

HOW TO SAVE ENERGY CONSUMPTION: THE ESCOS

Byung Chil Park
(bcpark@hri.co.kr)

What is ESCO?

Energy Service Companies (ESCO) are firms that help other businesses improve their energy efficiency. An ESCO provides funds (its own or policy funds) to a firm for investment in energy saving facilities, and retrieves the cost of investment with profit from the resulting savings in energy¹⁾. This system allows a firm to reduce energy costs without having to shoulder the cost of facilities, and the ESCO firm bears the technical and economic risks. In addition, time and manpower can be saved because the energy service firm provides the design, purchase, and maintenance for the new facilities. From the perspective of the energy industry, ESCOs stimulate energy evaluation and energy saving engineering.

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From the business perspective, there are many opportunities for energy distributors or producers of high-efficiency machinery to participate, because there is a wide variety of energy saving technologies and a broad market. In addition, fields within the industry are highly differentiated because the industry is technology-intensive.

ESCOs originated in the US after the 1970's oil crisis as a means to raise funds for energy saving facilities. These firms currently exist in more than 25 countries. There are around 350 ESCO firms in the US, and the market is estimated at about \$100 billion. In the US, the industry's scope is expanding to include not only energy savings in buildings, but also energy efficiency of manufacturing firms, cogeneration, and the development of energy sources.

ESCO in Korea: why the attention?

Energy costs, which had been rising more than 10% annually in the 1990's, declined in 1998 due to the economic crisis. With the economic recovery in 1999 however, energy consumption increased by 9.9%, and the proportion of energy imports of total imports rose to 20% due to the increase in import prices. In particular, as it seems that world oil prices at \$30/barrel will not fall soon, there are worries of not only rises in the price level but also decreased competitiveness of domestic firms and declines in the trade surplus²⁾.

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1) ESCOs are firms that raise energy efficiency by providing energy consulting, production and maintenance of high-efficiency machinery, and funds.

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In addition to government support, individual firms will be motivated to raise their energy efficiency because of higher energy costs, leading to further demand for ESCO services in the future.

Issues and current situation of ESCO in Korea

ESCOs were established in Korea in 1992 after the passing of the Energy Use Rationalization Law. When the system was first established, business was sparse, but in 1999, there were 287 ESCO projects worth 70 billion won, which was a 85.7% increase from 1998 figures, and the number of firms increased from 29 to 55³⁾.

ESCO Investment Levels				
	1993 to 1997	1998	1999.10	Total
Loans (billions of won)	18.4	33.4	55.7	103.7
Projects	58	139	202	399

Source: Korea Energy Management Corporation

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Active government support was one reason for such rapid growth in investment, and the government plans to increase support for the ESCO industry from 65 billion won in 1999 to 100 billion won in 2000, and is considering lowering loan rates from 5.5% to 3%. In addition, as high debt due to more investment in ESCO industries began to hinder fund raising, the government passed a “ESCO sales bond factoring system” in May 1999. The new measure is expected to increase investment in energy saving facilities through ESCO.

2) If oil prices rise \$1/barrel, imports will increase 870 million, while exports will decrease \$170 million, to decrease the trade surplus by \$1.04 billion dollars. Consumer prices will rise by 0.09%. (Ministry of Commerce, Industry and Energy)

3) In the case of Samsung Everland, ESCO projects grew from 15 billion won in 1998 to 25 billion won in 1999 (a 44% increase from the previous year). This year, sales are expected to reach 50 billion due to energy consulting and support of related technology and facilities.

Despite the government measures however, the scope of ESCO investment in Korea is still limited and the market is not fully developed. Because most investment is concentrated in lighting fixtures - a category that allows investors to get a quick return - competition among ESCO firms is intense in that area, and profitability is declining. In addition, the government has opened new sales channels mostly in the public sector, without much promotion of the private sector, especially the manufacturing industry. This is because ESCO firms in developed countries focus on energy consulting, production of high efficiency machinery, and financial assistance, while Korean ESCO firms are still at the stage of investment and maintenance of energy facilities.

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Investment by Category (1993-Oct,1999)

	High Efficiency Lighting	Co-generation	High Efficiency Equipment	Waste Heat Recovery	Heating and Cooling	Engines	Replacing Boilers	Other	Total
Investments	293	8	18	26	23	19	8	4	399
Investment Size (billion won)	29	21.6	18.2	15.6	12.4	5.4	0.6	0.9	103.7

Growth prospects and future tasks

Growth prospects for the industry are bright, because of the rise in energy prices, the government's energy price rationalization policy -which will help introduce high efficiency machines in buildings- and the continuously increasing need for firms to improve energy efficiency. In addition, it is forecast that demand will increase due to government efforts to induce private funds into energy saving facilities.

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Important tasks for the future include improving energy saving technology and human resources, because foreign firms are increasingly entering the market, and the demand for energy saving devices is expected to rise. In addition, the government needs to set clear guidelines on issues such as fundraising and distribution of the saved costs from energy saving equipment. **VIP**