I.C.F.

NEWSLETTER

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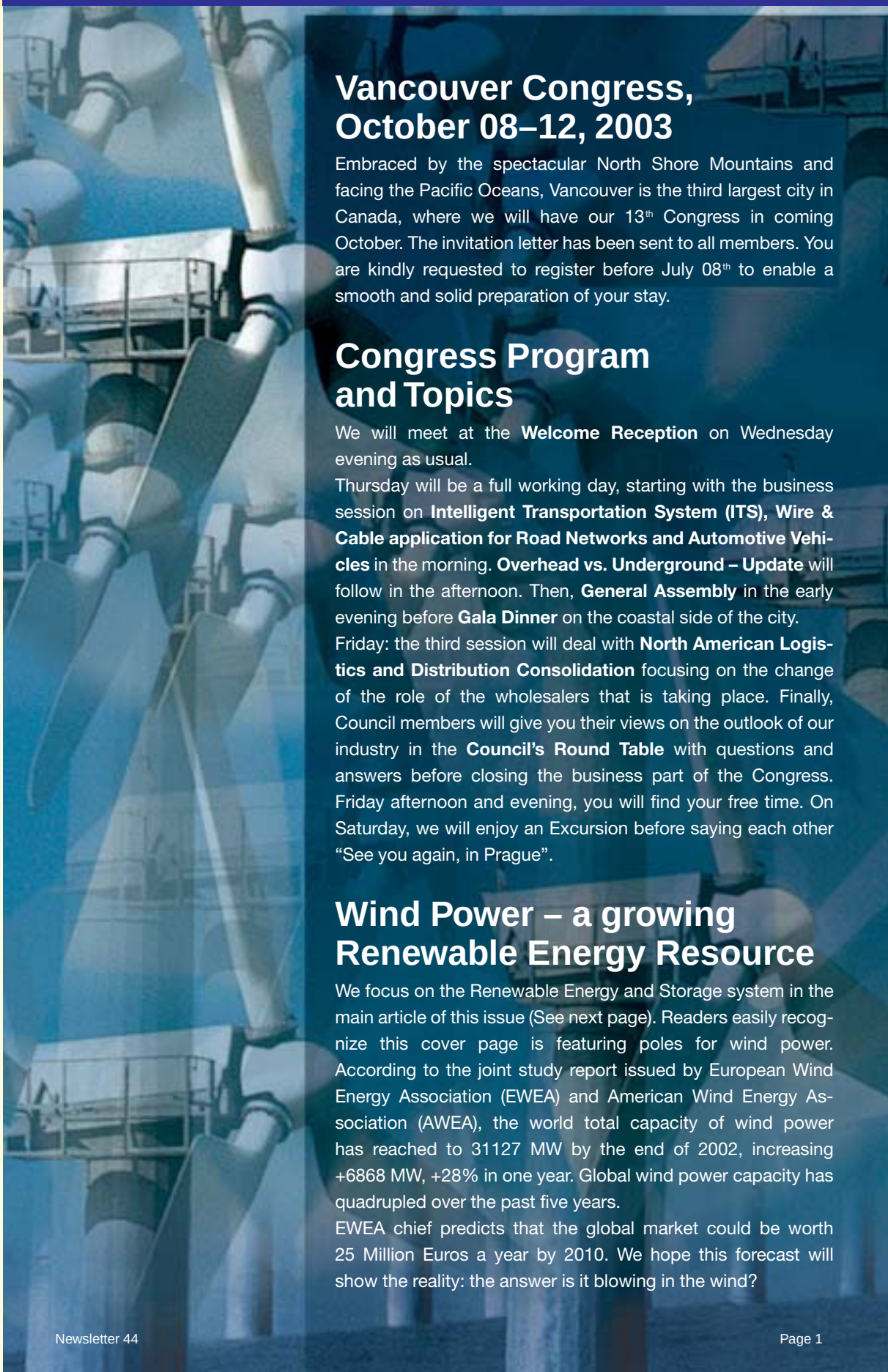


Vancouver Congress, October 08–12, 2003

Embraced by the spectacular North Shore Mountains and facing the Pacific Oceans, Vancouver is the third largest city in Canada, where we will have our 13th Congress in coming October. The invitation letter has been sent to all members. You are kindly requested to register before July 08th to enable a smooth and solid preparation of your stay.

Congress Program and Topics

We will meet at the **Welcome Reception** on Wednesday evening as usual.

Thursday will be a full working day, starting with the business session on **Intelligent Transportation System (ITS), Wire & Cable application for Road Networks and Automotive Vehicles** in the morning. **Overhead vs. Underground – Update** will follow in the afternoon. Then, **General Assembly** in the early evening before **Gala Dinner** on the coastal side of the city.

Friday: the third session will deal with **North American Logistics and Distribution Consolidation** focusing on the change of the role of the wholesalers that is taking place. Finally, Council members will give you their views on the outlook of our industry in the **Council's Round Table** with questions and answers before closing the business part of the Congress. Friday afternoon and evening, you will find your free time. On Saturday, we will enjoy an Excursion before saying each other "See you again, in Prague".

