7-1-1981

H & V News
Current Trends in Coal

- Kilkenny Water and Sewage Scheme
- Product Review: Radiators and Convectors
- Ulster News
- New Products

Published by ARROW@DIT, 1981
The Standard Bearers.
Irish Instantor – The Irish standard bearers.
Over 300 couplings for connecting either copper or polythene tubing. Made in Ireland since 1934. Solid. Reliable. Leaders of the brand. The entire Irish Instantor range complies with the new Irish Standard specification for compression tube fittings issued by the Institute for Industrial Research and Standards. (IS 239: 1980)
Which just goes to prove that we’re the top brass. Irish Instantor – the Irish Standard Bearers.

Sanbra Fyffe
Everything On Tap For Plumbers.
The services industry has yet again proven that it is a place where only the fittest survive and to survive you must keep up with all the trends and changes that befall the industry. At the time of going to press HVN have received reports of some well established companies in serious financial difficulties and one, as yet unconfirmed, report of a long established refrigeration company actually closing down. All this comes at a time when hope is beginning to return to the industry in general as talk of the natural gas pipeline begins to materialise into firms contracts and the IDA promise to back industries who will set up and use the gas for process or space heating. Present difficulties in the frig business seem to stem from a drastic down turn in the meat processing industry and there seems to be no immediate future in that trade, so anyone who depended a lot on ‘agrifrig’ are now suffering badly.

Going back to basics it must always be remembered that it is a services industry in the true meaning of the word and by definition serve other industries, so if there is a general depression in industry life becomes difficult for the services engineer. The key to survival has to be an awareness of change and to be flexible enough to go along with that change.

COVER PICTURE

Our cover picture this month is of the coal fired boiler at Irish Nurseries, Sallins and in the picture are (L-R) Graham Groom, Louis O’Donoghue, CDL, James Walsh, CDL, and Negley Groom.

IN THIS ISSUE

Newsdesk . . . . . . . . . Page 4
Heat Pump Seminar; HRP Walker Move; Cork Radiant Teach-In; Fridge & AC Training Course; Jacobs Students Award.

Cover Story — Current Trends in Coal . . . Page 12

Literature . . . . . . . . . Page 19

Kilkenny Water & Sewage Schemes . . . . . Page 16

Ulster News . . . . . . . . . Page 18
Radiator Feature . . . . Page 21
Alternative System . . Page 26
New Products . . . . . . . Page 28
New Pipe Coupling from Thorsman; Biddle AHU.

DL’s Energy Report . . Page 31

HVN, July 1981
Operating costs that kindle a little glow in the coldest of mortals

With building running costs going through the roof, there are two ways to bring them down to earth.
Buy candles.
Or by getting in touch with Walker.
Walker is helping to put the lid on heating and air conditioning running costs. For a start, there's a range of more than 4,000 Carlyle air conditioning and heating components—with computerised matching of these components and your needs to design a system that's absolutely right for the job.
Then there's the world's biggest range of heat pumps—in stock, ready and waiting—each with specially engineered reversible compressors that can take the wear and tear of heat pump operation.
And as if that weren't enough, there's the sophisticated range of Carlyle VAV systems, with terminals that automatically—and independently—adjust themselves to the heating or cooling needs of the moment.
And then there's our latest product, Heat Machine, which is going to make a few boilers redundant in the eighties. It removes heat from waste warm water and by dint of its 2.3 to 6.0 C.O.P. (depending upon the water temperatures involved), produces cheap usable heat for comfort or industrial process use.
The widest range of components; computer system design; the incredible energy-cutting benefits of Carlyle VAV systems; the sensational new Heat Machine—all available with Walker's own brand of pre-and after-sales service.
Try us, with great expectations!

Generous with our knowledge,

Walker Air Conditioning
Distributor for Carlyle heating and air conditioning products
DUBLIN: DUBLIN INDUSTRIAL ESTATE, FINGLAS ROAD, DUBLIN 11 TEL: DUBLIN 300844
BELFAST: 96 CHERRYHILL ROAD, DUNDONALD BELFAST BT16 0EH TEL: DUNDONALD 5234
GLASGOW: WASHINGTON ROAD, UNIT 12B ABERTINSCH INDUSTRIAL ESTATE, PAISLEY PA1 4ET TEL: GLASGOW 807 0541
A member of the Jefferson Smurfit Group
the air conditioning leader

mean with your energy.

Published by ARROW@DIT, 1981
Jacobs International Travelling Studentship

Two young Irish engineering students yesterday landed summer vacation jobs with one of the largest engineering firms in the world. The jobs are part of travelling studentships presented to them by the Dublin-based engineering company, Jacobs International.

The students are Mark Whelan (19) from Longford and Michael Cowhig (19) from Cork. They both have just completed their 3rd year in Chemical Engineering at UCD.

The awards, "Jacobs Engineering Travelling Studentships", provide the students with three months of work experience and cover their travelling expenses to and from the United States. They were awarded to the students for their outstanding performance in exams to date.

Mark will work in the Florida office of Jacobs Engineering which handles engineering projects throughout the U.S. Michael will take up a post on a construction site in Baton Rouge, Louisiana.

The aim of the Jacobs is to help provide students with practical work experience before completing their degree programmes.

In the recent presentation of the awards, Mr. John Buehler, Managing Director of Jacobs International in Dublin said, "We are pleased to be able to sponsor talent like this among Irish engineering students. The benefits to the students of work experience in our Company, should be of great assistance to the students when they are faced with making their decision on what branch of chemical engineering they would follow upon graduation. Judging from their excellent academic records to date, we too can gain from their obvious keen interest and intelligence".

Both students agree it will be a valuable contribution to their career which up to now, has been academic. Neither have been to the U.S. before.

Apex Fire Opens Belfast Office

A company which specialises in fire prevention and firefighting equipment — Apex Fire Prevention Ltd. — announces the opening of a sister company whose premises and warehouse are situated at Unit 6, Station View Industrial Estate, Upper Dunmurry Lane, Dunmurry, Belfast BT 17 OAE.

Apex Fire are distributors and stockists for several international companies from the USA, Europe and the UK who manufacture brand leaders in the fire fighting and ancillary industries. The company offers a complete supporting after-sales-service which covers all their products, thus providing customers with a thoroughly efficient back-up service throughout Northern Ireland.

Apex exhibited at the 2-day Safety, Security and Fire Prevention Equipment exhibition which was staged on Wednesday and Thursday June 3 and 4 in the Culloden Hotel, Hollywood, Co. Down.

An impressive display of fire industry and associated products were unveiled on the Apex Fire Stand No. 8 which comprises the very sophisticated Pefipresa (Spanish) range of Foam Making equipment, Sicli (French) plus Amerex (American) Fire Exits together with Ring Emergency Lighting fittings.

The directors of Apex Fire (N.I.) are Alex Wadkin and Bernard Johnson who between them have more than 30 years varied experience of all aspects of the Fire Prevention industry.
FINHEAT LIMITED

CIRRUS
Unit Heaters

Quiet. Efficient. Versatile. Robust. Highly developed range of five sizes, three styles, vertical or horizontal installation. Thermal outputs to suit all commercial and industrial applications.

Product range; Fenton Byrn fan and natural convectors, Cirrus unit heaters, coils for heating, air conditioning, refrigeration, process and heat recovery.

FINHEAT LIMITED
16/17 Usher's Island, Dublin 8. Tel: 778109/778120/728431 Telex: 30751

Manufactured by S + P COIL PRODUCTS LIMITED

IHVN, July 1981
You must try the new Marley Universal Gully once and you too will be convinced that...

- it saves on unnecessary stocks!
- it saves time around the site!
- it saves you money!

Now available at your local builders merchant.

For brochure write to:
Marley Flooring & Plumbing Ltd.,
Lucan, Co. Dublin, Tel. (01) 280691.
Autumn Training Course

A & I.R. Training, the refrigeration and air conditioning engineering training specialists, will be holding their next training course over four days in October and November this year.

The last course held on 10/11 March and 7/8 April in the Green Isle Hotel, Dublin, went very well indeed with 20 engineers successfully completing the programme and being awarded their certificates by Jim Anderson, M.D. of Walker Air Conditioning.

These courses are approved by AnCO and accordingly eligible participating companies can claim 50% of the total cost of the course, including course fees, travelling subsistence, expenses and even wages paid to the trainee while attending the course. AnCO grants are available to Levy paying companies but anyone wishing to have guidance should contact AnCO or A & I.R. Training Limited.

In order to minimise disruption to the working week, the first part of the course will be held on two successive days then, after a gap of four weeks, part two will take place on two successive days. The actual dates are to be announced shortly.

The main part of the course is on refrigeration, this being a specialist training programme specifically geared for refrigeration service engineers. The course covers fundamentals of refrigeration in great detail. This Autumn course will also cover applied electricity and advanced refrigeration training.

Interested parties can find out more and make reservations by contacting the course co-ordinator Jim Anderson on Dublin 300844.

From Horseshoes to Fireplaces

How does a firm with roots in the age-old art of the blacksmith take advantage of the energy crisis? No, not by encouraging the motorist to go horseback, but by applying its ironwork skills to the new needs of a marketplace turning more and more to solid fuels.

Brendan Clarke, of Clarke's Ironworks Ltd., in Meath is doing just that. He runs a family business in Mullagh, in Meath, using his traditional blacksmithing skills with ironwork. Clarke designs and makes high quality hearth furniture, gates, railings, decorative ironwork for stair rails and light fittings.

But while the end products can look decorative or old Tudor style, the skill applied to their production dates back to the ironage. Clarke moulds and twists his iron by hand, applying the blacksmith's craft to produce stylish scroll-like shapes. Iron fire places to suit the larger country houses look homely and natural and Clarke is finding a growing market as people again concentrate on solid fuel heating.

Research has shown that there is a market for this type of quality product. A concerted effort will now be made at the trade — architects, contractors and retailers to expand the business to its full potential.

Clarke is one of the many Irish manufacturers aiming to take advantage of the opportunities he sees in the swing back to solid fuel. He has already invested in equipment which can be used to expand his operation. He employs five people and has taught them the skills passed on to him by his grandfather.
HEAT PUMP SEMINAR

A seminar entitled “Heat Pumps — The Energy Savers” was held recently in the Burlington Hotel, when a large and representative gathering which included semi-State bodies, consulting engineers, architects and commercial/industrial interests attended the C & F Ltd./Lennox Industries Ltd. presentation.

