
KOREAN PENINSULA ENERGY DEVELOPMENT ORGANIZATION (KEDO)

Established: 9 March 1995.

Membership: The Korean Peninsula Energy Development Organization (KEDO) currently has 13 members: Argentina, Australia, Canada, Czech Republic, Chile, the [European Atomic Energy Community \(EURATOM\)](#), Indonesia, Japan, New Zealand, Poland, Republic of Korea, the United States, and Uzbekistan.

Background: KEDO was created in 1995 to implement the [1994 US-DPRK Agreed Framework](#). KEDO's primary responsibilities are to provide for the financing and supply of the light-water reactor (LWR) project, to provide heavy fuel oil to the Democratic People's Republic of Korea (DPRK) to meet its interim heating and electricity production needs (the HFO project), and to provide for the implementation of other measures required to meet the objectives of the Agreed Framework.

Japan, the Republic of Korea (ROK), and the United States cover most of KEDO's costs, including all administrative costs. Japan and the ROK finance a major portion of the LWR project, while the United States contributes to the cost of heavy fuel oil shipments and the safe storage of the DPRK's spent fuel. Financial contributions are also made by a number of other countries, including Argentina, Australia, Brunei, Canada, the [European Union \(EU\)](#), Finland, France, Germany, Greece, Hungary, Indonesia, Italy, Japan, Malaysia, Mexico, the Netherlands, New Zealand, Norway, Oman, Peru, Philippines, Singapore, the ROK, Switzerland, Thailand, the United Kingdom, and the United States.

Principal Organs:

Executive Board: The Executive Board consists of KEDO's original members, the United States, Japan, and the ROK, as well as EURATOM.

Non-Executive Board: The Non-Executive Board consists of Argentina, Australia, Canada, Chile, Czech Republic, Indonesia, New Zealand, Poland, and Uzbekistan.

Advisory Committees: The Advisory Committees are chaired by member countries other than the three founding members. Currently, there are Advisory

Committees for the LWR project, the safe storage and disposition of the DPRK's spent fuel, and the supply of heavy fuel oil to the DPRK.

Secretariat: The KEDO Secretariat is located in New York and has a staff of over 30 professionals, support staff, and expert consultants from primarily the United States, Japan, and the ROK.

General Conferences: Conferences are held at the discretion of the Executive Board, but at least once per year. All KEDO members play an active role in the General Conferences.

Verification and Compliance: *Verification:* KEDO is responsible for implementing a safety assessment and verification process for the LWR project in the DPRK to ensure compliance with nuclear safety and regulatory codes and standards. KEDO implements the above by formulating policies that incorporate fundamental principles and objectives to achieve an internationally recognized standard of nuclear safety. *Compliance:* The DPRK must be in "full compliance" with International Atomic Energy Agency (IAEA) safeguards when a "significant portion of the [light-water reactor] project is completed, but before delivery of key nuclear components." Full compliance includes taking all steps deemed necessary by the IAEA to determine the extent to which North Korea diverted material for weapons use in the past, including giving inspectors access to all nuclear facilities in the country. The Agreed Framework requires that North Korea remains a party to the NPT.

Developments:

2006: On 8 January 2006, KEDO completed the withdrawal of its remaining 57 personnel left at the LWR project site. The DPRK refused to allow the return of approximately \$44.5 million in construction facilities and equipment. KEDO's executive board decided to officially terminate the LWR project on 31 May 2006. South Korea was expected to shoulder the most severe financial losses. Of the \$4.6 billion project, \$1.56 billion had already been spent, with South Korean contributions adding up to \$1.13 billion. KEDO also announced that it placed responsibility on the DPRK to compensate the international consortium for financial losses in the project.

In a meeting on 8 December 2006 in New York, KEDO officials reached an agreement with the Korea Electric Power Corporation (KEPCO). The terms of the agreement require KEPCO to pay the costs of liquidating the LWR project in return for all of KEDO's tangible assets outside of North Korea.

2005: On 10 February 2005, the North Korean Foreign Ministry released a statement declaring that North Korea had successfully manufactured nuclear weapons. The statement also said that although the DPRK was willing to continue the Six-Party Talks, their participation would be indefinitely suspended until the atmosphere proved more conducive to achieving positive results. Shortly after the announcement, KEDO officials held a high-level meeting with the DPRK and discussed preservation and maintenance of the LWR project as well as issues resulting from the DPRK's ban on exporting equipment from the site. Similar discussions were held in April 2005 resulting in a mutual acknowledgement of the need to observe all existing agreements and protocols between KEDO and the DPRK. However, no agreements could be reached during a follow up meeting in June 2005. An agreement was reached at a meeting in August 2005 confirming that KEDO was responsible for restoration of a railroad passage. There was also agreement on the implementation of the work and each side's responsibilities.