Wind Power – a growing Renewable Energy Resource

We focus on the Renewable Energy and Storage system in the main article of this issue (See next page). Readers easily recognize this cover page is featuring poles for wind power. According to the joint study report issued by European Wind Energy Association (EWEA) and American Wind Energy Association (AWEA), the world total capacity of wind power has reached to 31127 MW by the end of 2002, increasing +6868 MW, +28% in one year. Global wind power capacity has quadrupled over the past five years.

EWEA chief predicts that the global market could be worth 25 Million Euros a year by 2010. We hope this forecast will show the reality: the answer is it blowing in the wind?

Renewable Energy and Storage

Renewable energy is obtained from the continuing flows of energy in the natural environment, from the sun, the heat of the earth's crust, moving water, wind or biomass. As such it has a great deal of theoretical appeal, as fears over the depletion of fossil fuels grow. Not only is renewable energy "renewable", it is also inherently clean, with low greenhouse gas and other pollutant emissions. With such credentials and a clear political will supporting them, there is the potential for a significantly increased penetration of renewable sources in the energy economy. Advances in renewable energy technology, and in energy storage which is often seen as a natural corollary, will help. The emerging renewable energy technologies generally are small scale and do not necessarily require interconnection into an electricity grid. In this article we will take a look at the current and future role of renewables in the context of a changing energy economy and implications for the energy infrastructure, of which cable is part.

The Changing Energy Economy

Major changes are taking place in the energy economy that favour the use of renewable energy and other small scale, high efficiency and low emission technologies. The 1980s saw a complete reversal in a fifty-year trend towards an increased size of electricity generating plant, which was driven by economies of scale. The introduction of the commercial gas turbine allowed low cost high efficiency generation from small plants, in the 50 MW capacity range and below. With the steady penetration of gas turbines near the point of load in Western Europe and elsewhere as a gas pipeline infrastructure was built up, notions of how the electricity network ought to look began to change in the 1990s.

Overlaid on gas turbine technology, a number of other drivers of change have emerged in the electricity sector. Deregulation of the electric power industry, with the unbundling of traditional vertically integrated utility services combine with an increased financial risk and siting difficulties for both large generation plants and transmission lines. This greatly improves the case for local generation, especially where there are opportunities for the resale of electricity onto the grid. At the same time, environmental concerns are growing. Governments are under increased pressure to reduce carbon dioxide and other greenhouse gas emissions, as embodied in the Kyoto Protocol of 1997. There is also growing pressure to slow the rate of fossil fuel depletion. The nuclear option is generally out of favour. This puts renewable energy in a strong position. In Western Europe, there is a specific target to increase the share of renewables in the energy mix from 6% in the late 1990s to 12% in 2010.

The combined trends put a premium on energy generation that is local, sustainable and low in emissions. Natural gas, although not renewable, fits fairly well into this framework. Longer term, however, it will be necessary to look at other alternatives to provide a large proportion of energy supply. Renewables, other than large hydro schemes, and other forms of distributive generation seem destined to achieve a much greater prominence. To date, however, their performance has been rather disappointing.

