

For the Prosperity of Future Generations

Taking on the Challenge of Renewable Energy

The following is an introduction by field to ITOCHU Corporation's involvement in renewable energy projects worldwide.



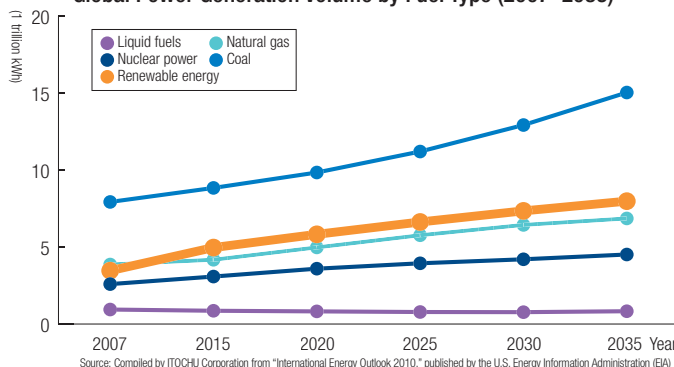
Core Subjects of ISO 26000



Background to Renewable Energy and ITOCHU's Role

Bolstering activities in the renewable energy sector is cited as a priority area in our medium-term management plan, "Brand-new Deal 2012." Wind, solar, geothermal and other renewable energies are expected to see growth going forward as major sources of energy due to better government policy and greater knowledge in countries around the world, lower technology costs, and other factors. ITOCHU intends to invest in power generation assets and other facilities that utilize these renewable energy sources and take part in manufacturing and distribution projects for products like bioethanol. Through these initiatives we will take on challenges that affect the entire planet: reducing greenhouse gas emissions and addressing resource depletion.

Global Power Generation Volume by Fuel Type (2007–2035)



Solar Energy

ITOCHU is working to form competitive value chains by organically linking upstream raw materials, midstream intermediate products, and downstream system integration and power projects being developed in Japan, North America and Europe.

Partnership with Abengoa Solar of Spain in Solar Thermal Power Generation Business

In December 2010, a partnership was formed with a major Spanish solar thermal power generator, Abengoa Solar, to develop solar power projects in Asian and European countries. An agreement was also reached to jointly construct two 50 megawatt concentrating solar thermal power plants in Extremadura in western Spain and carry out power generation business. ITOCHU will take a 30% stake. Commercial operation is scheduled to start in 2012, with power generated at these plants sold to the grid based on the Spanish feed-in tariff system*. Taking advantage of abundant sunlight in Extremadura, the two plants will produce enough energy to meet the electricity needs of about 52,000 households and achieve emissions reductions totaling approximately 63,000 tons of CO₂ per year.

* Feed-in tariff system: A system for purchasing electricity at preferential rates designed to promote the use of renewable energy sources



Similar solar thermal power plant also operated by Abengoa (image courtesy of Abengoa)

Establishment of SolarNet Holdings, Largest Solar Distribution Company in US

The solar power distribution business has been expanding significantly in recent years due to heightened environmental awareness and government support measures. ITOCHU has been developing its solar business in the US, one of the three major solar markets in the world along with Europe and Japan, acquiring system integrators* Solar Depot in June 2007 and SolarNet in April 2009. These two companies were integrated in February 2011 to further bolster the business, creating SolarNet Holdings, the world's largest solar distribution company for mainly household and industrial use. Going forward, synergistic effects from integration will be targeted through unification of sales networks and reducing costs.

* System integrator: Operator that handles design, sales, and construction of solar power generation systems that combine solar cell modules and peripheral equipment



Example of past SolarNet projects: Beringer Vineyards, California

Wind Power

In May 2010 ITOCHU and General Electric agreed to comprehensively partner in uncovering joint investment projects around the world in the renewable energy sector and signed a memorandum of agreement to this effect. The agreement strengthens the two companies' partnership in anticipation of increased investment opportunities in renewable energies at the global level. GE and ITOCHU have cooperated on two joint wind power projects to date.

