
Dungarvan
INNISCARRA
Kilbarry
Knockrahа
Midleton
CAHIRCIVEEN
Macroom
CARRIGADROHID
MARINA
Dunkettle
Haulbowline
Trabeg
AGHADA
Whitegate
Raffeen
Dunmanway
Bandon
Ringaskiddy
See inset 2 for details

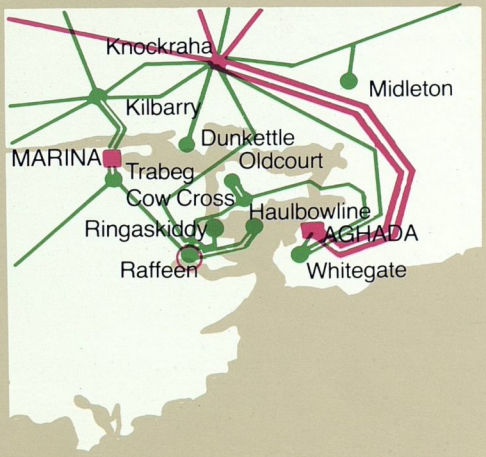
General outline of the Generation and Transmission Systems 31st March, 1982

- 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
- 400 kV Lines Projected
- 220 kV Lines
- 220 kV Lines Projected
- 110 kV Lines
- 110 kV Lines Projected
- Other High Voltage Lines
- 275 kV Lines

INSET 1



INSET 2



Accounts and Schedules for year ended 31st March, 1982

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Profit and Loss Account

Account No. 1

1980/1981 £000's		£000's	1981/1982 £000's
	Operations		
33,192	Electricity Income and Expenditure Account (Schedule A)		44,103
(1,070)	Appliance and Contracts Income and Expenditure Account (Schedule B)		(1,522)
508	Consultancy Income and Expenditure Account (Schedule C)		808
32,630			43.389
116	Appreciation of Temporary Investments		—
(395)	Expenses on New Borrowings		(309)
32,351	Operations Surplus		43,080
(26,086)	Amortisation Charge (Schedule A)		(37,147)
	Non-Operating Items		
20,547	Income and Credits (Net) (Schedule E)	27,330	
(20,547)	Transferred to Capital Reserves and Sinking Fund	(27,330)	—
6,265	Surplus for Year		5,933
(21,248)	Deficit brought forward from previous year	(14,983)	
—	Revenue Reserves of previous years	575	(14,408)
£(14,983)	Deficit carried forward to next year		£(8,475)

Note: Adjustments in year-end parities of foreign borrowings have been reflected in Repaid Capital Reserve (Schedule K)

Balance Sheet

Account No. 2

31st March, 1981				31st March, 1982
		Assets Employed:		
£000's	Reference		£000's	£000's
609,662	Schedule F	**Net Investment in Capital Assets** including work-in-progress		787,223
291,308	Schedule G	**Current Assets**	307,008	
		Less:		
127,541	Schedule G	**Current Liabilities**	147,218	
163,767		**Net Current Assets**		159,790
65,729	Schedule H	**Sinking Fund Investments,** at cost		87,422
£839,158				£1,034,435
		Financed as follows:		
668,171	Schedule I	**Borrowings**		839,374
		Reserves		
118,148	Schedule K	Capital	114,264	
67,247	Schedule H	Sinking funds for borrowings	89,272	
		Revenue Reserves:		
500	—	Plant, self-insurance	—	
75	—	Others	—	
(14,983)	Account No. 1	Profit and Loss Account balance (deficit)	(8,475)	
170,987				195,061
£839,158				£1,034,435

Note: At 31st March, 1982 contractual capital commitments amounted to approximately £305,000,000 (1981 – £259,000,000)

Signed: Charles T.G. Dillon *Chairman*

Signed: P. J. Moriarty *Chief Executive*

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

13th July, 1982

Electricity Income and Expenditure Account

Schedule A.

1980/1981						1981/1982
£		£	£	£	£	£
408,965,410	**Income** – Electricity Sales	517,028,926				
896,757	– Miscellaneous	808,103				
409,862,167						517,837,029
	Expenditure:	**Generation**	**Transmission**	**Distribution**		
197,904,350	Fuel	232,722,209				
92,568,801	Operation, maintenance and local charges	57,317,947	4,938,980	59,088,018		
22,061,280	General charges	14,732,387	4,128,473	14,426,092		
25,750,800	Depreciation	15,482,070	3,662,640	10,352,590		
525,477	Fisheries net cost	707,002				
338,810,708		320,961,615	12,730,093	83,866,700	417,558,408	
37,858,731	Interest	25,273,308	8,200,886	22,701,615	56,175,809	
376,669,439		346,234,923	20,930,979	106,568,315		473,734,217
33,192,728						44,102,812
26,086,299	Amortisation Charge (Schedule O – Note 9)	16,299,861	5,420,957	15,425,705		37,146,523
£7,106,429	Surplus					£6,956,289

Notes:

Fuel includes: Excise Duty on Mineral Hydrocarbon Oil £16,149,419 (Previous Year £21,261,167).
: Purchased electricity £107,044 (£71,639).

General Charges include: Local Authority Rates £1,459,678 (£1,275,316), Bad Debts £1,357,051 (£512,996), Audit Fee £58,000 (£50,000), Remuneration of Board including full-time Chairman £38,050 (£36,884).

Appliance and Contracts Income and Expenditure Account

Schedule B

1980/1981 Appliance Sales	1980/1981 Appliance Repairs	1980/1981 Installations Contracts	1980/1981 Total		1981/1982 Total	1981/1982 Appliance Sales	1981/1982 Appliance Repairs	1981/1982 Installations Contracts
£	£	£	£		£	£	£	£
7,237,345	1,243,600	3,499,580	11,980,525	Income, exclusive of VAT	13,045,228	8,459,055	1,526,754	3,059,419
5,713,318	875,932	2,743,079	9,332,329	Direct Costs	10,556,717	6,872,801	1,308,592	2,375,324
1,524,027	367,668	756,501	2,648,196	Gross Profit	2,488,511	1,586,254	218,162	684,095
				Overheads:				
871,124	451,504	286,276	1,608,904	Payroll costs	1,790,337	1,055,664	464,117	270,556
88,535	—	—	88,535	Publicity	219,519	219,519	—	—
540,561	245.000	46,001	831,562	Premises costs	828,595	530,630	261,170	36,795
79,844	6,683	32,038	118,565	Sundry expenses	140,252	106,562	6,606	27,084
865,900	324,000	415,867	1,605,767	General charges and interest, as apportioned	1,579,293	831,300	405,000	342,993
2,445,964	1,027,187	780,182	4,253,333		4,557,996	2,743,675	1,136,893	677,428
—	488,150	46,850	535,000	Less: transfer to Electricity Income and Expenditure Account (See Schedule O – Note 13)	547,307	—	499,376	47,931
2,445,964	539,037	733,332	3,718,333		4,010,689	2,743,675	637,517	629,497
£(921,937)	£(171,369)	£23,169	£(1,070,137)	Surplus/(Deficit) transferred to Profit and Loss Account	£(1,522,178)	£(1,157,421)	£(419,355)	£54,598