Types of Renewable Energy

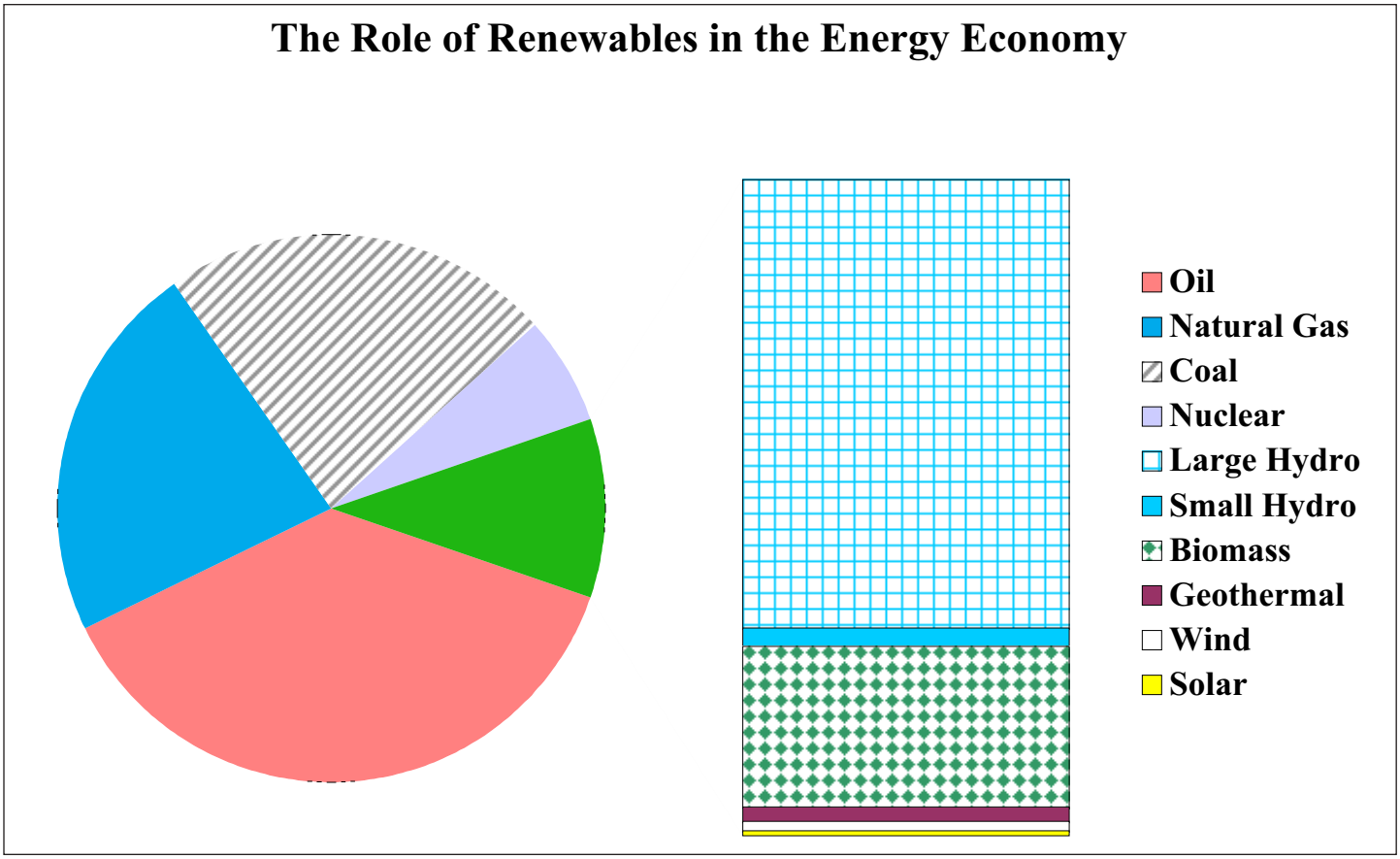
According to the Energy Information Administration (EIA) "International Energy Outlook 2003", renewable energy accounted for 8.0% of all energy consumption in 2001, or 32.2 quadrillion Btu. This figure represents consumption of primary energy used to generate electricity available for the grid, excluding much on-site electricity generation and consumption for purposes other than electricity, primarily direct use of heat. Including these sectors, we estimate total renewable energy consumption in 2001 at 44.3 quadrillion Btu, of which 35.7 quadrillion Btu (80%) was for electricity generation. These figures still exclude the large amount of biomass consumption in developing countries used directly for heating and cooking purposes. Taking our definition, renewable energy sources accounted for 10.6% of all energy consumption in 2001. In the electricity sector, renewables have a rather larger share, accounting for 22.6% of all generation.

The term "renewable energy" encompasses a range of technologies, listed below in order of importance:

- Hydroelectricity
- Biomass
- Geothermal
- Solar
- Wind
- Wave & Tidal

Large Hydro Installations

Around two-thirds of today's renewable energy is derived from large hydroelectric sources with more than 30 MW capacity. For electricity generation the share is even larger, at 85%. Large hydro installations vary greatly in size, at the top end capacities are measured in thousands of megawatts. Hydropower meets many of the strict environmental criteria by which power installations are judged, being based on a renewable energy resource (rainwater) and being virtually emission free. In other respects, however, hydropower does not score well. The impoundment of large bodies of water causes direct environmental damage and sometimes the displacement of large numbers of people, one million in the case of the Three Gorges project in China. Further damage results from hydroelectric projects when water flow downstream of the reservoir is altered. Hydroelectricity is a mature technology. In industri-