Lennox Industries of Basingstoke, Hampshire, are one of the forerunners in the rapid growth of the heat pump market in Ireland. Prime Computer Inc of USA are the new company to occupy the Coolock factory where they will make VDU’s. Stephenson Assoc. are the architects. Bernard Hough of the newly formed Heat Pump and Air Conditioning Bureau which has been established by the British Electricity Council speaking during the seminar defined a heat pump. “A heat pump is really two integrated systems in one. Firstly, it is an efficient and reliable automatic cooling system and secondly on its reverse cycle it produces more usable energy than it consumes. This means a heat pump uses energy more efficiently than any other heating system”.

Twelve Lennox DSSI heat pumps will be used in the factory. These single package units incorporate many effective energy conservation measures, including enthalpy control for maximum use of outside air for cooling. Nominal cooling capacity is 50 kW and heating capacity at 7° is 48 kW.

In the office block, four Lennox RVZ variable volume multizone units will be used. These combination heating and cooling units provide simultaneous variable air volume and variable temperature control, giving excellent energy saving characteristics.

The installation will be carried out by Mercury Engineering Ltd. of Sandyford Industrial Estate and when completed next September, will be one of Europe’s largest heat pump installations.

The seminar was organised by Lennox Industries in conjunction with C & F. Don Cooney, Commercial Department ESB, Bernard Hough of the British Electricity Council, David Kelham, Lennox Industries and Denis O’Brien also of Lennox were the speakers who delivered the comprehensive and information papers in addition to an A/V programme.

Consistency Needed

Wavin Pipes Ltd. maintained its employment level and at the same time continued with its £8 million investment programme during the past year, but not without considerable difficulty, said Mr. Desmond Byrne, managing director, at the recent annual Pipe Progress Seminar at Jury’s Hotel, Dublin. The then Minister of the Environment, Mr. Raphael Burke, TD, also spoke at the seminar dinner.

“The trend of our product sales encouraged us to persist with our development operations. We have completed a new storage area, occupied the first section of the injection moulding facility, and shortly, our new extension will be completed. By February 1982 our new raw materials plant will be ready. In Northern Ireland, our new site is already in use for open storage and we are planning the building of a new warehouse and offices there.”

“There are recent encouraging signs in the economy — improved grants in the housing sector, water schemes, land drainage, price increases for farmers through the EEC as well as a growing optimism regarding an upturn in the economy. Clearly, we need confident leadership which must come from the government in developing our economy and, in doing so, we would expect significant state investment in the infrastructure.

“The co-option to our board of two senior executives, Mr. Larry Carr, marketing and Mr. Pat Walsh, production as well as my own appointment as managing director, now more accurately reflects the essentially Irish character of Wavin Pipes, and its autonomy both financial and as regards company policy. At the same time, we enjoy the back-up of the worldwide Wavin Group, its research and development and engineering facilities.”
Boilers Manufactured from 500 to 10,000 lbs per hour
Stockists & Suppliers of boilers up to 65,000 lbs per hour
suitable for burning Oil, Gas, Turf, Coal and other
Agents for Danks of Netherton  Unusual Fuels.

Two turf fired 12,000 lbs/hr steam boilers installed in St. Luke’s Hospital Clonmel.


L.P.G. boiler installed in metal spinner Newtownmountkennedy.
Cork Radiant Teach-in

Teach-ins for dealing with industrial and commercial burners were held by Radiant Superjet at Cork Gas and at the company's Birmingham factory.

Cork was chosen for the first two one-day courses as a number of the company's gas burners have been installed recently in Ireland.

Radiant Superjet has also developed a dual fuel burner for propane gas and 35 seconds oil with a modified head to replace the standard dual fuel unit which burns natural or town gas and oil. This range, available for between 300,000 and 2.5 million Btus, is particularly suitable for the Irish market where there are many areas without mains gas.

The RSJ range is being promoted and sold in Ireland by Thermplant of Cork. It includes gas, oil and dual fuel units from 250,000 Btus upwards for heating and process applications.

APPOINTMENTS

Thermal Insulation Distributors Ltd recently announced the appointment of Mr. Larry Smith as Sales Manager, Building and Agricultural Products Division. Mr. Smith, a well known figure in the building trade has been associated for over ten years in the marketing of extruded polystyrene used in the inverted roof, wall lining board and agricultural applications.

HRP WALKER EXPANDS TO NEW PREMISES

HRP Walker, the refrigeration component wholesale subsidiary of Walker Air Conditioning, is moving its Dublin base from Harmountown Road in Artane to the Dublin Industrial Estate, Glasnevin.

The move to larger premises is part of the expansionist reorganisation programme implemented at HRP Walker by its parent Walker Air Conditioning, the Carlyle distributor. Late last year, market research was carried out to check not only customer product requirements but the convenience of the location of HRP as well. This investigation pinpointed three alternative locations which would suit the majority of the customers better than Artane and one of these was Dublin Industrial Estate where Walker Air Conditioning itself is headquartered.

The 6,000 sq. ft., premises are currently being refitted and redecorated and HRP Walker will be moving there from Artane Road in September.

"We are delighted with the new premises" said HRP Walker General Manager Brian Hunter, "because it means we can give a more efficient service to customers and comfortably accommodate greater stocks of popular lines".

The product offering of HRP Walker is under constant review as a result of which the company recently took on the Searle range in place of Myson.

HRP Walker now offers copper tubes; Iscon refrigerant; Aspera, DMW Copeland, Danfoss and Lec compressors and condensing units; Teddington thermostats, pressure controls and expansion valves; KMP dryers; Imperial Gould servicing tools; Watso line valves; Ranco controls; Armaflex insulation and Sabroe components.

Cork Radiant Teach-in

Teach-ins for dealing with industrial and commercial burners were held by Radiant Superjet at Cork Gas and at the company's Birmingham factory.

Cork was chosen for the first two one-day courses as a number of the company's gas burners have been installed recently in Ireland.

Radiant Superjet has also developed a dual fuel burner for propane gas and 35 seconds oil with a modified head to replace the standard dual fuel unit which burns natural or town gas and oil. This range, available for between 300,000 and 2.5 million Btus, is particularly suitable for the Irish market where there are many areas without mains gas.

The RSJ range is being promoted and sold in Ireland by Thermplant of Cork. It includes gas, oil and dual fuel units from 250,000 Btus upwards for heating and process applications.

APPOINTMENTS

Thermal Insulation Distributors Ltd recently announced the appointment of Mr. Larry Smith as Sales Manager, Building and Agricultural Products Division. Mr. Smith, a well known figure in the building trade has been associated for over ten years in the marketing of extruded polystyrene used in the inverted roof, wall lining board and agricultural applications.

HRP WALKER EXPANDS TO NEW PREMISES

HRP Walker, the refrigeration component wholesale subsidiary of Walker Air Conditioning, is moving its Dublin base from Harmountown Road in Artane to the Dublin Industrial Estate, Glasnevin.

The move to larger premises is part of the expansionist reorganisation programme implemented at HRP Walker by its parent Walker Air Conditioning, the Carlyle distributor. Late last year, market research was carried out to check not only customer product requirements but the convenience of the location of HRP as well. This investigation pinpointed three alternative locations which would suit the majority of the customers better than Artane and one of these was Dublin Industrial Estate where Walker Air Conditioning itself is headquartered.

The 6,000 sq. ft., premises are currently being refitted and redecorated and HRP Walker will be moving there from Artane Road in September.

"We are delighted with the new premises" said HRP Walker General Manager Brian Hunter, "because it means we can give a more efficient service to customers and comfortably accommodate greater stocks of popular lines".

The product offering of HRP Walker is under constant review as a result of which the company recently took on the Searle range in place of Myson.

HRP Walker now offers copper tubes; Iscon refrigerant; Aspera, DMW Copeland, Danfoss and Lec compressors and condensing units; Teddington thermostats, pressure controls and expansion valves; KMP dryers; Imperial Gould servicing tools; Watso line valves; Ranco controls; Armaflex insulation and Sabroe components.

Cork Radiant Teach-in

Teach-ins for dealing with industrial and commercial burners were held by Radiant Superjet at Cork Gas and at the company's Birmingham factory.

Cork was chosen for the first two one-day courses as a number of the company's gas burners have been installed recently in Ireland.

Radiant Superjet has also developed a dual fuel burner for propane gas and 35 seconds oil with a modified head to replace the standard dual fuel unit which burns natural or town gas and oil. This range, available for between 300,000 and 2.5 million Btus, is particularly suitable for the Irish market where there are many areas without mains gas.

The RSJ range is being promoted and sold in Ireland by Thermplant of Cork. It includes gas, oil and dual fuel units from 250,000 Btus upwards for heating and process applications.

APPOINTMENTS

Thermal Insulation Distributors Ltd recently announced the appointment of Mr. Larry Smith as Sales Manager, Building and Agricultural Products Division. Mr. Smith, a well known figure in the building trade has been associated for over ten years in the marketing of extruded polystyrene used in the inverted roof, wall lining board and agricultural applications.

HRP WALKER EXPANDS TO NEW PREMISES

HRP Walker, the refrigeration component wholesale subsidiary of Walker Air Conditioning, is moving its Dublin base from Harmountown Road in Artane to the Dublin Industrial Estate, Glasnevin.

The move to larger premises is part of the expansionist reorganisation programme implemented at HRP Walker by its parent Walker Air Conditioning, the Carlyle distributor. Late last year, market research was carried out to check not only customer product requirements but the convenience of the location of HRP as well. This investigation pinpointed three alternative locations which would suit the majority of the customers better than Artane and one of these was Dublin Industrial Estate where Walker Air Conditioning itself is headquartered.

The 6,000 sq. ft., premises are currently being refitted and redecorated and HRP Walker will be moving there from Artane Road in September.

"We are delighted with the new premises" said HRP Walker General Manager Brian Hunter, "because it means we can give a more efficient service to customers and comfortably accommodate greater stocks of popular lines".

The product offering of HRP Walker is under constant review as a result of which the company recently took on the Searle range in place of Myson.