Consultancy Income and Expenditure Account

Schedule C

1980/1981			1981/1982
£		£	£
3,483,253	**Income**		6,798,446
	Expenditure:		
2,571,532	Direct Costs	4,955,053	
	Overheads:		
300,455	Directly allocated	658,502	
102,900	General charges and interest, as apportioned	377,000	
2,974,887			5,990,555
£508,366	Surplus transferred to Profit and Loss Account		£807,891

Notes:

(1) This Account includes the result of ESB Joint Venture with Saudi Consulting House up to 31st December, 1981; no material items have arisen since that date.

(2) Separate income and expenditure details for training projects have not been given as the amounts are not material.

Statement of Source and Application of Funds

Schedule D

1980/1981 £	Reference		1981/1982 £
		Source:	
32,351,794	Account No. 1	Operations before Amortisation Charge	43,079,865
1,067,287	Schedule J	Provision towards premium on Stock Redemption	1,438,400
27,319,038	Schedule F	Depreciation	31,730,871
1,931,321	Schedule E	Credits on disposal of assets	2,349,494
7,197,146	Schedule E	Interest on Sinking Fund Investments	9,973,401
69,866,586			88,572,031
10,427,038	Schedule E	Non-Repayable Supply Contributions	14,398,606
170,302,855	Schedule I	Borrowings	158,880,713
£250,596,479			£261,851,350
		Application:	
150,619,291	Schedule F	Capital expenditure	210,271,497
36,480,076	Schedule I	Redemption of Borrowings (net of credits £608,275 on Stock Cancellation).	32,988,926
1,962,182	Schedule H	Payment of premium on Premium Stock	874,883
348,949	Schedule K	Discounts/Premiums on Borrowings	—
15,332,065	Schedule H	Increase in Sinking Fund Investments	21,692,344
	Schedule G	Net movement in Current Assets/Current Liabilities	
		– Cash/Temporary Investments 21,477,056	
		– Debtors/Creditors (6,806,591)	
		– Inventories (18,646,765)	
45,853,916			(3,976,300)
£250,596,479			£261,851,350

Statement of Non-Operating Items – Profit and Loss Account

Schedule E

1980/1981 £		£	1981/1982 £
	Income and Credits		
10,427,038	Non-Repayable Supply Contributions (Schedule K)	14,398,606	
991,483	Credits arising on ESB Stock Cancellations (Schedule H)	608,275	
7,197,146	Interest on Sinking Fund Investments (Schedule H)	9,973,401	
1,931,321	Credits arising on disposal of Assets Retired (Schedule K)	2,349,494	
£20,546,988			£27,329,776
(13,349,842)	To Capital Reserves	(17,356,375)	
(7,197,146)	To Sinking Fund	(9,973,401)	
£(20,546,988)			£(27,329,776)

Statement of Capital Assets
(Including Analysis of Depreciation)

Schedule F

	Total at 31st March, 1981	Additions less Retirements during year	Total at 31st March, 1982
	£	£	£
ASSETS			
Generation	287,511,376	31,675,496	**319,186,872**
Transmission	92,913,786	8,350,097	**101,263,883**
Distribution	253,715,243	32,340,785	**286,056,028**
General Buildings, Transport and Working Equipment	38,194,379	11,588,852	**49,783,231**
Fisheries	188,022	(4,073)	**183,949**
	672,522,806	£83,951,157	**756,473,963**
Work-in-Progress, including payments on account	163,468,334		**286,843,312**
Total Investment in Capital Assets (at cost)	835,991,140		**1,043,317,275**
Deduct Accumulated Depreciation, as below	226,328,820		**256,094,533**
Net Investment in Capital Assets	£609,662,320		**£787,222,742**

Note: Work carried out in the year amounted to £210,271,497 (1980/1981 £150,619,291)

DEPRECIATION

Accumulated Depreciation:

	£	£	£		Accumulated Depreciation as at 31st March, 1982
					£
Provision for depreciation of assets less assets retired as at 31st March, 1981.		226,328,820		Generation:	**118,020,967**
Movements in year:				Transmission:	**29,997,982**
Depreciation of assets	31,730,871			Distribution:	**97,096,738**
Assets retired	(2,945,362)	28,785,509	255,114,329	General Buildings, Transport & Working Equipment:	**10,877,718**
				Fisheries:	**101,128**
Transfer from Asset Renewal Reserve (Schedule K)			980,204		
Total as at 31st March, 1982.			**£256,094,533**		**£256,094,533**

Note: Depreciation total of £31,730,871 includes £2,229,571 in respect of Tools and Vehicles included under other charges in the Electricity Income and Expenditure Account.

Statement of Current Assets and Current Liabilities

Schedule G

31st March, 1981 £						31st March, 1982 £
	Current Assets			£	£	£
1,626,466	Cash at bank and in hand				(1,784,160)	
39,963,536	Temporary cash deposits				59,663,854	
41,590,002						57,879,694
		Nominal Value				
	Investments at cost:	£ (1980/1981)	£			
1,133,084	ESB Stocks	1,157,543	5,410,698		4,825,448	
6,669,480	Government Stocks	7,900,000	4,950,000		3,567,900	
239,764	Euro Bonds	274,801	5,254,164		4,836,344	
8,042,328						13,229,692
	Accounts Receivable:					
	Electricity: billed			37,487,258		
	unbilled			63,428,439		
93,291,762					100,915,697	
14,868,659	Appliance and Contracts (including £14.8m Hire Purchase, maximum term 5 years).				15,784,559	
27,156,353	Others				30,734,978	
135,316,774						147,435,234
	Inventories:					
70,799,819	Fuel				46,032,194	
31,859,890	Plant/Network Stocks and Miscellaneous Spares and Sundries				37,812,834	
1,733,832	Appliances				1,901,748	
104,393,541						85,746,776
1,965,287	Repayable Work-in-Progress at cost					2,716,617
£291,307,932						£307,008,013
	Current Liabilities					
78,535,582	Accounts Payable					65,515,721
2,500,727	Progress Payments on Repayable Work-in-Progress					2,294,306
4,754,101	Temporary Borrowings and Borrowings for Hire Purchase financing					30,659,439
5,132,938	Supply Contributions and Deposits					6,497,662
20,723,472	Accrued Charges and Provisions					22,754,098
15,894,191	Accrued Interest on Borrowings					19,496,166
£127,541,011						£147,217,392