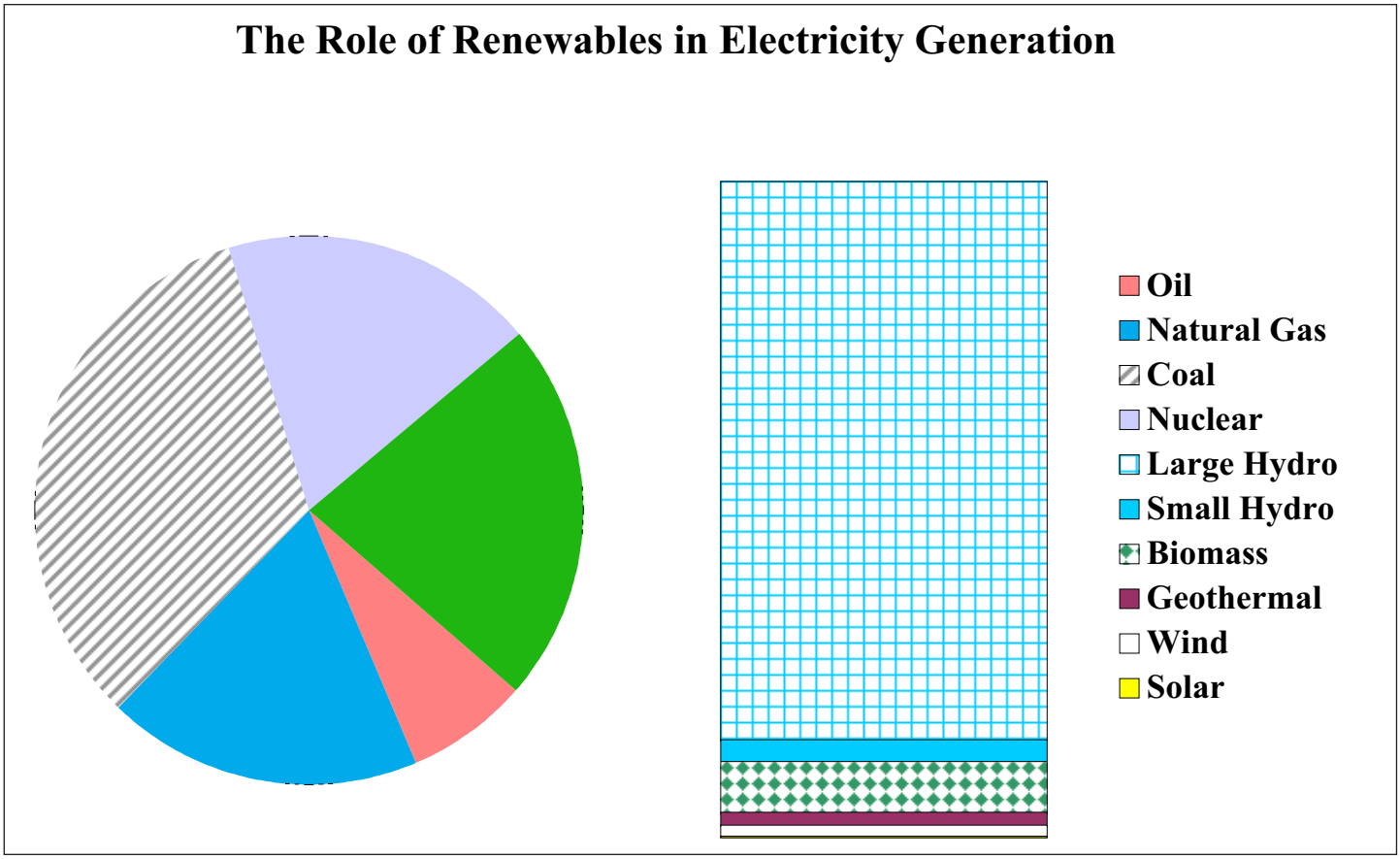
alised countries, with the exception of Canada, most of the economic hydroelectric potential has been realised.

Much of the projected growth in renewable energy generation projected for coming years is based on the completion of large hydro schemes in developing countries. The largest growth will be in developing Asia, where the need to expand electricity production outweighs environmental concerns. Three Gorges in China is of a quite exceptional scale, with 18,200 MW capacity, but other Asian projects (including the 2,400 MW Bakun project in Malaysia and the 2,000 MW Tehri project in India) are also of considerable individual importance. Even in Latin America a massive expansion of hydroelectric capacity is scheduled, despite the fact that the region already relies on hydro for 73% of its electricity, Brazil suffering accordingly in 2001 when the rains failed. Much of the new capacity will be in northeast Brazil. With major new developing world large hydro projects coming on-stream in coming years, the share of renewables in the global energy mix is expected to increase from 8.0% in 2001 to 8.7% in 2005, according to EIA figures. After this time, the potential for major hydropower expansion is limited. As a result, the EIA sees the share of renewables in total energy consumption falling steadily from the latter half of this decade to reach only 7.8% in 2025, despite a reasonably rapid growth in non-conventional renewable energy resource use.

Non-Conventional Renewable Energy

We have grouped together small hydro, geothermal, biomass, wind, solar, wave and tidal energy under the heading “non-conventional renewable energy resources. They are quite different from large hydro in the small scale of individual plants and frequent location at or near points of energy consumption. As such, they fit more easily with the emerging distributive pattern of electricity generation. Taken together, the non-conventional renewable energy output amounted to an estimated 14.0 quadrillion Btu in 2001, of which 5.4 quadrillion Btu was for electricity generation. This gives non-conventional renewables a 3.4% share of global energy consumption and a 3.3% share of the electricity sector.

Biomass: The most important non-conventional renewable resource is biomass. By “biomass” energy we mean the use of sustainable plant and animal matter to produce electricity, heat or biofuels. In total, biomass accounted for an estimated 10.8 quadrillion Btu of energy production in 2001, of which 2.8 quadrillion Btu was for electricity. The major sources of biomass energy include waste wood (mainly a by-product of the paper industry), grain and other crop stubble, landfill gas and sewage. Most biomass energy is in the form of heat, both for industry and residential, sometimes used in district heating schemes. Biomass is also used in making biofuels such as



ethanol and biodiesel, which are potentially important as automotive fuels.