HRP Walker now offers copper tubes; Iscon refrigerant; Aspera, DMW Copeland, Danfoss and Lec compressors and condensing units; Teddington thermostats, pressure controls and expansion valves; KMP dryers; Imperial Gould servicing tools; Watso line valves; Ranco controls; Armaflex insulation and Sabroe components.

Cork Radiant Teach-in

Teach-ins for dealing with industrial and commercial burners were held by Radiant Superjet at Cork Gas and at the company's Birmingham factory.

Cork was chosen for the first two one-day courses as a number of the company's gas burners have been installed recently in Ireland.

Radiant Superjet has also developed a dual fuel burner for propane gas and 35 seconds oil with a modified head to replace the standard dual fuel unit which burns natural or town gas and oil. This range, available for between 300,000 and 2.5 million Btus, is particularly suitable for the Irish market where there are many areas without mains gas.

The RSJ range is being promoted and sold in Ireland by Thermplant of Cork. It includes gas, oil and dual fuel units from 250,000 Btus upwards for heating and process applications.

APPOINTMENTS

Thermal Insulation Distributors Ltd recently announced the appointment of Mr. Larry Smith as Sales Manager, Building and Agricultural Products Division. Mr. Smith, a well known figure in the building trade has been associated for over ten years in the marketing of extruded polystyrene used in the inverted roof, wall lining board and agricultural applications.

HRP WALKER EXPANDS TO NEW PREMISES

HRP Walker, the refrigeration component wholesale subsidiary of Walker Air Conditioning, is moving its Dublin base from Harmountown Road in Artane to the Dublin Industrial Estate, Glasnevin.

The move to larger premises is part of the expansionist reorganisation programme implemented at HRP Walker by its parent Walker Air Conditioning, the Carlyle distributor. Late last year, market research was carried out to check not only customer product requirements but the convenience of the location of HRP as well. This investigation pinpointed three alternative locations which would suit the majority of the customers better than Artane and one of these was Dublin Industrial Estate where Walker Air Conditioning itself is headquartered.

The 6,000 sq. ft., premises are currently being refitted and redecorated and HRP Walker will be moving there from Artane Road in September.

"We are delighted with the new premises" said HRP Walker General Manager Brian Hunter, "because it means we can give a more efficient service to customers and comfortably accommodate greater stocks of popular lines".

The product offering of HRP Walker is under constant review as a result of which the company recently took on the Searle range in place of Myson.

HRP Walker now offers copper tubes; Iscon refrigerant; Aspera, DMW Copeland, Danfoss and Lec compressors and condensing units; Teddington thermostats, pressure controls and expansion valves; KMP dryers; Imperial Gould servicing tools; Watso line valves; Ranco controls; Armaflex insulation and Sabroe components.
CURRENT TRENDS IN COAL

There has been much said and written about the need to change our dependence from oil based energy to alternate forms but there is little done about it, that is until recently. In a paper presented at the first National Conference on Energy Management Louis O'Donoghue of Coal Distributors Ltd., outlined recent projects which have utilised new coal burning equipment and looks at what really matters and what is the actual costings of converting and running a coal fired installation.

The movement to coal in industry to comply fully with the requirements of the U.K. Clean Air Act. A grit arrestor fitted at the rear of the boiler removes grit from the flue gases before they enter the chimney.

Fully automatic modulating firing controls are fitted as standard. The fuel handling is straightforward. Coal delivery is by 20 tonne lorries for tipping on to a concrete yard with a mechanicl shovel to load the conveyor hopper from the coal stocks. The overhead hopper above the boiler is fitted with a high level alarm to prevent over filling and two vibrators are also fitted to the under side of the overhead hopper to prevent ratholing of the coal which can occur if there is excessive moisture in the coal as a result of storage in the open.

Irish Nurseries at Sallins, Co. Kildare decided to convert from oil to coal. They installed a B & E coal master boiler fitted with a Proctor chain grate stoker to replace two oil fired boilers.

Rated at 12,500 lbs/hr (5650 Kg/s) and burning screenings the boiler is of the three pass design incorporating two passes of smoke tubes. Operating efficiencies in the region of 80% are possible with this boiler, and the unit complies fully with the requirements of the U.K. Clean Air Act. A grit arrestor fitted at the rear of the boiler removes grit from the flue gases before they enter the chimney.

Fully automatic modulating firing controls are fitted as standard. The fuel handling is straightforward. Coal delivery is by 20 tonne lorries for tipping on to a concrete yard with part under cover, a mechanichl shovel is used to load the conveyor hopper from the coal stocks. The overhead hopper above the boiler is fitted with a high level alarm to prevent over filling and two vibrators are also fitted to the under side of the overhead hopper to prevent ratholing of the coal which can occur if there is excessive moisture in the coal as a result of storage in the open.

Irish Sugar Company also took the initiative to re-convert their existing boiler plant back to coal at their Thurles, Mallow and Tuam factories. The modifications required for their conversion included the installation of automatic coal handling systems. The existing boilers were originally designed for low volatile coals and because of this they are now burning a 50-50 mix of bituminous coal screenings and native anthracite duff. They have been converted since September 1980 and are very pleased with the results and savings made. They expect to consume some 54,000 tons of coal during their next beet campaign.

Over 12 months ago Flemings Fireclays Ltd., at Athy, Co. Kildare installed a new coal fired plant to replace their existing oil fired installation which resulted in a saving to the country of more than 500,000 gallons of oil per year.

The fuel delivered is domestic screenings which is pulverised on site, the throughput of the P.F. mill is approx. 0.7 tonnes/hr. The fuel is dried by a gas diesel dryer and the final size of the coal is such that 95% passes through a 200 micron screen. The fuel is burnt in a tunnel Kiln for the manufacture of heavy clay products such as land drainage pipes, flue linings and sewerage goods. The plant uses approx. 3500 tonnes of coal per year and the cost of conversion was in the region of £190,000.

Work is progressing on the coal Fired Power Station at Moneypoint and the projected coal usage is around 2.0 million tonnes per annum by 1987.

Test work has been completed and approval in principle has been given by the government for the construction of a 45MW Power Generating plant at Arigna based on the Fluidis-
ed bed technique to burn the very high ash crow coal. The scheduled completion date is 1985/86. Other test work on Fluidised Bed designs is being carried out at the National Institute for Higher Education Limerick.

Coal screenings are presently been burned on a trial basis in one of the smaller turf fired stations in the midlands.

Irish Cement Ltd., at Limerick re-converted their plant back to coal some years ago. They consume between 80-100 tonnes of coal per year. The plant is fitted with three pulverising mills which both dry and grind 7 tonnes per hours. The coal is fired in kilns for the manufacture of cement. The particle size of coal after pulverising is such that 85% passes through 90 micron size mesh.

No decision has yet been made in respect of coal firing at their larger plant at Platin works although engineering studies are in progress.

A detailed cost analysis is required for any proposed conversion/replacement of existing boiler plant. Each project will have different site conditions with regard to storage of fuel, vehicle access and transfer of fuel from the storage area to the receiving hopper. Many other factors will also have to be considered before the final decisions can be made.

Set out below is a costing exercise based on the replacement of an existing 12,000 lbs/hr steam oil fired boiler with a new coal fired installation located adjacent to the existing boiler house. The capital costs shown are present prices received from suppliers and include installation costs.

The capital cost of £IR33,000 for a new oil fired boiler and burner unit rated at 12,000 lbs/hr includes only the sum of £2000 for an oil pumping set, section of oil line pipeworks, filters etc.

The change-over from oil to coal on this installation shows a saving of £123,000. The difference in capital outlay £121,000 will be recoverable in one year or a pay back period of just over 15 months on the total cost. The installation of the coal fired boiler house in conjunction with the existing oil fired installation will also mean that the plant is no longer totally dependent on any one fuel in the event of fuel shortage or plant breakdown, which is very desirable in the present energy supply situation.

The exercise is based on a plant operating for 14 hours/day 5 days/
week for 50 weeks/year with a peak load of 12,000 lbs/hr

The price advantage of coal is at present such that firms in suitable industries who have to replace boilers in the normal course of events have a strong incentive to convert to coal. Because a large proportion of the oil fired plant in this country was installed in the 1960's and 1970's the normal course of equipment replacement will defer conversion to coal in many cases until the 1990's. To assist in energy saving generally the European Investment Bank have made loans available through the Industrial Credit Company Ltd., for conversion from oil to coal. They will lend 50% of the total cost of conversion at a fixed interest rate (presently 12½%) for a repayment period of 10 years.

Further details are available from I.C.C.

Many energy managers have been convinced by schemes put to them that switching to coal from oil would make substantial savings in their running costs. Unfortunately current trading conditions mean that many industrialist are under cash-flow pressures and find difficulty in deciding to raise the capital required for conversion of their boiler plant. Many of these difficulties could be overcome if government investment grants were made available for replacing and supplementing existing oil fired equipment with coal fired equipment.

In the U.K. industry is to get Government Grants to convert boilers from oil to coal as part of a £168 million Sterling package aimed at helping industrial energy consumers. The U.K. Government is committing £50 million sterling over the next two years for grants to industry towards the eligible cost of converting boilers from oil to coal. Coal is the cheapest fuel for bulk industrial use and this move will help industry take advantage of its lower price and so improve their competitive position. Details of the scheme are due to be announced shortly.