Statement of Sinking Funds for Borrowings

Schedule H

1980/1981			1981/1982
£		£	£
50,397,157	Opening Balance – Investments	65,729,222	
1,249,640	– Interest Accrued	1,518,149	
51,646,797			67,247,371
	Additions:		
26,086,299	Amortisation charge in year (Account No. 1)	37,146,523	
1,067,287	Provision for premium on E.S.B. Stocks (Schedule J)	1,438,400	
991,483	Credits on cancellation of E.S.B. Stocks	608,275	
7,197,146	Interest for year (including interest accrued)	9,973,401	
35,342,215			49,166,599
86,989,012			116,413,970
	Utilisation:		
	Redemption of borrowings from:		
13,560,807	Amortisation (Schedule J)	17,151,541	
3,227,169	Sinking Fund Investments	8,507,535	
991,483	Credits on cancellation of E.S.B. Stocks	608,275	
(17,779,459)	Reflected in Repaid Capital Reserve (Schedule K)		(26,267,351)
(1,962,182)	Premium Paid on Stock Redemption		(874,883)
	Closing Balance: (as per Balance Sheet)		
65,729,222	Investments	87,421,566	
1,518,149	Interest accrued	1,850,170	
£67,247,371			£89,271,736

Sinking Fund Investments:

	Nominal	Market	Cost
	£	£	£
E.S.B. Stocks	18,483,167	16,937,351	18,533,523
Government Stocks	52,881,813	37,742,528	46,080,461
Euro Bonds	24,382,154	23,507,508	22,807,582
Total (as per Balance Sheet)			£87,421,566

Note: Redemption of Borrowings previously included in this Schedule now appears in Schedule I.

Statement of Borrowings

Schedule I

Amount Borrowed £			Balance Outstanding 31st March, 1981 £	Borrowed during year £	Redeemed during year £	Adjustment for currency changes £	Balance Outstanding 31st March, 1982 £
	Irish Pound Borrowings:						
68,450,000	Advances	— Minister for Finance	42,710,146	—	1,537,264	—	41,172,882
500,000	Loan	— New Ireland Assurance Co. Ltd. 6% – 1962/87	193,434	—	27,668	—	165,766
14,865,000	Loan	— Central Bank of Ireland 7.25% – 1972/87	7,874,949	—	1,090,352	—	6,784,597
12,000,000	Stock	— 6% — 1982/87	3,439,549	—	75,000	—	3,364,549
16,500,000	Stock	— 6% — 1984/89	5,965,401	—	100,000	—	5,865,401
13,000,000	Stock	— 7% — 1986/91	7,250,130	—	130,000	—	7,120,130
7,000,000	Stock	— 7.25% — 1988/93	4,559,306	—	50,000	—	4,509,306
9,250,000	Stock	— 9.5% — 1985/90	7,322,102	—	80,000	—	7,242,102
12,000,000	Stock	— 9% — 1992/95	8,481,225	—	925,000	—	7,556,225
11,300,000	Stock	— 13% — 1983/85	8,979,612	—	210,000	—	8,769,612
6,000,000	Stock	— 9.5% — Premium (20%) 1981	4,607,414	—	4,607,414	—	—
8,200,000	Stock	— 9% — Premium (20%) 1983	6,757,426	—	636,402	—	6,121,024
16,800,000	Stock	— 13% — 1988	14,374,978	—	575,000	—	13,799,978
6,000,000	Stock	— 9% — Premium (20%) 1984	5,484,107	—	140,000	—	5,344,107
12,000,000	Stock	— 13% — 1990/92	11,800,000	—	100,000	—	11,700,000
16,500,000	Stock	— 12% — Premium (25%) 1985	16,049,495	—	375,000	—	15,674,495
21,000,000	Stock	— 13% — Premium (30%) 1986	—	21,000,000	—	—	21,000,000
19,500,000*	Floating Rate Facility	— Domestic Banks – 1981/88	18,500,000	—	1,625,000	—	16,875,000
30,000,000*	Floating Rate Facility	— Domestic Banks – 1987/89	22,500,000	7,500,000	—	—	30,000,000
			196,849,274	28,500,000	12,284,100	—	213,065,174
	Foreign Currency Borrowings:						
Project Finance							
IR£20,000,000*	— European Investment Bank 9.2% — 1983/98		22,354,072	—	—	3,388,035	25,742,107
IR£10,000,000*	— European Investment Bank 9.35% — 1983/99		10,913,970	—	—	1,222,629	12,136,599
IR£15,000,000*	— European Investment Bank 9.45% — 1983/99		17,130,686	—	—	1,804,810	18,935,496
IR£20,000,000*	— European Investment Bank 9.45% — 1983/99		22,843,614	—	—	2,406,138	25,249,752
IR£10,785,000*	— European Investment Bank 8.45% — 1985/94		11,131,580	—	—	601,315	11,732,895
IR£5,715,000*	— European Investment Bank 12.0% — 1985/96		6,925,774	—	—	1,306,251	8,232,025
IR£3,000,000*	— European Investment Bank 8.75% — 1984/95		3,075,675	—	—	300,886	3,376,561
IR£20,000,000*	— European Investment Bank 8.75% — 1985/95		20,491,843	—	—	2,003,990	22,495,833
IR£30,000,000*	— European Investment Bank 7.65% — 1986/96		—	30,965,146	—	4,014,998	34,980,144
IR£17,000,000*	— European Investment Bank 9.3% — 1985/2001		—	17,054,604	—	(–) 573,253	16,481,351
IR£22,000,000*	— European Investment Bank 10.55% – 1987/2001		—	21,962,103	—	1,331,028	23,293,131
IR£18,000,000*	— European Investment Bank 14.0% — 1987/2001		—	18,215,461	—	906,026	19,121,487
US$14,500,000*	— International Bank for Reconstruction and Development 6.5% – 1974/94		8,900,887	—	364,142	408,773	8,945,518
US$20,000,000*	— International Bank for Reconstruction and Development 7.25% – 1976/87		8,559,688	—	1,037,108	1,051,502	8,574,082
US$15,000,000*	— International Bank for Reconstruction and Development 7.25% – 1977/88		7,019,897	—	738,114	499,633	6,781,416

*Multi-Currency Facilities (Equivalent to amount of indicated currency).