Despite this bias, biomass is still by far the most important of the non-conventional renewables in electricity generation. Most existing plants are small, usually under 1 MW capacity, and based on simple technology similar to that used in coal-fired power stations. Development in the biomass electricity sector are centred on research into high-efficiency generation based on the high-temperature gasification of biomass material and on using biomass alongside coal, fuel cells or other systems in cogeneration plants. In order to ensure the economical use of biomass, adequate collection and logistics are extremely important, a factor that helps to explain the relatively strong position of biomass in developed countries.

Small Hydro: Although technically not dissimilar, small hydro projects vary from their larger counterparts in important respects. Although some projects within this category (up to 30 MW) may be remote from energy consumers and significant in their environmental impact, many are not. The EIA classifies small hydro projects as those in the capacity range 0.1–30 MW; below 0.1 MW it labels micro-hydro. At the lower end of the spectrum, hydropower installations may serve individual or small grounds of consumers, often being in the form of river diversion rather than the impoundment of water by a dam. Small hydro technology is mature, although efficiency improvements continue. Today, small hydropower accounts for an estimated 1.2 quadrillion Btu/a of energy output. This sector is growing quite slowly, as many of the larger available resources within this group have already been exploited.

Geothermal: The heat generated within the earth's crust can become a usable energy resource when it heats groundwater to a sufficiently high temperature and is available on the earth's surface, either directly or through drilling. Geothermal resources can be used either directly or, if of sufficient quality, for electricity generation. We estimate that in 2001 geothermal energy amounted to 1.1 quadrillion Btu of energy, of which nearly two-thirds was for electricity generation. Although geothermal resources can provide an economic source of energy, their distribution is highly concentrated geographically, with major resources in the western United States, Mexico and the Philippines. In Europe, only Italy has usable geothermal reserves. The exploitation of geothermal resources could result from current developments in extracting heat directly from hot rock from steam pumped into bore holes, but this is unlikely to extend the geographical range of geothermal resource use by very much. Renewed development of resources in the United States should ensure a significant growth in the output of geothermal electricity in coming years.

Renewable Energy Consumption Worldwide in 2001 (Quadrillion Btu)

	Large Hydro	Non-Conventional Renewables						Total
		Small Hydro	Biomass	Geothermal	Wind	Solar	Sub Total	
For Electricity Generation								
North America	9.2	0.2	1.0	0.0	0.1	0.0	1.6	10.8
Western Europe	5.2	0.4	0.6	0.0	0.4	0.0	1.5	6.7
Industrialised Asia	1.5	0.1	0.1	0.0	0.0	0.0	0.3	1.8
Industrialised Countries	***15.0***	***0.7***	***1.7***	***0.5***	***0.5***	***0.0***	***3.4***	***19.3***
FSU/Central Europe	3.1	0.1	0.2	0.0	0.0	0.0	0.3	3.4
Developing Countries	11.3	0.4	0.9	0.2	0.1	0.0	1.6	12.9
Emerging Countries	***14.4***	***0.5***	***1.1***	***0.1***	***0.1***	***0.0***	***1.9***	***16.3***
Electricity Total	***30.3***	***1.2***	***2.8***	***0.7***	***0.5***	***0.0***	***5.4***	***35.7***
For Non-Electrical Purposes								
Industrialised Countries	0.0	0.0	5.3	0.3	0.0	0.1	5.7	5.7
Energing Countries	0.0	0.0	2.7	0.1	0.0	0.1	2.9	2.9
Non-Electricity Total	***0.0***	***0.0***	***8.0***	***0.4***	***0.0***	***0.2***	***8.6***	***8.6***
All Renewables								
Industrialised Countries	15.9	0.7	7.0	0.8	0.5	0.1	9.1	25.0
Emerging Countries	14.4	0.5	3.8	0.4	0.1	0.1	4.8	19.2
World	***30.3***	***1.2***	***10.8***	***1.1***	***0.5***	***0.3***	***14.0***	***44.3***

Notes: Totals may not add due to indepdendent rounding. "Small Hydro" includes installations at or below 30 MW capacity.

Soruces: Energy Information Administration, International Energy Agency, Metalica Ltd.

Wind: Although still providing a relatively minor contribution to electricity supply, a steady reduction in costs has allowed wind power to become truly competitive commercially across a wide range of environments. We estimate total wind power energy output at 0.5 quadrillion Btu in 2001. Global wind powered electricity-generating capacity stood at 24,000 MW. The distribution of wind power schemes is highly uneven geographically, in part reflecting the incidence of government backing and individual electric utility programmes. Western Europe leads the field in wind power, in total accounting for 72% of global capacity in 2001. Individually, Germany (with 36% of global capacity), Spain and Denmark have major wind power developments in Europe. The United Kingdom, which is more wind resource rich, had lagged behind, but major additions in 2002 and 2003 may change this. Industry optimists claim that wind power may have as much as 10% share of the UK electricity market by 2010. Elsewhere, only the United States is a large-scale developer of wind resources, with 4,300 MW capacity, although schemes are emerging in India and China.