Extracts From:
1. World Coal
2. World Coal Letter
3. Energy World
4. Energy in Ireland

**Table: Fuel Consumption Comparison**

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Oil (3500 Sec.)</th>
<th>Coal Screenings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Net Therms</td>
<td>420,000</td>
<td>420,000</td>
</tr>
<tr>
<td>Capital Cost</td>
<td>35,000</td>
<td>156,000</td>
</tr>
<tr>
<td>Boiler Efficiency</td>
<td>80%</td>
<td>75%</td>
</tr>
<tr>
<td>Annual Gross Therms</td>
<td>525,000</td>
<td>560,000</td>
</tr>
<tr>
<td>Calorific Value</td>
<td>0.37 Therms/Litre</td>
<td>0.12 Therms/lb.</td>
</tr>
<tr>
<td>Fuel Consumption</td>
<td>1,418,900 litres (1367 Tonnes)</td>
<td>2120 tonnes</td>
</tr>
<tr>
<td>Fuel Cost</td>
<td>£16.5p/Litre</td>
<td>£50/Tonne</td>
</tr>
<tr>
<td>Annual Fuel Cost</td>
<td>£234,000</td>
<td>£106,000</td>
</tr>
</tbody>
</table>

**Annual Costs**

<table>
<thead>
<tr>
<th></th>
<th>OIL</th>
<th>COAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>234,000</td>
<td>106,000</td>
</tr>
<tr>
<td>Labour</td>
<td>3,000</td>
<td>6,000</td>
</tr>
<tr>
<td>Maintenance</td>
<td>2,000</td>
<td>4,000</td>
</tr>
<tr>
<td></td>
<td>239,000</td>
<td>116,000</td>
</tr>
<tr>
<td>Saving</td>
<td>123,000</td>
<td></td>
</tr>
</tbody>
</table>

**Breakdown of Capital Cost of Coal Fired Boiler House**

1. 12,000 lbs/hr steam boiler (5420 Kg/hr) complete with stoker grit arrestor, I.D. fan and controls 66,000
2. Pneumatic coal handling system 16,000
3. Pneumatic ash handling system 18,000
4. Overhead coal storage hoppers and ground hopper 10,000
5. Insulated steel chimney (60 ft. high stayed) 7,000
6. Compressor 5,000
7. Boiler house construction 120m², with concrete storage area 260m² with 80m² under conversion 22,000
8. Connections to existing services and electric 12,000
9. Insulated steel chimney (60 ft. high stayed) 156,000

---

*A view from outside the boiler house at Irish Nurseries, Sallins.*
A Condensed Guide to MANOTHERM activities

THOMMEN CALIBRATOR EM

Type EM 421
410 x 260 x 230 mm
approx. 8 kg

Indep. from mains Separate power supply 24V D.C.

Platon Flowmeter

West WE 01 process controller

96mm square metal case.
PD + PI control action.
Limit comparator & controlling output option.

Barksdale piston pressure switch for pressures up to 315 bar.

Platon 'M'—valve. Air operated miniature control valve for automatic control of most media.

Rueger thermometers.

MANOTHERM LTD.

Controls and Gauges for all industries

THE CONTROL CENTRES

4 WALKINSTOWN ROAD, DUBLIN 12
Phone: 522355, 522018, 522229. Telex: 24467

10 KNOCKBRACKEN PARK, BELFAST BT6 OHL
Phone 645966

Published by ARROW@DIT, 1981
Kilkenny Water and Sewage Treatment Schemes

A £multi-million ‘total water cycle’ for Kilkenny features the work of two companies who have established national and international reputations from bases in Kilkenny itself.

Mahon and McPhillips (Construction) Ltd. and Mahon and McPhillips (Water Treatment) Ltd. acted as main contractors for civil works and mechanical plant respectively in the construction of the Kilkenny-Freshford Water Supply Scheme works at Troyswood and the Kilkenny Main Drainage treatment works at Purcellsinch. Both projects were officially opened by the Chairman of Kilkenny County Council, Mr. Seamus Pattison T.D. on Friday May 29th.

At Troyswood, a new water extraction and treatment plant draws up to 10,000 cubic metres per day from the River Nore. This new source offers a capacity of over 20,000 cubic metres per day from a minimum flow of 180,000 cubic metres. Two smaller established sources will continue to provide an additional 6000 cubic metres per day through the Rades­town works; the combined output of old and new works will allow short­term demand to be met up to 1990. Thereafter, the final phase of the Troyswood development will allow a total capacity of 15,000 cubic metres per day from the Nore source to meet an estimated demand in the year 2000 of over 20,000 cubic metres per day from both sources.

At Purcellsinch, on the other side of Kilkenny city, the largest full municipal sewage treatment works in Ireland represents the first phase of the £4 million Kilkenny Main Drainage Scheme, which will be completed with the construction of pumphouses, rising mains and trunk sewers in 1983-4. The scheme is an unusual joint venture between two local authorities and two private firms — Kilkenny County Council, Kilkenny Corporation, E. Smithwick & Son Ltd. (brewers), and Fieldcrest (Ireland) Ltd., towelling manufacturers, and itself the result of a joint venture between a major American corporation and two Irish enterprises — the Bank of Ireland and Carroll Industries.

For Mahon and McPhillips (Water Treatment) Limited, the completion of the Troyswood water treatment installation represents a significant addition to a list of major municipal projects that has included water supply schemes for Dublin (the Ballymore Eustace treatment works is the largest in Ireland), Cork and Galway. The Troyswood works, designed by E. G. Pettit and Co., Consulting Engineers, pumps water from an under­bed intake to the contract tank through low­life submersible pumps installed by Roche and McConnell Limited. From the contact tank it passes through transient flow generators, sedimentation tanks and filters to the clear water tank, where high­lift centrifugal pumps take it to a 6800 cubic metre reservoir nearby. A trunk main carries water from the reservoir to join Kilkenny’s existing distribution system at Greenshill. Features of the mechanical plant installation at the Troyswood works include dosing equipment for aluminium sulphate and polyelectrolyte to assist coagulation; Mahon and McPhillips flat­bottomed transient­flow clarifiers; three deep­bed coarse­media high­rate rapid gravity filters with full­automated backwash control; pH correction through the addition of lime slurry in the measuring flume to the clear water tank; and sterilisation and fluoridation by flow­sensitive mechanisms for gas chlorination and the addition of hydrofluoric acid.

Mahon and McPhillips (Construction) Limited were responsible for the construction of the sedimentation tanks at Troyswood, each with a surface area of 95 square metres; the rapid gravity filters (surface area 34 square metres) and the 6800-square­metre reservoir, as well as ancillary tanks and pipework and a brick­clad control building to house the filter gallery and laboratory/administration areas.

The Kilkenny Main Drainage Scheme treatment works at Purcellsinch, also designed by E. G. Pettit and Co., incorporates separate primary treatment sequences for effluent from the nearby Fieldcrest plant (coarse and fine screening, sampling, flow measurement) and city sewage
coarse screening, grit removal, storm water overflow, flow measurement and sampling, fine screening).

At the balancing stage, air is added to assist mixing and prevent septicity before pumping to a high-rate biofiltration tower using 2000 cubic metres of Flocor media to achieve an initial 50% reduction in BOD loading. From there, the effluent moves through the 528-metre channels of the aeration basins where it is mixed and has oxygen added by means of four 75 h.p. vertical surface aerators.

At the final settling stage, solids are separated and returned to the basins by archimedian screw pumps with excess waste sludge drawn off at regular intervals and pumped to a picket fence thickener for consolidation prior to disposal.

A particular feature of the Purcellsinch contract is the quality of the finishes to the concrete tanks and aeration basins, which, with the control building and ancillary facilities, were responsibility of Mahon and McPhillips (Construction) Limited. In fact, the Kilkenny Main Drainage Scheme treatment works is a good example of the result that can be achieved by close co-operation between the civil works and mechanical plant contractors.

For Mahon and McPhillips (Water Treatment) Limited, the contract provided a unique opportunity to show its capability in the installation of a biofiltration system in conjunction with vertical surface aerators in Ireland's largest full-treatment municipal plant.

And for both Mahon and McPhillips companies, the Troyswood and Purcellsinch projects provide a very convenient example of Kilkenny-based technical skills and craftsmanship to international standards within a few miles of the companies' offices in Kilkenny itself.

Consulting Engineers:
E. G. Pettit & Co.

Contractors:
The mechanical plant for the treatment works was supplied and installed by M/S. Mahon & McPhillips (Water Treatment) Ltd., Larchfield, Kilkenny. The civil works were carried out by Mahon & McPhillips (Construction) Ltd., Patrick St., Kilkenny. The pumping plant was supplied and installed by Messrs. Roche & McConnell Ltd., Mercier Street, Dublin.
Urespray System from Gulf Insulation

Gulf Insulation services acted as hosts at a lunch and seminar in the Conway Hotel, Belfast to introduce their Urespray Insulation System. Mr. G. A. Nicholls and Mr. A. Condron of Gulf Insulation explained that the system using varying formulae of sprayed rigid urethane applied direct to a variety of surfaces and finished off when necessary with a series of applied coatings provide an excellent form of insulation.

By a series of slides and examples Gulf indicated the application of urethane to tanks and pipe surfaces and a series of building applications varying from the outside of prefabs to the special applications in purpose designed buildings. Rigid urethane has excellent adhesion properties and will provide a high degree of bonded insulation to such surfaces as corrugated asbestos and steel sheets, concrete, brick, timber, etc.

A number of contracts have been carried out already in Northern Ireland including a number of very large oil storage tanks. In the latter cases there is undisputed evidence of major fuel savings having been achieved by the substantial reduction of the amount of heat required for keeping the oil in stock warm. In fact in some cases pre heating has been eliminated.

The Institute of Energy (Northern Ireland Section) held their Annual General Meeting in the Clanbrassil Hotel, Cultra. Branch manager of Esso Petroleum in Northern Ireland, Bob Jordan was re-elected Chairman — F. R. McBride and T. S. Green were re-elected Hon Secretary and Hon Treasurer respectively.

Elected to the committee were, R. Murphy, R. Stewart, C. Monaghan, W. Crowther and W. Green.

Aerocowl Marketing Ltd., a member of the John Kelly Group have announced the appointment of Mr. Noel Hawkes as Managing Director, D. Blaney as Director and P. Weston as non-executive Director.

Brian Hunter has been appointed General Manager of the H.R.P. Walker division of Walker Air Conditioning.

Joining the company in 1974, Mr. Hunter was appointed to the Board of Walker Air Conditioning (UK) in 1979.

Mr. Hunter, in the foregoing position will retain responsibility for the company's main stream activity in Northern Ireland and will continue to be based in the Belfast offices.

A Swedish company in negotiating with the Dept. of Commerce about the possibility of setting up a manufacturing unit in Northern Ireland for the production of heat pumps. The company, Lynotherm, are reputed to be interested in the Carrickfergus area which must have a large pool of available labour following the closure of a number of large internationally owned production units.

Prize winners at the Institute of Domestic Heating Engineers UDT/Carpplant sponsored golf outing included Moore Best, George Montgomery and Karl Verschour.
Home Insulation (NI) Ltd. have been appointed distributors for the Heatpak twin flue super high output open fire boiler manufactured by Megaghey Engineering Ltd. The boiler fitting fires from 16” to 24” and for the standard 18” size has an output of 46,000 Btu/hr.