– continued overleaf

Statement of Borrowings

Amount Borrowed			Balance Outstanding 31st March, 1981 £	Borrowed during year £	Redeemed during year £	Adjustment for currency changes £	Balance Outstanding 31st March, 1982 £
Project Finance (contd.)							
US$32,022,000	— Export-Import Bank of the United States 8.0%	— 1986/98	9,583,525	9,686,374	—	2,975,631	22,245,530
US$10,840,000	— Export-Import Bank of the United States 8.375%	— 1983/91	2,428,387	4,268,760	—	833,322	7,530,469
US$8,101,000	— Export-Import Bank of the United States 8.0%	— 1988/2000	—	5,141,484	—	485,970	5,627,454
Sw.Fr. 1,338,000	— Swiss Bank 6.5%	— 1975/81	57,577	—	64,344	6,767	—
F.Fr. 342,309,000	— French Banks	– 1977/2004	26,516,824	6,585,506	3,228,999	(–)1,340,625	28,532,706
Stg. £16,058,000	— United Kingdom Banks/Suppliers	— 1975/90	9,538,059	3,851,981	2,661,886	(–) 437,799	10,290,355
IR£939,000*	— Other Borrowings		102,639	712,736	44,423	27,597	798,549
			187,574,697	118,444,155	8,139,016	23,223,624	321,103,460
Fixed Term Loans:							
Registered Notes/Bonds and Bearer Bonds							
US$30,000,000	— Japanese Banks 7.75%	— 1973/92	10,520,164	—	1,687,361	1,865,356	10,698,159
US$12,000,000	— U.S. Syndicate 9.25%	— 1983/92	7,013,442	—	—	1,322,786	8,336,228
US$10,000,000	— U.S.Bank 11.375%	— 1985	5,844,535	—	—	1,102,322	6,946,857
Sw.Fr. 50,000,000	— Swiss Banks 4.625%	— 1985	15,060,241	—	—	2,990,301	18,050,542
Sw.Fr. 25,000,000	— Banking Syndicate 5.25%	— 1983	7,530,120	—	—	1,495,151	9,025,271
Sw.Fr. 25,000,000	— Banking Syndicate 5.75%	— 1984/86	7,530,120	—	—	1,495,151	9,025,271
B.Fr. 1,000,000,000	— Belgian Banks 7.5%	— 1983	16,393,443	—	—	(–)2,694,813	13,698,630
B.Fr. 700,000,000	— Belgian Banks 7.5%	— 1983	11,475,410	—	—	(–)1,886,369	9,589,041
B.Fr. 1,000,000,000	— Belgian Banks 8.75%	— 1980/89	13,934,426	—	1,123,596	(–)2,194,392	10,616,438
D.M. 75,000,000	— German Bank 8.5%	— 1988	20,610,058	—	—	1,113,331	21,723,389
			115,911,959	—	2,810,957	4,608,824	117,709,826
Floating Rate Facilities:							
US$40,000,000*	— Banking Syndicate	— 1980/88	20,455,874	—	3,298,360	3,683,056	20,840,570
US$30,000,000*	— Banking Syndicate	— 1981/88	17,533,606	—	2,510,040	3,211,932	18,235,498
US$20,000,000*	— Banking Syndicate	— 1984/87	11,689,071	—	—	2,204,642	13,893,713
US$20,000,000*	— Domestic Banks	— 1984/88	11,689,071	—	—	2,204,642	13,893,713
US$20,000,000*	— Floating Rate Note Issue	— 1987	—	11,936,558	—	1,957,155	13,893,713
D.M. 150,000,000*	— Banking Syndicate	— 1982	41,220,115	—	—	2,226,663	43,446,778
Stg. £20,500,000*	— Domestic Banks	— 1981/88	25,727,272	—	4,554,728	(–)1,039,004	20,133,540
D.G. 100,000,000*	— Banking Syndicate	— 1983	24,813,896	—	—	1,346,993	26,160,889
CAN$30,000,000	— Canadian Bank	— 1987/89	14,705,882	—	—	2,291,285	16,997,167
			167,834,787	11,936,558	10,363,128	18,087,364	187,495,581
TOTAL – FOREIGN CURRENCY BORROWINGS			471,321,443	130,380,713	21,313,101	45,919,812	626,308,867
TOTAL – IRISH POUND BORROWINGS			196,849,274	28,500,000	12,284,100	—	213,065,174
TOTAL – ALL BORROWINGS			£668,170,717	£158,880,713	£33,597,201	£45,919,812	£839,374,041

*Multi-Currency Facilities (Equivalent to amount of indicated currency).

– continued overleaf

Statement of Borrowings

Currency and Repayment Profile of Borrowings

	Repayable Within 1 year	Repayable Within 2 to 5 yrs.	Repayable Within 6 to 10 yrs.	Repayable After 10 yrs.	Total	Currency as % of Total Borrowings
	£000	£000	£000	£000	£000	%
Irish Pounds	5,182	90,348	70,005	47,530	213,065	25
Sterling	3,929	15,840	9,237	7,667	36,673	4
U.S. Dollars	8,804	87,199	51,470	55,611	203,084	24
Deutsche Marks	44,260	10,610	47,974	29,982	132,826	16
Swiss Francs	9,025	29,751	22,593	24,794	86,163	10
Belgian Francs	14,876	15,300	4,675	—	34,851	4
French Francs	3,750	10,962	6,770	7,051	28,533	4
Dutch Guilders	110	27,891	3,583	18,315	49,899	6
Canadian Dollars	—	5,666	11,331	—	16,997	2
Japanese Yen	361	3,248	7,105	21,518	32,232	4
Others	643	2,711	1,342	355	5,051	1
	90,940*	299,526*	236,085	212,823	839,374	
Repayment Profile	11%	36%	28%	25%		100%

See Note No. 9 – Amortisation of Borrowings.
*Options are held to convert £70m. approximately (£44m. maturing within one year) into long term fixed rate loans.