From extremely modest beginnings in 1990, wind power capacity has increased at the rate of around 25% p.a. In 2001 alone, 6,500 MW of capacity was added, with a similar amount being installed in 2002. With subsidies under threat in some countries, including the United States and Spain, it is uncertain whether or not such rapid growth will continue, but it is to be anticipated that wind resources will be much more extensively exploited in coming decades than they are today. Wind power installations vary greatly in size. They may be small and community-based, or much larger and located where the resource is richest, where wind farms have many turbines of up to 3 MW capacity each. The larger installations tend to be offshore.

Solar: Like wind energy, modern development of solar resources has been quite recent. The growth in solar resource use for electricity generation, however, is a long way behind the wind power, scoring less than one-tenth of its rate of annual installation. Unit costs of solar sourced electricity still tend to be prohibitively high. Solar energy incorporates a number of distinct technologies. Photovoltaics, uses solar cells which convert sunlight into electricity directly using semiconductor materials. Concentrating solar power technologies use reflective materials to concentrate the sun's energy, which is then converted to electricity. Less ambitious passive solar heating, cooling and daylighting and solar hot water and space heating and cooling systems utilise the sun's heat directly rather than converting it to electricity. Today, most of the 0.3 quadrillion Btu of solar energy produced is for direct heating, usually in small domestic installations. Although there are a few small-scale commercial solar

EIA Forecasts of Renewable Energy Consumption (Quadrillion Btu)

	1990	2000	2001	2005	2010	2015	2020	2025	Average % Change
Renewables									
North America	9.5	10.5	9.4	11.3	12.0	12.7	13.4	13.9	*1.7%*
Western Europe	4.5	6.0	6.1	6.8	7.5	8.0	8.4	8.8	*1.5%*
Industrialised Asia	1.6	1.6	1.6	1.9	2.0	2.1	2.3	2.4	*1.5%*
Industrialised Countries	***15.6***	***16.2***	***17.1***	***20.0***	***21.6***	***22.8***	***24.0***	***25.2***	***1.6%***
FSU/Central Europe	2.8	3.0	3.2	3.6	3.7	3.9	4.0	4.1	*1.1%*
Developing Asia	3.2	4.5	5.1	6.1	7.8	8.9	10.0	11.0	*3.2%*
Middle East	0.4	0.5	0.4	0.6	0.8	0.9	1.0	1.1	*4.4%*
Africa	0.6	0.7	0.8	0.9	1.1	1.2	1.2	1.2	*1.9%*
C & S. America	3.9	5.9	5.6	6.3	6.5	6.9	7.1	7.5	*1.2%*
Emerging Countries	***10.8***	***14.6***	***15.0***	***17.6***	***19.9***	***21.7***	***23.3***	***24.9***	***2.3%***
Renewable Total	***26.4***	***32.8***	***32.2***	***37.6***	***41.5***	***44.5***	***47.3***	***50.0***	***1.9%***
Non Renewables									
Oil	135.1	155.9	156.5	164.2	181.7	200.1	219.2	240.7	*1.8%*
Natural Gas	75.0	91.4	93.1	103.0	117.5	137.3	158.5	181.8	*2.8%*
Coal	91.6	93.6	95.9	100.7	110.9	119.6	128.1	139.0	*1.6%*
Nuclear	20.3	25.5	26.4	27.6	29.1	30.3	29.9	28.6	*0.3%*
Non-Renewable Total	***322.0***	***366.2***	***371.8***	***395.6***	***439.1***	***487.2***	***535.7***	***590.1***	***1.9%***
All Energy	***148.4***	***398.9***	***403.9***	***433.3***	***480.6***	***531.7***	***583.0***	***640.1***	***1.9%***
Renewable Share	***7.6%***	***8.2%***	***8.0%***	***8.7%***	***8.6%***	***8.4%***	***8.1%***	***7.8%***	***n/a***

Note: EIA figures exclude non-electrical consumption and consumption for off-grid electricity generation.

Source: EIA "International Energy Outlook 2003", Metalica Ltd.

electricity plants in the United States, very little electricity is generated from solar resources. It should be said, however, that solar energy technology is still in its infancy. As the costs come down, solar electricity generation at the point of consumption has a great deal of potential across large areas of the globe, especially in isolated rural communities in developing countries where electricity grid connection is not available.

Wave & Tidal: Enormous amounts of electricity can theoretically be generated from the movement of seas and oceans by harnessing the power of tide and waves. Development of wave power is still at the experimental stage, with little sign of significant commercial development. Tidal barrages are slightly further along the development path, but technology problems and environmental concerns suggest that future growth in this area will be limited.