The boiler complies with BS 3377.

Cawoods Fuels (NI) have appointed Hugh Ferguson, Director and General Manager, also appointed is Dale Myles as Chief Accountant and Company Secretary.

Irish Marketing Surveys Ltd. have undertaken a survey on behalf of the Northern Ireland Coal Advisory Service to ascertain the pattern of fuel usage in the Province.

The survey based on a representative of more than 1700 homes indicates that 67% of the Proninces householders are solid fuel as their main source of heat.

In the last two years there has been an increase of 10% per annum in the use of solid fuel while over the same period over 30,000 had reverted to the use of solid fuel.

A. E. J. Hurst Ltd. have been appointed to handle the products of Crouzet Ltd. of Farnborough Hampshire.

Consulting Engineers, Blyth & Blyth have moved to a new address — 32 Myrtlefield Park, Malone Road, Belfast.

A party of fifty golfers and curlers (people who throw blocks of stone up and down the ice) from the Northern Ireland Branch of the Institute of Domestic Heating Engineers left Larne for Stranraer to compete with their Scots counterparts.

The event was sponsored by O.B.C. Ltd. As the result of the golf competition, Bob Dillon qualified for the Northern Ireland Branch of the Institute of Heating and Ventilating Engineers. The Northern Ireland Branch of the Institute of Domestic Heating Engineers have elected the following Chairman, Philip Johnston (Thorn Heating Ltd.); Vice Chairman, W. Hunter; Hon Secretary, B. Page, while the committee elected are I. Morrison, P. Mawhinney, W. McMichael, J. Reid, C. Turner, R. Montgomery and M. Stevenson.

Heat Recovery from Blowdown

Curwen & Newbery Limited have produced two new leaflets entitled Heat Recovery from Blowdown. The first leaflet BD4 describes some of the traditional methods of recovering heat from steam boiler blowdown incorporating flash vessels and tubular heat exchangers. The various advantages and disadvantages of each system are outlined. The second leaflet BD5 describes in some detail Curwen & Newbery’s unique Combination Blowdown Tank with indirect heat recovery. The packaged unit is designed to provide a simple but effective means of handling continuous and intermittent blowdown. As the heat recovery is indirect it is much safer and the recovered heat can be used for many different purposes.

Further details can be obtained from MCW Ltd.

Automatic Steam Traps

The British Standards Institution has published BS 6026 Face-to-face dimensions of flanged automatic steam traps, one of a series of standards implementing international standards, in the development of which the United Kingdom has played an active part. It is identical with ISO 6554, published last year. Eventually there will probably be ten British Standards published in this field.

The range of automatic steam traps covered in this specification are used in flanged pipe systems, and the standard should therefore be of interest to all sectors of industry in overcoming problems of interchangeability and rationalisation.

Copies of BS 6026 may be obtained from the BSI Sales Department, 101 Pentonville Road, London N1 9ND or from Information Services Dept., Institute for Industrial Research & Standards, Dublin 9, (Tel: 370101).

Oil-Burning Equipment

British Stand Institution has revised Parts 2 and 3 of BS 799 Specification for oil-burning equipment which will be of interest to all users of oil-burning appliances such as boilers, air heaters etc., particularly those for space heating applications.

Part 2 Vaporizing burners specifies requirements for the safe and reliable operation of vaporizing burners suitable for use with oil conforming to classes C and D as laid down in BS 2869. Owing to the considerable range of burners available each type is dealt with separately in the standard. It covers oil vaporizing burners and associated equipment for boilers, heaters, furnaces, ovens and other similar static-flued plant such as freestanding space heating appliances for single family dwellings. The standard does not deal with the appliances to which the burners are fitted; nor is it intended for use in respect of atomizing burners (dealt with in BS 799 Parts 3 and 4), gas generators used for industrial purposes, or marine and mobile installations.

Part 3: Automatic and semi-automatic atomizing burners up to 36 litres per hour specifies the materials from which all relevant components shall be constructed, and also deals with such points of component design and plant layout as are fundamental to the correct functioning of the following:

(a) Automatic and semi-automatic oil burners of the monobloc type as defined in Part 6 of this standard.

(b) Dual fuel gas/oil burners when using fuel oil of classes C2 or D (see BS 2869) or both, as recommended by the manufacturer.

Copies of BS 799 Parts 2 and 3 may be obtained from the BSI Sales Department, 101 Pentonville Road, London N1 9ND or from Information Services Dept., Institute for Industrial Research & Standards, Dublin 9, (Tel: 370101).

Accotherm Pipe Insulation

The Insulation Products Division of Armstrong World Industries Limited have produced a new 4-page A4 technical leaflet on Accotherm, their recently introduced rigid factory jacketed phenolic pipe insulation which is manufactured by a unique continuous moulding process and patented by Armstrong.

The new leaflet gives comprehensive technical information on the three types of finish available: brown kraft; mylar/white kraft laminate; and aluminium foil/white kraft laminate. Each finish meets a different design specification. The aluminium foil/white kraft laminate, for example, provides pipe insulation with an extremely effective water vapour barrier and a Class ‘O’ fire rating.

Copies of the new Accotherm leaflet can be obtained on request from Armstrong distributors.
Panel Radiators • Convectors
Radiators • 'V' Low-Line
Radiators • Electric Radiators

We have the experience and the know-how to give you the choice and the quality

Danfoss radiator thermostats save fuel without loss of comfort

The ever increasing cost of fuel gives us good reason to investigate different ways of reducing the amount of fuel used in heating our homes.

The most significant way of reducing fuel bills is the close and sensible control of the heating system itself. Danfoss radiator thermostats will enable the right temperature to be selected for each and every room of the house.

Savings of up to 20% are possible without loss of comfort.
RADIATOR MARKET STILL DEPRESSED

With reports of drops in sales from 10 to 25% from last year some manufacturers are rightly concerned by this alarming trend which shows no sign of turning and leaves poor prospects for next year. The domestic market seems to have been worst hit with a continuing slump after the peak time of grant aid for conversion to solid fuel. With the reduction in demand for heating equipment in general in the domestic sector, price became all important and contractors were lost and won on small margins with Barlo having the edge on price for some time which must have boosted their overall sales and market share. Another factor in marketing was the use of shrink wrap which although not a major factor must have influenced some customers in the choice of radiators. Both Veha and Barlo are now offering this method of packaging.

In the industrial sector the story is much the same although there seems to be enough work 'on the boards' but it does not seem to pass tender stage. Many government projects have been shelved this year and the money situation is not helping in the general industrial and office block market. So the fight seems to be on for the home market with new catalogues coming out from both Veha and Barlo and both going hard after merchant business while Runtalrad continue to suffer somewhat from the continuing recession, with everyone hoping for a turn in the economy and also wondering what effect will natural gas have on the business.

The following notes are based on material submitted by the companies concerned.

Belmont

A conversion kit was recently introduced by Pegler to enable the many millions of existing manual Belmont 15mm radiator valves to be converted to thermostatic operation. The kit comprises a thermostatic head with screw-in gland which simply replaces the manual control knob and gland on the existing valve body. The conversion can be carried out quickly, without disconnecting or modifying the pipework.

Further information from Manning & Usher Ltd.

Hudevad

Increased awareness of the need for higher room temperatures for elderly people in hospitals and homes and of the possibility of accidental burns where such high temperatures are achieved using conventional radiators led Hudevad to introduce some years their low surface temperature enclosed radiators. Units are enclosed by steel protective front plates, aluminium top grilles and where necessary end plates. Although heat output is high, surface temperature is low and the emitters inside cannot be touched, thus geriatric and mentally handicapped patients, many having little sensation of pain so that they can easily burn themselves, are protected against accidental radiator burns.

Apart from safe heat output the Hudevad LST radiator is extremely robust. The steel protective front plate is 2mm thick and will therefore withstand one of the main causes of mechanical damage to radiators in hospitals, namely impact from bedsteads being moved during cleaning.

Hudevad also offer conventional radiators of proven design for public buildings etc. and have smooth easy to clean surfaces of heavy duty construction to withstand corrosion, accidental impact or vandalism. The natural convection of warm air between the internal ribbed sections prevents accumulation of dust and the units exhibit a high heat output to size ratio. Radiators are made in single or double form also angled and curved.

Catalogues are available from: Dan Chambers Ltd., 57/58 Brunswick Street, Dublin 7, Tel: 720448-720971-720555.

Glen—Dimplex

At present, the world market for electrical heating appliances is growing rapidly. The enormous increase in the cost of oil in recent years and the vulnerability of oil to supply interruptions have had two major impacts:

(1) Individual householders are much more conscious of the cost of full central heating and are attempting to reduce this cost by more selective use. This is being achieved by reducing overall temperatures and supplementing the system by "add-on" heaters or by limiting the running time of the system and utilising individual room heaters to provide warmth where needed. In both of these cases, electric heating has been the obvious answer —
PRODUCT REVIEW: RADIATORS AND CONVECTORS

because of its convenience, cleanliness and efficiency.

(2) National governments have swung towards coal and other non-oil means of generating electricity in order to ensure continuity of energy supply to consumers. This has resulted in the re-introduction of off-peak and other selective pricing strategies which have made electricity relatively more attractive as an energy source.

Both of these developments have markedly altered the market for electric heating appliances. In Europe, the number of electric heaters sold has doubled during the last five years. The last 12 months, in particular, has seen an accelerating trend towards individual electric heaters as oil prices have doubled. In the UK alone, for example, sales of convector heaters have been up 30%, fan heaters up 12% oil filled radiators up 27% and storage heaters up 66%.

The dominant company in Europe in manufacturing and exporting electric heating appliances is the Glen-Dimplex Group. Now 100% Irish owned and headquartered in Dunleer, Co Louth, Glen-Dimplex has manufacturing facilities in seven different locations in the Republic, in Northern Ireland and in the UK. The group manufactures a wide range of the heating products including:

- Oil filled radiators (both panel and column)
- Convector heaters
- Storage radiators
- Fan heaters
- Infra-red heaters
- Heated towel rails
- Instant showers
- Water heaters

Exports are made to 22 different countries. Using a two brand marketing strategy, (Dimplex and Glen) to supply all market segments, Dimplex Limited (the sole Irish agent for Glen-Dimplex) now dominates the Irish market for electric heaters with over 50% of the market for conectors and over 80% for oil-filled radiators.