Redemption of Borrowings during Year

1980/1981 £		1981/1982 £
17,779,459	Funded Redemption, as per Schedule H	26,267,351
19,692,100	Non-Funded Redemption	7,329,850
£37,471,559	Total (See previous page)	£33,597,201

Statement of Interest and Amortisation of Borrowings

Schedule J

1980/1981 £		£	£	1981/1982 £
	Interest on:			
	Advances from Minister for Finance		1,918,655	
	Borrowings in Irish pounds	18,280,589		
	Add: Provision for funding of premium on redemption of ESB Stocks (below)	1,438,400		
			19,718,989	
	Borrowings in other currencies		56,822,173	
			78,459,817	
	Less: Interest from temporary investment		5,634,718	
47,751,774				**72,825,099**
	Amortisation of Borrowings:			
	Redemptions:			
	Minister for Finance		1,537,264	
	Others		15,614,277	
			17,151,541	
	Investments for sinking funds	21,433,382		
	Less: Provision for funding of premium on redemption of ESB Stocks	1,438,400	19,994,982	
26,086,299				**37,146,523**
£73,838,073				**£109,971,622**
	Allocated as follows:			
	Interest:			
	Income and Expenditure Accounts:			
	– Electricity		56,175,809	
	– Appliance and Contracts		396,304	
	Fisheries		5,621	
	Capital Works		16,247,365	
47,751,774				**72,825,099**
	Amortisation:			
26,086,299	Electricity Income and Expenditure Account			**37,146,523**
£73,838,073				**£109,971,622**

Statement of Capital Reserves

Schedule K

	£	£	£
Non-Repayable Supply Contributions:			
Contributions from State under Electricity (Supply) Acts towards capital cost of supplying rural areas – as at 31st March, 1981	27,889,826		
Received in year	—		
		27,889,826	
Other contributions – as at 31st March, 1981	44,800,474		
Transferred in year	14,398,606		
		59,199,080	
			87,088,906
Repaid Capital Reserve:			
Amortisation of Borrowings, less write-off of intangible assets, adjustment for changes in currency parities and discounts on stock issues – as at 31st March, 1981		35,844,551	
Movements in year:			
Amortisation of Borrowings (Schedule H)	26,267,351		
Adjustment for changes in currency parities (Schedule 0 – Note 8)	(45,919,812)		
		(19,652,461)	
			16,192,090
Asset Renewal Reserve:			
Balance as at 31st March, 1981		9,613,465	
Credits arising on disposal of assets retired (Schedule E)		2,349,494	
Less amount allocated to depreciation fund (Schedule F)		(980,204)	
			10,982,755
Total at 31st March, 1982 (as per Balance Sheet)			**£114,263,751**

Statement of Generation Costs

Schedule L

Generating Stations	Fuel	Operation	Maintenance	Local Charges	WORKS COST 1981/1982	Per Unit Sent Out	WORKS COST 1980/1981	Per Unit Sent Out	Depreciation	TOTAL COST 1981/1982	TOTAL COST 1980/1981
	£	£	£	£	**£**	Pence	£	Pence	£	**£**	£
Coal/Oil/Gas											
Marina	21,990,165	1,521,622	2,117,720	594,013	**26,223,520**	1.889	18,137,452	1.311	786,248	**27,009,768**	18,893,519
Ringsend	7,191,685	2,517,039	4,639,235	589,613	**14,937,572**	10.872	19,095,791	5.912	353,669	**15,291,241**	19,444,364
Arigna	1,644,825	482,000	398,273	82,371	**2,607,469**	5.833	2,535,801	3.981	7,115	**2,614,584**	2,542,584
Great Island	14,422,838	1,220,105	1,888,218	314,696	**17,845,857**	4.541	19,404,052	3.165	716,539	**18,562,396**	20,106,567
Tarbert	44,971,920	1,911,139	3,065,263	467,806	**50,416,128**	3.966	58,291,227	2.801	4,142,121	**54,558,249**	62,391,130
Poolbeg	69,524,323	2,110,472	3,347,035	597,872	**75,579,702**	3.453	60,159,088	2.680	4,057,404	**79,637,106**	64,028,242
Aghada	35,006,972	991,828	1,097,182	598,280	**37,694,262**	1.605	9,895,673	1.689	3,500,969	**41,195,231**	11,772,848
Sod Peat (Machine)											
Portarlington	1,879,839	858,199	884,577	147,245	**3,769,860**	6.140	2,832,345	4.337	10.160	**3,780,020**	2,841,752
Allenwood	3,193,554	1,106,888	1,317,535	180,956	**5,798,933**	5.713	4,742,569	4.006	3,831	**5,802,764**	4,746,523
Lanesborough	1,314,200	535,200	325,232	81,933	**2,256,565**	5.188	1,877,533	3.995	1,030	**2,257,595**	1,879,526
Milled Peat											
Ferbane	8,056,452	1,598,700	2,280,195	310,184	**12,245,531**	4.474	10,339,722	3.710	93,886	**12,339,417**	10,432,437
Rhode	8,589,238	1,209,131	2,008,255	240,971	**12,047,595**	3.849	11,317,533	2.840	117,515	**12,165,110**	11,431,900
Bellacorrick	2,535,078	877,465	1,284,610	166,234	**4,863,387**	4.749	4,705,765	3.726	124,374	**4,987,761**	4,827,963
Shannonbridge	7,628,865	1,068,535	1,463,826	287,272	**10,448,498**	3.399	8,816,190	2.677	513,768	**10,962,266**	9,317,812
Lanesborough	3,386,606	535,200	386,447	81,934	**4,390,187**	2.667	3,519,720	2.077	148,310	**4,538,497**	3,653,938
Sod Peat (Hand-Won)											
Four 5MW Stations	1,278,605	825,605	656,501	113,297	**2,874,008**	11.731	2,086,625	8.280	2,741	**2,876,749**	2,088,963
Peak Station											
North Wall	—	213,840	29,112	309,516	**552,468**	—	605,895	—	20,580	**573,048**	648,268
Adjustment of previous year's estimated figure*							(139,564)				(139,564)
Total – Fuel Stations	232,615,165	19,582,968	27,189,216	5,164,193	**284,551,542**	3.105	238,223,417	2.691	14,600,260	**299,151,802**	250,908,772
Hydro											
Shannon		640,366	1,454,095	257,759	**2,352,220**	0.582	1,941,645	0.535	48,099	**2,400,319**	1,987,666
Erne		315,488	533,710	132,098	**981,296**	0.300	767,278	0.262	117,753	**1,099,049**	882,676
Liffey		12,256	294,117	35,372	**341,745**	0.650	242,623	0.471	28,793	**370,538**	270,789
Lee		187,562	275,209	68,050	**530,821**	0.524	370,745	0.384	70,604	**601,425**	439,886
Clady		48,555	49,054	5,418	**103,027**	0.665	76,014	0.507	19,407	**122,434**	95,032
Pumped Storage											
Turlough Hill		414,376	526,183	131,902	**1,072,461**	—	991,444	—	597,154	**1,669,615**	1,577,255
Total – Hydro Stations		1,618,603	3,132,368	630,599	**5,381,570**	0.806	4,389,749	0.725	881,810	**6,263,380**	5,253,304
Total – All Stations	232,615,165	21,201,571	30,321,584	5,794,792	**289,933,112**	2.949	242,613,166	2.564	15,482,070	**305,415,182**	256,162,076
										107,044	71,639
										14,732,387	9,549,805
										707,002	525,477
										£320,961,615	£266,308,997

Electricity Purchased in bulk (net)
General Charges (including Central Transport and Stores)
Fisheries (Net Cost before Amortisation)
TOTAL COST

*Estimate arose out of retroactive fuel price adjustment.