High Efficiency Low Emission Non-Renewable Resource Use

The term “renewable energy” has a natural appeal, but greater savings in resource use and emissions reductions may be achieved by improving efficiencies and choosing clean technologies that still, at base, work with non-renewable fuels. The current trend towards gas-fired power stations goes part of the way. Although the efficiency of energy conversion in standard units is not particularly high, gas is a relatively clean fuel. More attractive, from an environmental point of view, are systems that greatly raise the efficiency of fossil fuel burning plants. This is the principle behind Combined Heat and Power (CHP) systems, which convert wasted heat into a useful energy resource. Total energy efficiencies of 70–95% are possible with CHP. This compares to an average 30% efficiency in conventional electricity plants and 50% in conventional thermal applications. CHP has long been a viable option in many industrial plants that require both heat and electric power in their operation; it also has a long history in public buildings and in district heating. Scaled down, “micro-CHP” is becoming applicable to domestic and small commercial or industrial sites, with power levels below 500 kW and as low as 2 kW. Today, CHP accounts for 6–8% of total electricity production. In Western Europe, CHP is seen as the largest single contributor to the reduction of future carbon dioxide emissions.

Fuel cells, if and when they become commercial on a large scale, provide an alternative route. While the hydrogen that fuel cells utilise as a fuel may or may not have a hydrocarbon base, fuel cells promise to provide very clean energy generation and quite high efficiencies in resource use (up to around 60%). It is generally expected that the commercialisation of fuel cells in stationary applications will follow that in the automotive sector, probably in the latter half of this decade. Another developing technology for small-scale electricity generation is that of microturbines. Taken together, developments in CHP, fuel cells and microturbines promise to create a powerful array of small-scale modular generating technologies that, alongside the use of renewables, should speed up the current trend towards distributive electricity generation.

The Role of Electricity Storage

The wider use of non-conventional renewables and other distributive generation sources is partly dependent on efficient electricity storage. Renewable electricity generation tends to be highly variable, with fast fluctuations and high peaks and, perhaps most importantly, does not follow load requirements. For distributive technologies that allow control over the timing, it is rarely economic to base capacity on peak load requirements. With efficient storage, it becomes possible to shift electricity supply in time in order to match supply to load in stand-alone systems. Where linked into the grid, storage alongside small distributed generating stations will allow the release of power when it is needed to meet peaks on a regional or national scale, thus reducing the amount of generating capacity required and enhancing power quality. The economics of selling stored electricity onto the grid when it is needed should be attractive, as prices should reflect need.

The problem with electricity storage is its slow pace of commercialisation. With the exception of pumped storage associated with large hydro schemes, high-energy electricity storage is still in its infancy. Apart from pumped storage, compressed air and flow battery technologies are also suitable for energy management. Compressed air storage, or CAES, is used alongside gas turbines, cheap electricity being used to compress air to be stored in special underground caverns for later use in generating electricity when it is needed. CAES schemes, like pumped storage, are large scale and have very specific site requirements. There are two commercial plants currently in operation.

A more general application is envisaged for flow batteries. There are three generic types of flow battery, labelled PSB, VRB and ZnBr. Both VRB and ZnBr batteries have been extensively developed in Japan. The main developers of VRB batteries are Sumitomo Electric and Vanteck. VRB storages of up to 500 kW have been installed by Sumitomo Electric. Much larger PSB systems are now being developed. PSB is a regenerative fuel cell technology. Its first commercial deployment is scheduled for later this year in the United Kingdom, where Regenesys Technologies is building a 120 MWh, 15 MW energy storage plant in Cambridgeshire. A similar size unit is being built by the Tennessee Valley Authority in the United States.

Alongside high-energy electricity storage, there are a number of high power technologies that provide fast response times but a limited period of operation. Such energy storage offers the potential for enhanced electrical system reliability and power quality. The high power technologies include super capacitors, flywheels and superconducting magnetic energy storage (SMES). Between the two extremes there are a number of other options, including Li-ion, Ni-Cd and even the traditional Lead-Acid battery. Like the high-energy solutions, however, the alternative energy storage technologies are still in the process of development and have quite a long way to go before making a major commercial.

Conclusion – Renewable Energy in a Changing Energy Economy

It is clear from the above analysis that renewable energy has and will continue to have an important role in the total energy economy. At present, most renewable energy is provided by large hydroelectric schemes. Although the share of large hydro will increase in the short-to-medium term, longer term the potential is limited. Much stronger percentage growth is anticipated for non-conventional renewables, primarily wind and solar power but maybe also biomass. To date, only wind power and biomass have really succeeded in demonstrating a widespread commercial viability. The emerging renewable energy sources tend to be most suitable for small-scale electricity generation at or near the point of load. As such they should be seen alongside other distributive generation technologies. These include CHP, already widely used but likely to grow in importance, especially at the lower size end of the spectrum. In the future microturbines and, further out, fuel cells, should provide a major contribution. As indicated above, renewable and other distributive generation technologies start to look a lot more commercial if sited alongside cheap, efficient energy storage. In this sector, we are some way from true commercial viability.