Further information is available from the sole Irish agent for Glen-Dimplex-

Dimplex Limited, 13 Moss Street, Dublin 2. Phone 714410/714074.

Veha

As part of their policy of continuous product improvement, all Veha radiators are now being wrapped in heavy gauge polythene with cardboard protective corners, which will not only help to maintain their factory freshness, but will minimise painting preparation time, thus achieving even greater economy in use.

Veha of Wicklow continues to expand and improve their product range, with off-the-shelf availability of the more popular sizes of convector radiators. Indeed a growing number of merchants are stocking convector radiators, alongside their existing supplies of panel radiators. Conectors are available in the same standard heights as panels i.e. 11", 15", 19", 23" and 27", plus the addition of a 31" height. Lengths are, again, the same as for panels i.e. 18" to 116" as standard, and overlengths up to 231".

The low-line 'V' radiator is a specially designed 6" high radiator providing high output figures by the use of deep fins, providing for space and output requirements where conventionally sized radiators cannot be used.

Veha electric oil-filled radiators are making an impact on the Irish market, and with good reason. In terms of quality and appearance they compare more than favourably with any other similar heater on the market, but being Irish made, they do not carry the penalty of a currency surcharge. They are therefore good value for money, more economical than most other forms of electric heat, entirely safe, and durable. They are fully B.E.A.B. approved and have been specified by many consulting engineers, and are used by people like ESB and the Office of Public Works.

Further information on any Veha product is freely available from Veha Ltd. of Wicklow, (Tel: 0404-2278) or from their depots at Dublin, Cork and Galway.

Eureno

An original concept in perimeter heating design has been introduced by HCP Limited.

Peristrip is an entirely new style of hot water natural convector perimeter heating based on 100mm wide facing panels fitting between continuous top and bottom carrier rails and capped with a continuous aluminium linear grille.

Available from a mini-height of 150mm, Peristrip can be made to any dimension to suit individual architectural requirements.

The system allows partitioning to be located in any position along the perimeter without the need to pre-plan and permits alteration of partitioning layout at a later time if required.

The single or double row copper tube finned hot water elements and other internal services are readily accessible and the front panels are easily replaced in the event of damage.

Aw with all HCP Peristrip perimeter heating systems, integral cable ducts to carry mains cable, Post Office and internal lines can be incorporated into the Peristrip system. Any 100mm panel can be punched to receive a single socket outlet.

New Peristrip which can also be used to clad perimeter air conditioning systems is supplied with a coating of strippable film to protect against accidental damage during installation.

Further information from Eureno Sales Ltd.

Finheat

This fully metric range of fan convectors from S&P Coil Products, has been developed to meet the demands of the commercial and public authority users for quietness, efficiency, high performance, versatili ty and robustness.

The range incorporates many improvements over the successful and well proven "V" range fan convectors, whilst maintaining some of the unique features of that range. A wide variety of models are available as standard.

A choice of heating duties is offered ranging from 2.5 kW to 15.0 kW at standard conditions and on the quiet running normal speed setting.

Streamlined extruded aluminium grilles are included in the basic freestanding models which
ALL THE WARMTH YOU NEED

Go Anywhere Dimplex Radiators

Room Temperature Controlled Models

Warm Relaxed Convector Heating

This range with the famous dimple design incorporates the unique Dimplex 'air-sensitive' thermostat which responds to the actual air temperature of the room and provides a fine degree of control. Choice of eight models and five loadings from ½ kW to 2 kW. Finish bronze or white — supplied with feet and wall bracket — castors are an optional extra.

Special summer stocking terms now available.

For details contact:-

DIMPCO LTD. 13 Moss Street, Dublin 2. Phone: 714410/714073

AMBI-RAD

SPECIAL FEATURES

* Detachable Stainless Steel Reflectors
* Variable Mounting Centres for Neat Installation
* Horizontal or Vertical Inclined Mounting
* Detachable Return Bend
* Optional Fresh Air Duct to Burner
* Vacuum Proving at Combustion Chamber
* Plug in Electric Throughout

BENEFITS

* Low Fuel Consumption
* Low Installation Costs
* Uniform Warmth Achieved
* Roof Heat Losses Reduced
* Eliminates Rapid Air Movement
* Automatic in Operation
* Full Safety Interlocks
* Gas Fired
* Space Saving Overhead Mounting

Further Information from:-

Turnmill Engineering Ltd.,
Industrial Estate, Kilkenny Road,
Athy, Co. Kildare.
Tel: (0507) 31983

Published by ARROW@DIT, 1981
combined with the distinctive casing lines give the unit an extremely attractive look.

A slidyway plenum chamber, incorporating all moving and mechanical parts, is employed, which can be completely removed for servicing once the unit has been isolated and the inbuilt electrical plug and socket disconnected.

The casing is extremely robust in construction and will allow for reversal of pipe connection handing and air flow arrangements on site, yet offering a generous pipe void area.

The standard finish on the freestanding models is the durable and attractive hammer grey stove enamel although for that special combined with the distinctive casing lines give the unit an extremely attractive look.

The radiator thermostat has been particularly designed to offer householders optimum comfort conditions whilst at the same time, obtaining maximum fuel savings. Temperature range of the thermostat is 7°C to 25°C with a range limiter being available to displace the temperature range by a further 2°C. The low minimum temperature ensures frost and condensation protection.

Danfoss

The market for radiator thermostats increases every year. Their popularity results from the fact that fitting a thermostat to every radiator in a central heating system is the only cost effective method of capturing ‘free’ heat gains from the sun, people and domestic appliances, thereby saving fuel and improving comfort.

The radiator thermostat, independently preset by the users, automatically adjusts the load to the radiator thereby maintaining a constant room temperature. The fuel saving potential is indicated by a 10% reduction in room temperature resulting in a saving of 8% of that rooms heating costs.

To meet the aesthetic and energy conservation needs of this market, expected to expand rapidly during the 1980’s, Danfoss have introduced the new S series radiator thermostat available in in situ, and remote sensor types, and manufactured in modern colour combinations to give a timeless appearance, essential for a ‘long-life’ product.

Danfoss S series radiator thermostats are suitable for fitting into exciting and new domestic systems, the overall dimensions of the valves minimising the replacement work necessary. The radiator thermostat has been particularly designed to offer householders optimum comfort conditions whilst at the same time, obtaining maximum fuel savings.

Temperature range of the thermostat is 7°C to 25°C with a range limiter being available to displace the temperature range by a further 2°C. The low minimum temperature ensures frost and condensation protection.

Valve bodies for the new Danfoss radiator thermostats are available in angle and straight patterns with 10mm, 15mm and 20mm connections. In addition, twin-entry valve bodies are available, with 10mm connections, for microbore heating systems.

When fitting radiator thermostats to reduce heating costs, accuracy of control is essential. A major factor governing this accuracy is friction in the sensing element which, causes the temperature band to widen. This is known as the hysteresis. The larger the hysteresis, the less accurate the thermostat, the higher fuel wastage.

In the gas filled bellows used as the sensing element in Danfoss radiator thermostats, no hysteresis can be measured — one of the main reasons behind Danfoss control accuracy.

Popular versions of the Danfoss S series RAVL radiator thermostats are supplied in individual bubble packs suitable for all aspects of marketing, to all sectors of the heating industry.

Further information from JJ Sampson & Son Ltd., Cherry Orchard Industrial Estate, Dublin 10, (Tel: 268111).

Pioneer

This year Pioneer Radiant Products introduced their new Re-Verber-Ray radiant tube heater MK II.

This new heater will be marketed primarily as a vented radiant system as opposed to the alternative high intensity unvented system. This new heater faces an unenviable task if it is to be compared with the success of the original MK I version.

The standard unit comes with a rated input of 22 KW (75,000) Btu and is available for either overhead or wall mounting. A very impressive flueing system shows a great deal of both creativeness and practicality in its design.

HUDEVAD

LST RADIATORS

* Low Safe Surface Temperature.
* High Heat Output.
* Rapid Heat Circulation.
* Ideal For Hospitals, Public Buildings.

DAN CHAMBERS LTD.

57-58 Brunswick St.,
Dublin 7.
Tel: 720448-720971-720555.
RE-VERBER-RAY

If you know about radiant heat already you know why the RE-VERBER-RAY is the best RADIANT TUBE HEATER you can buy.

Vented Design*
Overhead Mounted*
No Wasted Heat*
Automatic Control*

*20-50% Fuel Saving
*Gas Fired
*Instant Heat
*Healthy Heat

The Re-Verber-Ray range of radiant gas heaters

A GUARANTEED IRISH PRODUCT

Manufactured by:
PIONEER RADIANT PRODUCTS LIMITED
Control It — for Comfort and Economy

In the previous articles, we have examined the author’s recommendations for good pipework arrangements to ensure safe installations. We also considered pump positioning to give the minimum air introduction into the installation, and therefore, the minimum system corrosion.

However, before we can confidently sell such systems to our end user customers, should we not be certain that the owner will get value for money, not only at the time of installation, but also every day his system is used, by way of fuel saving rather than fuel wastage.

Far too many installations have been fitted in the past with nothing more than a boiler thermostat to give the user so called temperature control of his space and hot water needs, with the advice: “Turn it up in winter and turn it down in summer”.

All very well if fuel is free, but at today’s fuel costs; wasteful and extremely costly. A manually controlled installation such as this can be costing the user up to 35% (£35 in every £100 of fuel bill) more to run than it need be, and gives the owner no more comfort in his home for this extra cost.

Let us examine the reasons why and see how we can improve our already safe and trouble-free installation, to give the customer quality with fuel economy.

Comfort

Well, what is comfort? How do we know when we are comfortable? We all know we are uncomfortable don’t we. “Too Loud” “Too Quiet” “Too Bright” “Too Dark”.

That’s what comfort is! Not feeling uncomfortable, similarly not feeling “Too Hot” or “Too Cold”.