Fisheries – Commercial and Conservation Operations

Schedule M

Total Cost 1980/1981 £		£	Total Cost 1981/1982 £	Commercial £	Conservation £
553,944	Direct Costs		**828,019**	360,281	467,738
	Overheads and General Charges:				
120,076	Payroll expenses and charges	175,867			
4,000	Depreciation	4,000			
5,746	Interest on Borrowings	5,621	**185,488**	86,630	98,858
683,766			**1,013,507**	446,911	566,596
	Less:				
158,289	Sales of fish, letting of fishing rights and miscellaneous income		**306,505**	271,373	35,132
525,477	Net Cost before Amortisation, as per Electricity Income and Expenditure Account		**707,002**	175,538	531,464
3,163	Amortisation Charge		**3,286**	724	2,562
£528,640	**Net Cost for Year**		**£710,288**	£176,262	£534,026

Value Added Statement

Schedule N

1980/1981 £000's		£000's	1981/1982 £000's
	Sources of Income:		
408,965	Electricity Sales (Schedule A)	517,029	
11,980	Appliance and Contracts Trading (Schedule B)	13,045	
3,483	Consultancy (Schedule C)	6,799	
1,013	Miscellaneous	808	
425,441			**537,681**
	Less Costs of:		
197,905	Fuel	232,722	
44,823	Materials and Services	54,780	
27,319	Depreciation of Assets	31,731	
270,047			**319,233**
£155,394	**Value Added**		**£218,448**
	Distribution of Value Added:		
84,714	Employees – Payroll (Inclusive of deductions for PAYE etc.)		**118,790**
	Lenders		
38,329	– Interest	56,578	
26,086	– Amortisation of Borrowings	37,147	
64,415			**93,725**
6,265	Reduction of Deficit brought forward		**5,933**
£155,394			**£218,448**

1. **Electricity (Supply) Acts:**
The Accounts are prepared under the terms of the Electricity (Supply) Acts, 1927-1979 and are stated in Irish Pounds (£): the Historical Cost Convention is used in Accounts 1 and 2 and Schedules A to N to which the notes in this Schedule relate.
In accordance with Statement of Standard Accounting Practice No. 16 supplementary Current Cost Accounts are provided (Schedules P to R).

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

3. **Depreciation of Capital Assets:**
Depreciation is designed to recover historical cost over allotted lifespans.
Methods used are appropriate to the nature of the Board's business and to the character and extent of its capital assets. Assets are grouped and allotted lifespans in line with international practice. Major asset classifications and their allotted lifespans are:—

: Generation Plant (including Thermal Station Structures)	20 years
: Transmission and Distribution Plant and Structures	25 years
: General Buildings and Hydro Station Structures	50 years

Depreciation is provided:
: On the straight-line method for Transmission, Distribution and General Assets.
: On a projected plant usage basis for Generating Units.
: On all assets from date of commissioning.

4. **Inventories:**
Stocks are valued at average cost.

5. **Repayable Work-in-Progress:**
Installations Contracts are valued at direct cost together with appropriate overheads; sundry works at direct cost.

6. **Accounts Receivable:**
The figure for Accounts Receivable in the Statement of Current Assets and Current Liabilities is net of a provision for doubtful debts, considered adequate in relation to the size and nature of the business. Bad debts are written off as they arise.

7. **Capital Borrowings:**
The Statement of Borrowings includes borrowings initially contracted for a period in excess of twelve months, irrespective of phased repayment arrangements, and of the lapsed portion of repayment period.
Discounts on Borrowings have been 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. Changes are reflected in the Capital Reserve.

9. **Amortisation of Borrowings:**
This charge is made to reflect certain provisions of Section 21 (2) of the Electricity (Supply) Act, 1927.
It is determined as follows:
: The charge for ESB stock issues is in accordance with contractual commitments.
: The charge for other borrowings is calculated with a view to full repayment for those with a lifetime of twelve years and over and 50% repayment at least for those with lesser lifetimes.
Proportionate amortisation is charged on borrowings utilised in year.
The sinking fund provision towards the premium element payable on redemption of ESB Premium Stock is included in the charge for interest.
Sinking Fund Investments are stated at cost since policy is to hold them until maturity or to switch to other investments on advantageous terms.

10. **Temporary Investment:**
Transfers of temporary investments in stocks/securities to Sinking Fund Investments are costed at prices current at the time of transfer.

11. **Non-Repayable Supply Contributions:**
Non-Repayable Supply Contributions are credited to Capital Reserves (Schedule K) via the Profit and Loss Account (Account No. 1).

12. **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.

13. **Apportionments:**
(a) Capital Expenditure:
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 and Contracts Income and Expenditure Account:
This account bears appropriate proportions of general overhead expenses and interest; premises costs include a charge for depreciation.
As from 1st April, 1981 those overhead elements of Appliance and Installations Contracts which are appropriate to the Electricity Income and Expenditure Account have been allocated directly as they occur. From this year therefore, transfer to the latter account is confined to an amount, calculated at 50p per customer, in recognition of the total safety and social role of Appliance Repairs and Installations Contracts.
(c) Consultancy and Fisheries bear appropriate proportions of general overhead expenses and interest.

14. **Taxation:**
The Board is liable for Corporation Tax at the reduced rate applicable to manufacturing companies. 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 (unutilised capital allowances at 31st March, 1982, are estimated at £371.7m). Had a tax equalisation reserve been provided, the accumulated figure would now be an estimated £12.8m. (31st March, 1981 – £10.2m.)

15. **Exceptional Expenditure:**
Essential maintenance and repairs are charged to the Electricity Income and Expenditure Account in the year in which the liability arises, on an estimated basis if necessary. Costs incurred to improve system efficiency are charged to the Electricity Income and Expenditure Account over the number of years corresponding to the benefits secured: similar treatment is applied to the revenue element of lump sum payments under the 1981-1984 Comprehensive Agreement.