In its recent *"International Energy Outlook 2003"* the EIA is not optimistic about the progress of non-traditional sources of electricity generation. Longer term, however, it is clear that small-scale distributive generation will have an increasing role to play. It is also probable that, with the exception of isolated rural communities in developing countries, distributive generation sites will be linked into the electricity grid, possibly through a complex interconnected system of electricity storage and transfer. For the cable industry, this represents the best possible scenario, leaving the high voltage transmission and distribution system largely intact but implying a wide application of cables to serve new markets. These new markets include

wiring for the electronic control of integrated grid systems, enhanced local distribution and the wiring directly associated with the new forms of generation.

News in Brief

(provided by Metalica Ltd. UK)

Superior TeleCom Files for Chapter 11: On March 3rd 2003 **Superior Telecom Inc.** filed petitions for the reorganisation of its United States facilities under the Chapter 11 Bankruptcy Code. Superior's United Kingdom and Mexican facilities were not included in the filing. The court's approval of the company's "first day" motions have allowed it to trade as normal during the reorganisation process. At the time of court agreement to the sale of its Elizabethtown, Kentucky facility for US$ 2.9 million on April 9th, Superior announced that it had been able to operate business as normal and that its restructuring activities were proceeding to schedule.

Madeco Concludes Capital Restructuring Process: On April 1st Chilean cable and nonferrous metals products company **Madeco S.A.** announced that it had finally completed its capital restructuring process, initially scheduled for autumn 2002. The successful conclusion follows the commitment of the company's largest shareholder, **Quinenco S.A,** and its subsidiary **Inversiones Rio Grande S.A.** to subscribe CLP$ 49,400 to the capital increase. The re-capitalisation allowed Madeco to continue to be listed on the New York stock exchange, despite the earlier announcement that its listing would be suspended as its market capitalisation had been less than US$15 million over a 30 trading-day period, the minimum market capitalisation under NYSE rules.

Further Restructuring in Fibre Optics: On May 16th **Furukawa Electric** announced that it is to implement further cuts at its optical fibre and cabling facilities in response to current market conditions. Although the exact nature of the cuts is not yet known, **CommScope Inc.,** which has a minority stake in **OFS Brightwave,** majority held by Furukawa Electric, followed the Furukawa announcement with a warning of charges to be set against its own fibre optics business.

Corning Acts to Further Reduce Debt: A modified "Dutch auction tender" is in progress whereby **Corning Inc.** has agreed to purchase up to US$ 800 million aggregate principal amount at maturity of its outstanding zero coupon convertible debentures. The US$ 600 million in cash dedicated to this offering follows a successful equity offering. The action should significantly reduce Corning's outstanding debt, already cut by US$ 1.35 billion over a sixteen-month period. Together with a plan to return to profitability during 2003, the debt reduction programme is intended to allow Corning to regain investment grade ratings.

New Optical Fibre Facility in Europe: Counter to the current trend, Dätwyler has commissioned a new optical fibre facility at Boudry, Neuchatel, Switzerland. The plant has a capacity of several hundred thousand MCVD fibre kilometres, the output being suitable for the company's own LANs and other cabling operations.

Leoni Expands in China: Two separate plants in Changzhou, China have been officially opened by German wire and cabling firm **Leoni AG.** The facilities concerned are a 4,000 aq.m. drawn wire and strands unit called Leoni (Changzhou) Wire Co. and a 8,400 sq.m. coaxial cable unit called Leoni Special Cables (Changzhou) Co. Ltd. The drawn wire plant is an expanded facility for a business that began operation in 1995. The potential for further expansion exists on the 15,000 sq.m. site. The coaxial cable facility targets annual sales of Euro 15 million.

SEI Plans a Major Expansion in Thailand: Japanese cable manufacturer **Sumitomo Electric** (SEI) plans to invest at least three billion baht in Thailand over the next three years. The main portion will be directed at the automotive sector, with seven plants making wiring harnesses, braking systems, anti-vibration rubber, sintering parts, cutting tools and diamond tools. The remainder of the funds will be directed towards winding wire, ultra-thin coils and power cords, amongst other products. SEI currently owns 23 plants in Thailand, representing an investment of ten billion baht.

Expansion in Europe: SEI together with Sumitomo Wiring Systems (SWS) announced that they will establish a new production company of automotive wires and cables in Kisber, Hungary . SEI and SWS are having automotive wire harness assembly plants in 5 countries (Poland, Slovakia, Hungary, Romania and Morocco) and have been procuring wires and cables from local manufacturers. However, in order to fulfill the customer requirements for environment- friendly halogen free wires and other new materials as well as the future demand, SEI and SWS decided to build a new production plant in Europe.

TCH Bought by De Angeli: The French bare overhead conductor company **Trefileries et Cableries du Havre** (TCH), which has been in administration since November 2002, has been purchased by the Italian equipment maker **De Angeli Prodotti** for Euro 30,000. De Angeli will keep 36 of the company's 70 employees.

The ICF Newsletter is published several times each year by The **International Cablemakers Federation**, P.O.Box 26, A-1014 Vienna

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