Between certain levels of temperature, most people do not notice gradual changes of temperature. Usually this band width is 6°F (approx. 3°C) and at the top and bottom of this band, people will feel either too hot or too cold respectively. Within the 6°F change they will not experience discomfort and will therefore feel comfortable.

This is known as Human Comfort Band (See Fig. A).

The Comfort Band

Fig. A is a typical comfort band for a person who will feel too cold below 68°F (20°C) and who will feel too hot above 74°F (23.3°C). Controlling the temperature of the house shown by the curve, means an average temperature of 71°F (21.6°C) in the space. Typically this is the very best a person can achieve by adjusting his boiler thermostat manually.

At the best then, the customer is 3°F overheating his house for no extra comfort, but at what cost?

Degree Day Costs

It is well accepted that from the Degree Day statistics for Ireland and the UK that about 66°F (19°C) a constant 1°F overheating is equal to adding 5% to the customers fuel bill.

Consequently, for the very best a customer could achieve by manually adjusting his temperature (See Fig. A) his 3°F minimum overheat is costing him 15% more minimum each year, for no more comfort than if he had managed to keep his temperature at a constant level of 68°F.

Ideally then, some automatic control of keeping the space temperature within very close temperature limits is necessary for good fuel economy. (See Fig. B. The economic control curve).

The control should not only be capable technically of achieving this economic control curve, it should also be located in a position where it can reasonably measure the space temperature to be controlled. The customer should also be advised of the correct way to set the control to ensure it is set at the minimum temperature of the Comfort Band of the user. This will ensure that fuel economy is achieved by not wasting a minimum of some 15% of his fuel annually on space overheating.

System Design

Generally domestic systems are...
designed so that both radiators and hot water cylinder will supply the correct amount of heat for the user's needs when the boiler water flow temperature is 180°F (88°C) and the outside temperature is 32°F (0°C). Obviously when the outside air is at this temperature, the maximum boiler output is needed, and no controls are necessary. On every occasion the outside temperature is above freezing however, the space temperature will overshoot and the domestic hot water will be overheated.

We have already stated the case for some adequate space temperature controller to counteract this wastage situation, but what about our domestic hot water!

Without some control, the domestic hot water temperature will try to reach the boiler temperature of 180°F (88°C). Since the average cylinder contains approx. 30 gallons of water and the mean temperature for average use is in the region of 140°F (60°C) not 180°F (88°C); then overheating the cylinder by this 40°F (5°C) results in; by definition:-

30 Gall x 10lb x 40°F = 12000 Btu

This is the heat wasted for every hour the fuel is used merely to raise the temperature of the cylinder to exceed the required 140°F (60°C). It is equal to a 9'6" x 2'3" double panel radiator running on the roof wasting fuel.

In a year this uncontrolled cylinder operation could cost the customer anything up to 10-12% per annum in fuel wastage for an average domestic dwelling. Where such a boiler is installed in an unheated outhouse or garage, the wastage could be considerably more.

**Boiler Cycling**

Obviously this minimum control system will, on many occasions, require the space and hot water cylinder to be “Off” at the same time during the course of a days operation i.e., when they are both at the required temperatures.

When this state exists, the boiler will normally shut off under the action of the boiler thermostat, when its temperature reaches 180°F (set boiler temperature). The boiler will then cool down as it looses heat from its casing and its flow and return pipes, and will eventually fire again due to the boiler thermostat cooling down.

This can happen many times in a day, even though no hot water has been taken from the cylinder and the rooms are still warm enough for the customer.

This is the boiler cycle of ‘on’ and ‘off’ for no other reason than to waste fuel.

This can cost the customer anything up to 10% per annum in fuel wastage for an average domestic dwelling.

Where such a boiler is installed in an unheated outhouse or garage, the wastage could be considerably more.

**Minimum Control Requirement**

(Summary)

To give the customer quality with fuel economy then we have defined the minimum control an installation should enjoy. It can be summarised as follows:-

1) Space temperature should be measured as accurately as possible and automatically maintained at the lowest temperature level compatible with the user’s Comfort Band.

2) Domestic hot water storage temperature should be measured and controlled to maintain it at about 140°F (average).

3) When space and hot water temperatures are satisfied at the same time, the boiler should not be allowed to cycle ‘on’ and ‘off’ for no apparent reason.

4) The controls should shut off the boiler whenever there is no need for heat output, and switch it ‘on’ when heat output from the appliance is required.

Meeting these parameters will give the customer Fuel Economy. Future articles will examine the ways these parameters can best be met for both Gravity Domestic for Fully Pumped Systems to give value for investment by way of fuel savings.

Far too many installations have been fitted in the past with nothing more than a boiler thermostat to give the user so called temperature control of his space and hot water needs, with the advice:- “Turn it up in winter and turn it down in summer”. 

**FIG. B. COMFORT BAND. (ECONOMICAL CONTROL)**
NEW PRODUCTS

D-Pak Air Handling Unit from Biddle

With the announcement of a new range of air handling units, designated D-Pak, offering adaptability, design simplicity and reliability, FH Biddle Ltd. have extended their range of air handling equipment currently available to building service designers.

Designed to cater for airflow volumes in the range of 0.33 to 5 m³/s, D-Pak units are available initially in a horizontal configuration, although they will shortly be followed by vertical and 'stacked' layouts.

Available in both draw-through or blow-through forms, the range is currently capable of accommodating either up to 2 row or 6 row heating or cooling coils, respectively.

Full versatility is ensured by the availability of a wide range of fitments, which will include dampers, louvres, mixing boxes, spray coils, various humidifiers and throwaway or washable filter cells.

Also, in line with the growing emphasis on energy conservation, the D-Pak may be fitted with rundown heat recovery coils, plate type recuperators or thermal wheels according to choice.

Currently five basic model styles are available in eight unit sizes and the newly published leaflet from Biddle gives full information on dimensions, weights and performance figures.

The well known E Pak and C Pak range of air handling units will still continue to be available from market. Called the T-Plus, it allows the T-coupling to be fitted direct to the pipe. Once the fitment has been coupled to the pipe, the connection can be simply opened with a sharp blow, eliminating the need for cutter, hacksaw or die stock when working with steel or copper piping to make a branch. Marketing Manager Mr. Bill Bewley commented: “You work fast when using T-Plus. For instance, when installing a new radiator or new tap on existing pipework it can be done easily and rapidly. Branches can even be made on pipes under pressure without the danger of spillage. Time is saved on the drainage of the system and operational disturbances in production are avoided.” T-Plus works simply yet effectively. It is fastened directly to the pipe with four screws and an allen key. A driving charge drives the plunger forward and cuts across the pipe. Consequently, the part removed remains in the coupling and the connection is opened. T-Plus for copper tubes is available in six sizes: 12, 15, 16, 18, 22 and 28mm. T-Plus in malleable iron, which will be manufactured at Thorsman, Drogheda factory from September, is ideal for industrial applications either in the maintenance market or in new installations.

For new installations, mains supply pipes for water, air and other services can be drawn before planning the offtakes on the premises. This facilitates the making of branches to work stations and machines at a more practical stage.

T-Plus in malleable iron replaces conventional tees when making branches on steel pipes for water air and other neutral media. It comes in three sizes ½", ¾" and 1".

New Pipe Coupling from Thorsman

Thorsman and Company Limited’s new product which eliminates pipe cutting in the plumbing and heating trades has been launched onto the Irish market. Called the T-Plus, it allows the T-coupling to be fitted direct to the pipe. Once the fitment has been coupled to the pipe, the connection can be simply opened with a sharp blow, eliminating the need for cutter, hacksaw or die stock when working with steel or copper piping to make a branch. Marketing Manager Mr. Bill Bewley commented: “You work fast when using T-Plus. For instance, when installing a new radiator or new tap on existing pipework it can be done easily and rapidly. Branches can even be made on pipes under pressure without the danger of spillage. Time is saved on the drainage of the system and operational disturbances in production are avoided.” T-Plus works simply yet effectively. It is fastened directly to the pipe with four screws and an allen key. A driving charge drives the plunger forward and cuts across the pipe. Consequently, the part removed remains in the coupling and the connection is opened. T-Plus for copper tubes is available in six sizes: 12, 15, 16, 18, 22 and 28mm. T-Plus in malleable iron, which will be manufactured at Thorsman, Drogheda factory from September, is ideal for industrial applications either in the maintenance market or in new installations.

For new installations, mains supply pipes for water, air and other services can be drawn before planning the offtakes on the premises. This facilitates the making of branches to work stations and machines at a more practical stage.

T-Plus in malleable iron replaces conventional tees when making branches on steel pipes for water air and other neutral media. It comes in three sizes ½", ¾" and 1".

New Oil Burner Control

Danfoss has introduced a new oil burner control type BHE 12.

The BHE control has been developed for fully automatic control and monitoring of one-stage burners where flame monitoring is done by a flame electrode (the ionisation principle).

The oil burner control is thus very suitable for blue flame burners.

BHE 12 can be used for capacities of up to 30 kg/h of fired oil.

Type BHE 12 has the following programmed sequence:

Seven seconds of pre-ignition with pre-ventilation.

Ten seconds of safety
lockout time during start-up.
Re-starting during operational flame failure.
Technical data:
Mains connection = 220 V/50-60 Hz
Wattage consumption = 1 W
Enclosure = IP 40
Ambient temperature = -25°C to +70°C.
For further details, please contact: J J Sampson & Son Ltd., Cherry Orchard Industrial Estate, Dublin 10. Tel. (01) 268111 (4 lines).