16. **Accounting Year:**
Income and Expenditure are aligned on a 52 or 53 week year as appropriate. The year 1981/1982 is a 53 week year (1980/1981 – 52 weeks).

Current Cost Profit and Loss Account

Schedule P

1980/1981 £000's		£000's	1981/1982 £000's
6,265	**Surplus as per Profit and Loss Account,** after Interest and Amortisation		5,933
	Less: Current Cost Operating Adjustments:		
35,096	Depreciation	38,601	
15,092	Cost of Sales	6,697	
10,630	Monetary Working Capital	2,356	
(60,818)			(47,654)
(54,553)			(41,721)
27,246	Gearing Adjustment		23,112
£(27,307)	**Current Cost Deficit**		£(18,609)

Current Cost Balance Sheet

Schedule Q

31st March, 1981				31st March, 1982
	Assets Employed:			
£000's		£000's	£000's	**£000's**
1,060,130	**Fixed Assets**		1,281,349	
176,068	**Net Current Assets**		163,549	
65,729	**Sinking Fund Investments**		87,422	
£1,301,927				**£1,532,320**
	Financed by:			
668,171	**Borrowings**		839,374	
	Reserves (see below):			
496,341	Current Cost Reserve	555,999		
137,415	Other Reserves	136,947		
633,756			692,946	
£1,301,927				**£1,532,320**

Current Cost Reserve

	£000's	**£000's**
Opening Balance		**496,341**
Balance Sheet Items – Revaluations:		
Cumulative to this year – Fixed Assets (incl. W.I.P.) – Note 2	494,126	
– Inventories – Note 3	3,759	
	497,885	
Less cumulative to last year – Included in Opening Balance	(462,769)	**35,116**
Profit and Loss Account Items:		
Cost of Sales Adjustment	6,697	
Monetary Working Capital Adjustment	2,356	
Depreciation Adjustment	38,601	
	47,654	
Less: Gearing Adjustment	(23,112)	**24,542**
		£555,999

Other Reserves

	£000's	**£000's**
Total Reserves per Historical Balance Sheet		**195,061**
Net current cost adjustment to Profit and Loss Account – Cumulative to Last Year	(33,572)	
– This Year's Items	(24,542)	**(58,114)**
Other Reserves per Current Cost Balance Sheet		**£136,947**

Signed: Charles T.G. Dillon *Chairman*

Signed: P. J. Moriarty *Chief Executive*

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

13th July, 1982

1. **Introduction:**
The principles and method used in the calculation of the Current Cost Accounts (Schedules P & Q) are in compliance with Statement of Standard Accounting Practice No. 16. Apart from the particular features covered in these notes the accounting policies, bases and methods are the same as in the Historical Cost Accounts.
The current cost system, while not a system of accounting for general inflation, takes account of price changes specific to a business in both Profit and Loss Account and Balance Sheet. It aims to determine, by means of certain adjustments to the historical cost results, the current cost profit or loss after allowing for the impact of price changes on the funds needed to maintain the productive assets of the business.

2. **Fixed Assets:**
Valuation of assets is based on Indexation calculated by reference to the Transportable Goods Index issued by the Central Statistics Office as at February 1982 except for non specialised buildings which have been valued by a qualified internal valuer.

Fixed Assets and Work-in-Progress

31st March, 1982				**1981**
Fixed Assets:	**Gross £000's**	**Depreciation £000's**	**Net £000's**	**Net £000's**
Historical Value	756,474	256,094	500,380	446,194
Revaluation Change	1,300,322	829,224	471,098	437,089
Current Cost Value	£2,056,796	£1,085,318	£971,478	£883,283
Work-in-Progress:				
Historical Value			286,843	163,468
Revaluation Change			23,028	13,379
Current Cost Value			£309,871	£176,847
Current Cost Value of Fixed Assets and Work-in-Progress			£1,281,349	£1,060,130

3. **Net Current Assets:**

31st March, 1982	**£000's**	**1981 £000's**
Historical Value	159,790	163,767
Revaluation Change	3,759	12,301
Current Cost Value	£163,549	£176,068

4. **Depreciation:**
Total depreciation charged in the Current Cost Profit and Loss Account represents the average current cost of the proportion of fixed assets consumed during the year. The depreciation adjustment of £38.601m. (£35.096m. in 1980/81) is the difference between the depreciation charge in the Historical Cost and Current Cost Accounts.

5. **Stocks and Cost of Sales Adjustment:**
Stocks are stated at value to the business at Balance Sheet date. The Cost of Sales adjustment is the difference between the replacement cost (at date of consumption) and the corresponding historical cost of stocks consumed. For fuel the adjustment is the average replacement cost; for other stocks the adjustment uses an internal index based on actual input data.

6. **Monetary Working Capital Adjustment:**
The Monetary Working Capital adjustment represents the additional monetary working capital required by a business as a consequence of price changes during the year in order to maintain its operations. Computation of the adjustment uses an internal index developed from the Board's actual recorded cost data.

7. **Gearing Adjustment:**
A proportion of the net operating assets of a business is financed by borrowings. The gearing adjustment dilutes the operating adjustments to reflect the effect of these borrowed funds. A gearing adjustment has been included as being reasonable in the overall context of the Board's financing.

Auditors' Report

As Auditors appointed by the Tanaiste and Minister for Energy, with the consent of the Minister for Finance, we have audited the Profit and Loss Account, Balance Sheet, and attached schedules A to O of the Electricity Supply Board, in accordance with approved Auditing Standards, and have obtained all the information and explanations which we considered necessary.

In our opinion, the Profit and Loss Account and Balance Sheet, together with the Statement of Source and Application of Funds (Schedule D), which have been prepared under the Historical Cost Convention, give, when read in conjunction with the relevant schedules and the notes appearing thereon, a true and fair view of the results of the Board for the year ended 31st March, 1982, and of the state of the Board's affairs as at that date.

In our opinion, the Board has kept proper books with which the above-mentioned financial statements are in agreement.

In our opinion, the supplementary current cost statement for the year ended 31st March 1982, together with the notes thereon, as set out on Schedules P to R, has been properly prepared in accordance with the policies and methods described in the notes, to give the information required by Statement of Standard Accounting Practice number 16.

Harcourt House,
Harcourt Street,
Dublin 2.
13 July 1982.