Keenan II Wind Power Project in Oklahoma

The total power capacity of the Keenan II wind farm in the U.S. state of Oklahoma, which ITOCHU invested in with GE in October 2010, is 152 megawatts (66 2.3-megawatt wind turbines). A 20-year power purchase agreement has been signed with Oklahoma Gas & Electric Company, and power will be supplied to approximately 45,000 households in Oklahoma. The project is expected to reduce greenhouse gas emissions by roughly 413,000 tons annually. Commercial operation commenced in December 2010. The wind farm's operations and maintenance is handled by NAES Corporation, a wholly owned subsidiary of ITOCHU and one of the world's major power plant operation and maintenance service companies.



Keenan II wind farm



GE Chairman and CEO Jeff Immelt and ITOCHU President & CEO Masahiro Okafuji

World's Largest Wind Power Project Shepherds Flat, Oregon

The second joint project with GE after Keenan II is the Shepherds Flat wind farm in Oregon, which is slated for completion in 2012. Total capacity will be 845 megawatts (338 2.5-megawatt turbines), and when completed it will be the world's largest wind power project. Power will be supplied to approximately 235,000 regular households in California under a 20-year power purchase agreement with Southern California Edison, a California power utility. The project will reduce greenhouse gas emissions by approximately 1.5 million tons annually, and uses 2.5 megawatt wind turbines from GE Energy. The turbines are larger than other models and generate power using permanent magnets. The technology used in the generators is highly reliable and highly efficient. It will improve connectivity with the grid and help reduce wind power costs. The project also includes laying approximately 150 kilometers of road and stringing roughly 270 kilometers of power lines.

Bioenergy

ITOCHU is promoting projects that utilize bioenergy, a renewable energy that has garnered attention because it addresses the global problems of resource depletion and reduction of greenhouse gases.

Participating in Largest Biomass Power Project in the U.S.

ITOCHU will develop, invest in and operate a biomass power project in northern Florida through Tyr Energy, a U.S. independent power producer. The power plant will be the largest biomass power project in the U.S., with a generating capacity of 100 megawatts, and will be fueled by wood chips and tree thinnings. After going into commercial operation in 2013 the project will supply power to approximately 70,000 households based on a 30-year power supply agreement with the power utility in Gainesville, Florida. Operations and maintenance will be performed by NAES, a wholly owned subsidiary of ITOCHU and one of the world's largest operation and maintenance service companies. We intend to actively develop and promote renewable energies through project initiatives.



Biomass Power Generation Plant

Initiatives with Bunge in Brazil

ITOCHU has been developing production and sales projects for bioethanol and sugar made from sugarcane with Bunge, a major U.S. agribusiness firm, in the Brazilian states of Minas Gerais and Tocantins since 2008. Plans call for expanding the total ethanol production capacity of both projects to approximately 500,000 kiloliters. The ethanol will be sold domestically in Brazil but also exported to North America, Europe and Japan. In addition, bagasse, fibrous matter that remains after the sugarcane is crushed, is effectively utilized as fuel for onsite power generators, with any surplus power sold in the country. Brazil is a major bioethanol producer, accounting for approximately 30% of the global market, and is working to provide stable supplies of highly cost competitive bioethanol.



Sugarcane being harvested

Bioethanol Production Project in Vietnam

ITOCHU is taking part in a fuel bioethanol production project in Binh Phuoc Province, Vietnam in partnership with Petrovietnam Oil Corporation of the Petrovietnam Group, Vietnam's national oil and gas company. Commercial production of bioethanol from cassava, which is cultivated extensively in Vietnam, is slated to commence in the spring of 2012 with targeted output of approximately 100,000 kiloliters annually. Bioethanol produced by the project is expected to be distributed to the market through gas stations affiliated with Petrovietnam Oil. Vietnam is expected to promote the production and supply of ethanol-gasoline blends going forward as a domestically produced alternative to gasoline.



Gas station selling ethanol-gasoline blends