Advanced Clorius Heat Meter

A revolutionary new meter for measuring heat consumption on communal heating schemes has just been officially launched by the market leaders in this field, ISS Clorius Limited.
Specifically designed for domestic heat metering, the Clorius Farameter, as it is known, uses principles hitherto practicable only in closely controlled laboratory conditions. Effectively this is a laboratory instrument available at a commercial price.
Central to the accuracy and reliability of the Farameter is its use of Faraday’s law of electromagnetic induction to measure the volume of hot water flow. That is, the voltage generated in a conductor moving in a magnetic field is proportional to the velocity of movement.
In practice, the voltage induced between a pair of electrodes as water passes through a steady magnetic field gives a measure of the flow of that water. It means that, unlike other integrating heat meters, the Farameter, has no moving part in the water supply, requires no upstream filtration and can be fitted to pipework running at any angle (not just vertical or horizontal).
Flow measurement is done within the Integrator Unit, one of the three interlinked parts of the Farameter. The Integrator Unit is fitted in the return pipe from each dwelling and includes a platinum resistance temperature sensor and the electronic computer. The computer processes information from the flow meter and the temperature difference across the dwelling. A separate Flow Temperature Sensor fitted to the flow pipe, enables identification of the temperature difference.
The third element of the Farameter is a remote display unit that can be fitted in any convenient position for easy reading. It contains two electromagnetic counters and a pulsing indicator as well as a low voltage transformer. One counter registers the heat energy used in kW/h. The other counter records the total time the meter has been operating. The indicator lamp shows that the ‘flow’ signal is active. The operating principal is that the ‘flow’ signal is combined with a temperature difference signal and the resulting thermal power signal is continuously integrated to give a display of energy used in kW/h.
The Farameter is designed for systems with maximum flow temperatures of 120°C, maximum return temperatures of 90°C and maximum temperature differences of 100°C. The power range of the meter is from 0.3 to 50 kilowatts and the flow range 0.003 to 0.75 litres per second.
Announcing the Farameter, Tony Smith, marketing manager of ISS Clorius Limited, commented: “Heating bills have been taking an increasing proportion of the family budget over the last 10 years as most fuel costs have risen at more than the rate of general inflation. Although communal heating is usually a very economic system, much of this advantage can be wasted if consumers do not have the opportunity to benefit from savings in heat usage they may individually make. Under flat-rate charging systems (where those in similar dwellings pay the same amount regardless of usage) those who are careful merely subsidise those who are wasteful which can hardly be described as fair.”

New Colour from Royal Doulton

Royal Doulton bathrooms has introduced a new colour, Cameo, a dusky pink, to their range of sanitaryware. Guaranteed to add a warm, rosy glow to chill bathrooms, Cameo is available across the range of baths, washbasins, shower trays, bidets and WC’s, including fireclay and acrylic products.
Customers can now choose from 12 Royal Doulton colours and a wide range of designs to meet their individual requirements.
Further information from Manning & Usher.
Grilles from sheet steel.
Horizontal and vertical adjustable vanes. Screw and concealed fixings. Electrostatic epoxy powder paint.

Grilles from aluminium extrusions.
With fixed or adjustable vanes. Anodized aluminium. Screw and concealed fixings. Aluminium accessories.

Ceiling diffusers from steel and aluminium.
Adjustable pattern. High induction capability.

Linear diffusers from extruded aluminium available with 1-8 slots high induction capability. Low noise levels. Choice of two margin widths. Plenum box in steel.

Ceiling diffusers from steel and aluminium.
Meeting standard dimensions. Adjustable pattern with plenum box.

Asymmetrical ceiling diffusers.
Varied air distribution pattern. Adjustable aluminium vanes.

Architectural weather louvres.
Of extruded aluminium or galvanised steel. Steel louvres with adjustable vanes.

Luminaire diffusers.
Single or double suitable for any brand of light fittings. Variable air volumes.

High pressure boxes.
For single or dual duct. Constant or variable air volume. Independent of pressure. Hot water or electric heater battery.

Fire dampers.
Manufactured in all sizes. Meeting legal requirements.

118/119 The Coombe, Dublin 8. Tel: 755557 Telex: 24147
The Oil Glut and its Effect on Ireland

Last month we looked at oil and the available substitutes or otherwise and came to the conclusion that the easiest substitute for oil is still oil. The alternative, coal, nuclear synthetic fuels are being delayed for political and environmental reasons. The present questions to be asked are, will the present oil glut continue and what effect will that have on Ireland.

With regard to the present oil glut, one has to look at both supply and demand. When considering supply it should be noted that the world is currently producing an estimated two million to three million barrels a day more than it needs. The biggest contributor to that glut is Saudi Arabia. Presently it is supplying 10.3 million barrels a day, some two million to three million barrels per day more than it really requires to produce to keep its fields operating at maximum efficiency. The important thing and its extremely important to remember, that, at just one stroke of a Saudi pen they could eliminate the present oil glut. The Saudi's are today considering a two million barrels per day reduction in their supply. It is also wise to consider that the Saudi's increased their production last year to overcome the shortfall of the Iranian oil fields which occurred after the Iran/Iraq war. Peace between Iran and Iraq could theoretically produce an extra five million per day.

The present OPEC total production capacity is now close to 34 million barrels per day, that is 10 million barrels a day more than it is now producing. In the growth days of the 1960s and early 1970s oil consumption grew by 6% per annum and OPEC produced 30 to 31 million barrels per day.

On the demand side, in response to 170% increase in OPEC prices since 1978, the main countries in Europe and America have reduced their oil consumption. Last year, it was down 8% to 35 million barrels per day and is anticipated that it will fall about another 2% to 3% this year. The normal answer to this is that, economic growth has slowed down. But, is that the proper answer, it would seem not. There is no doubting that oil and economic growth go hand in hand but it would now appear that conservation measures in various countries are taking effect.

Japan's oil demand dropped 10% whilst they had a 5% increase in GNP, West Germany with a smaller growth of 2% cut oil demand by about 12%. In America this year for the first four months consumption was down 6% than a year earlier even though GNP had increased by 3% during those months. The question now to be asked is that if we have renewed economic growth, do we get the normal operations, that is, the day set for another oil shock, another panic, another frenzy of activity, economic downturn and then another.

---

**IRELAND — PRIMARY ENERGY INPUTS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Imports</th>
<th>Oil</th>
<th>Coal</th>
<th>Hydro</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>81%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

*Source: C.I.I. from published data.*
Table 1

Ireland: Cost of Energy Imports and the G.D.P.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (€m)</td>
<td>71</td>
<td>216</td>
<td>232</td>
<td>293</td>
<td>365</td>
<td>355</td>
<td>558</td>
</tr>
<tr>
<td>G.D.P. (Est)</td>
<td>2678</td>
<td>2946</td>
<td>3676</td>
<td>4513</td>
<td>5383</td>
<td>6356</td>
<td>7383</td>
</tr>
</tbody>
</table>

Non-comrnunit world-

production - consumption

1979

1980

1981

Sources: PW; Petroleum Economics Research Ltd

<table>
<thead>
<tr>
<th>1980</th>
<th>75</th>
<th>85</th>
<th>95</th>
<th>1981</th>
<th>1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>45</td>
<td>55</td>
<td>65</td>
<td>75</td>
<td>85</td>
</tr>
<tr>
<td>1981</td>
<td>55</td>
<td>65</td>
<td>75</td>
<td>85</td>
<td>95</td>
</tr>
</tbody>
</table>

Non-commun. world-

oil production - consumption

1979

1980

1981

Sources: PW; Petroleum Economics Research Ltd

Note: Oil's share in the total energy usage (Mtoe/yr) has remained relatively constant at about 75% during the above period. Between 1968 and 1973 oil imports doubled and despite the price increase have risen still further since.

The Irish situation must be considered in the light of the world energy situation. The Irish economy primary energy inputs from 1968 to date are shown below. It can be seen that we are heavily oil dependent, and will be so until the end of the decade. Therefore, the relevance of world supply and demand for oil. Our problem is unfortunately compounded by the fact that the purchasing currency for oil is the dollar, and, in recent weeks the dollar has got stronger vis a vis EMS currencies and this includes the £ punt. So we are caught in the double problem of either high oil prices due to scarcity, or high oil price due to a weak £ punt, or a strong dollar. What we need is an oil glut and a weak dollar.

Table 1 above shows how the annual national bill for fuel has grown during the period since 1973. The degree of exposure of the Irish economy to rises in World oil prices is a factor completely outside our control and is amply shown above. The resulting strain on our economy is obvious with balance of payment problems caused by the fuel bills. Clearly something has to be done about it. At the same time we must remember that the per capita energy consumption in Ireland is lower than that of any of the other EEC member states, being less than two and a half tones of oil equivalent per capita per annum compared with something around four in Denmark, five and a half in the Netherlands and even more in other countries. At the same time Ireland has a very high dependence on imported energy, since imports account for some 80% of its energy needs. There are tough days and tough decisions ahead, which will obviously affect businesses in the heating business.

WHO REPRESENTS WHOM? 1981/82

The publishers of IRISH HEATING and VENTILATING NEWS are compiling a directory of manufacturers, agents and distributors in the H & V trade. Its lists of suppliers of goods to the market in Ireland will make this yearbook a valuable reference for merchants, contractors, consultants, architects and engineers alike.

Questionnaires have already been distributed to principals, agents and distributors and these should be returned immediately. Additional copies of the questionnaire may be had on application to:

WHO REPRESENTS WHOM?
Irish Trade and Technical Publications Limited
5/7 Main Street, Blackrock, Co. Dublin. Phone: 885001.

THERE IS NO CHARGE FOR LISTINGS IN WHO REPRESENTS WHOM?
T-joint with T-plus in three minutes—or less!

1. Fasten T-Plus to pipe.

2. Introduce new pipe connection.

3. Hit the pin and your connection is made. No cutting, no draining, no bleeding or refilling. Just instant T-joint.
A Total Capability in Residential, Commercial and Industrial Heating Plant. Representing exclusively in Ireland the following.

**CHAPPEE**
Domestic: Dual fuel boilers 55,000 to 250,000 btu/h
Industrial: 300,000 to 5 million btu/h
Also full range of Francia Hoval steel panel radiators.

**Allen Ygnis**
Hot water boilers 400,000 - 24 million btu/h
Steam Boilers 250 - 2,400 lbs/h
Combination boilers 250,000 - 2 million btu/h

**“Rio”** Domestic and Commercial oil fired boilers 60,000 - 604,000 btu/h
Rio Gas Boilers (Atmospheric Type) 60,000 - 400,000 btu/h

**Radiant Superjet**
Blown Gas Burners 60,000 - 24 million btu/h

**Schwank**
Gas fired overhead infra-red heaters 26,000 to 140,000 btu/h. LPG or towns gas.

Also solid fuel handling equipment, fluidised bed boilers and incineration.

**HEVAC LIMITED, LISTER COMPLEX, BALLYMOUNT ROAD, CLONDALKIN, CO. DUBLIN.**
**TELEPHONE: 519411.**