Stokes Kennedy Crowley & Co.
Chartered Accountants

Generation Statistics for the Year 1981/82

Station	Year 1981/82			Year 1980/81
	Generated Million Units	Station Use Million Units	Sent Out Million Units	Sent Out Million Units
Ardnacrusha	406.8	2.9	403.9	362.8
Cliff	93.4	1.0	92.4	83.2
Cathaleen's Fall	236.3	2.1	234.2	209.7
Carrigadrohid	27.7	0.4	27.3	26.2
Inniscarra	74.8	0.8	74.0	70.3
Pollaphuca	27.3	0.7	26.6	25.7
Golden Falls	9.5	0.2	9.3	8.9
Leixlip	16.9	0.2	16.7	16.9
Clady	15.6	0.1	15.5	15.0
Ferbane	302.5	28.8	273.7	278.7
Rhode	344.1	31.1	313.0	398.5
Bellacorick	111.7	9.3	102.4	126.3
Shannonbridge	338.5	31.1	307.4	329.3
Lanesboro	226.0	17.9	208.1	216.5
Portarlington	68.1	6.7	61.4	65.3
Allenwood	110.5	9.0	101.5	118.4
Cahirciveen	9.6	1.3	8.3	8.5
Miltown Malbay	3.7	0.8	2.9	2.4

Station	Year 1981/82			Year 1980/81
	Generated Million Units	Station Use Million Units	Sent Out Million Units	Sent Out Million Units
Screeb	6.0	0.7	5.3	2.5
Gweedore	9.0	1.0	8.0	11.8
Marina	1,420.7	32.7	1,388.0	1,383.3
Aghada	2,443.5	95.6	2,347.9	585.9
Poolbeg	2,308.6	119.7	2,188.9	2,244.8
North Wall	—	—	—	1.9
Ringsend	157.1	19.7	137.4	323.0
Great Island	418.6	25.6	393.0	613.1
Tarbert	1,374.0	102.7	1,271.3	2.081.3
Arigna	48.4	3.7	44.7	63.7
Turlough Hill (generation)	+ 395.2	5.7	+ 389.5	323.8
Turlough Hill (pumping)	−622.0	—	−622.0	537.2
ESB Import	—	—	—	—
ESB Export	—	—	—	—
Purchased	+ 3.8	—	+ 3.8	3.3
System Demand	10,385.9	551.5	9,834.4	9,463.8
Maximum daily Generation Million Units			37.5	35.2
Maximum load Generated in MW			1,999	1,892

Note: System Demand is total units generated by all stations including Turlough Hill plus ESB Import and units purchased, less Turlough Hill pumping and ESB Export.

These generation statistics are for a 53 week accounting year.

Particulars and Performance of Generating Plant

Hydro Stations

Station	Location	Average annual generation million units	Plant Particulars		Plant Performance for year ended 31/3/82		
			Generating Sets		Units sent out millions	Plant load factor %	Works cost per unit sent out (pence)
			No	Capacity (MW)			
Ardnacrusha	Shannon	315	5	86	403.9	53.1	0.582
Pollaphuca	Liffey	45	2	30	26.6	10.2	0.650
Golden Falls			1	4	9.3	26.7	
Leixlip			1	4	16.7	47.5	
Cliff	Erne	275	2	20	92.4	52.4	0.300
Cathaleen's Fall			2	45	234.2	59.0	
Carrigadrohid	Lee	77	1	8	27.3	38.9	0.524
Inniscarra			2	19	74.0	44.2	
Clady	Clady	13	1	4	15.5	43.8	0.665
Turlough Hill – Pumped Storage	Co. Wicklow	—	4	292	389.5	—	—

Particulars and Performance of Generating Plant

Steam Stations

Station	Location	Plant Particulars					Plant Performance for year ended 31/3/'82			
		Generating Sets		Boilers			Units sent out millions	Plant Load factor %	Fuel cost per unit sent out (pence)	Works cost per unit sent out (pence)
		No.	Total Capacity MW	No.	Total Capacity Tonne/hour	Fuel Type				
Arigna	Co. Roscommon	1	15	1	75	Coal	44.7	36.2	3.680	5.833
Great Island	Co. Wexford	3	240	3	853	Oil	393.0	19.6	3.670	4.541
Marina	Cork City	3	120	4	522	Oil/Gas	1,388.0	77.8	1.584	1.889
		1	85	Combustion Turbine		Gas				
Aghada	Co. Cork	1	270	1	800	Gas	2,347.9	74.2	1.491	1.605
		2	170	Combustion Turbines		Gas				
North Wall		3	–†	—	—	—	—	—	—	—
Poolbeg	Dublin City	2	240	2	760	Oil	2,188.9	48.2	3.176	3.453
		1	270	1	800	Oil				
		2	28	Combustion Turbines		Oil				
Ringsend	Dublin City	6	270	7	1114	Oil	137.4	6.5	5.234	10.872
Tarbert	Co. Kerry	2	120	2	473	Oil	1,271.3	24.9	3.537	3.966
		2	500	2	1600	Oil				
			620							

† 3 x 16 MW Boilers de-commissioned pending installation of combined cycle unit

Particulars and Performance of Generating Plant

Appendix 2 (Contd.)

Steam Stations

Station	Location	Plant Particulars					Plant Performance for year ended 31/3/'82			
		Generating Sets		Boilers			Units sent out millions	Plant load factor %	Fuel cost per unit sent out (pence)	Works cost per unit sent out (pence)
		No.	Total Capacity MW	No.	Total Capacity Tonne/hour	Fuel Type				
Bellacorick	Co. Mayo	2	40	2	191	Milled Peat	102.4	31.4	2.476	4.749
Ferbane	Co. Offaly	4	90	4	430	Milled Peat	273.7	37.7	2.944	4.474
Rhode	Co. Offaly	3	80	3	364	Milled Peat	313.0	48.3	2.744	3.849
Shannonbridge	Co. Offaly	2	80	2	346	Milled Peat	307.4	47.5	2.482	3.399
Lanesboro	Co. Longford	2	60	1 1	100 173	Sod Peat Milled Peat	43.5 164.6	26.9 50.0	3.021 2.057	5.188 2.667
Portarlington	Co. Laoise	3	37.5	3	205	Sod Peat	61.4	20.4	3.062	6.140
Allenwood	Co. Kildare	2	40	4	273	Sod Peat	101.5	31.0	3.146	5.713
Cahirciveen	Co. Kerry	1	5	1	28	Sod Peat	8.3	15.9	5.219	11.731
Gweedore	Co. Donegal	1	5	1	28	Sod Peat	8.0			
Miltown Malbay	Co. Clare	1	5	1	28	Sod Peat	2.9			
Screeb	Co. Galway	1	5	1	28	Sod Peat	5.3			

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