The second year of the LWR project suspension concluded on 30 November 2005. As such, KEDO officials met twice with the DPRK in December. On 8 December 2005, the DPRK announced that it considered the LWR project terminated and declared that KEDO no longer existed. The DPRK further stated that all KEDO personnel were to vacate the site by 8 January 2006, whereupon the DPRK would take complete control of the site. KEDO responded by stating that it was prepared to continue work on the railroad restoration provided that all agreements and protocols with the DPRK would continue to be recognized. KEDO officials also maintained that all assets at the site remained lawful property of KEDO. By 28 December 2005, 57 of the 114 KEDO personnel remained at the site. At that time, the DPRK reiterated its intention to take ownership of the site and all assets following KEDO's departure. KEDO again stated that it wished to repatriate all equipment at the site and seek compensation for its investments. There was no agreement reached on the matter.

2004: The suspension of KEDO's construction of light-water reactors in the DPRK, which entered into effect on 1 December, 2003, has remained in place since that time. In accordance with previously stated

plans, KEDO has taken measures for preservation of the Kumho District construction site, and maintained a reduced staff presence there.

KEDO and DPRK officials held talks regarding the suspension in March. KEDO Executive Director Charles Kartman and DPRK Director-General of the DPRK General Bureau for the LWR Project Choi Chol-su signed a memorandum of understanding regarding the suspension process which ensures the safety of workers at the project site and confirms that relevant agreements and protocols surrounding the project will remain in place.

The KEDO executive board also met several times between January and July to discuss and assess the suspension. In each case, board members decided to maintain the suspension of the LWR project, but no official plans were announced regarding its possible resumption following 1 December.

2003: In the aftermath of the DPRK's revelation of its nuclear development program in September 2002, the US has called for the suspension of the light-water nuclear power project, claiming that the 1994 Agreed Framework had been violated. The US, Japan and the ROK decided to put off procuring major parts for the reactors as one way of dealing with the DPRK's nuclear weapons program. However, the ROK remained reluctant to agree on the immediate suspension of the project, which it believes would harden the DPRK's stance and escalate the situation.

On 10 January, the DPRK government declared "an automatic and immediate effectuation of its withdrawal from the NPT." It insisted that the national sovereignty and supreme interests of the state were being seriously threatened by hostile US policy. The DPRK subsequently resumed operation of a small, graphite-moderated reactor at Yongbyon and announced that it would resume operation of its reprocessing plant, which the Agreed Framework had frozen.

KEDO executive board members held a two-day working-level meeting regarding its light-water nuclear reactor project in July. They discussed technical problems that may arise from a possible suspension of the project, but no decision was made on the issue.

On 24 September, U.S. President Bush decided to provide up to \$ 3.72 million to assist the KEDO for Fiscal Year 2003. However, the U.S. stipulated that no part of the contribution be used for construction of light-water nuclear reactors in the DPRK. It also could not be used to finance heavy fuel oil shipments

to the DPRK, which the KEDO suspended in November 2002.

On 30 September, Japan, the US, and the ROK ended a two-day meeting to coordinate policy to resolve the DPRK nuclear issue. However, they did not reach an agreement on the suspension of the construction of two light-water reactors. The executive board of the KEDO held an informal meeting to discuss the same issue in New York from 3-4 November. Members decided, given that the conditions necessary to continue the LWR project had not been met by the DPRK, to suspend the LWR project for a year-long period beginning 1 December. KEDO Executive Director Charles Kartman delivered this information to the DPRK Director-General of the DPRK General Bureau for the LWR Project during a 15-17 November visit. In a statement issued 21 November, the board indicated that the project's future would be assessed and determined before the end of the suspension period, and that during the suspension, both on- and off-site preservation and maintenance activities would take place. In addition, it stated that the various agreements and protocols between KEDO and the DPRK would remain in effect. KEDO sent several experts to Kumho to meet with DPRK officials from 10-11 December to discuss the technical aspects of preservation to be carried out during the suspension process.

2002: On 2 July, 25 North Korean officials attended a training session in Seoul on safety management of the two LWRs under construction in Kumho, North Korea. The training session was held at a time when the ROK and the DPRK were on high alert following the inter-Korean naval clash on 20 June.

On 20 July, the first direct flight between Sondok Airport in the DPRK and Yangyang Airport in the ROK was possible as a result of KEDO and DPRK cooperation. The air service will be used on a contingency basis, including for emergency medical evacuation, and will complement the current sea route between Sokcho (ROK) and Yangwha (DPRK) ports. The sea route is used to transport KEDO personnel and materials to and from the LWR project site in Kumho.

On 7 August, KEDO held a ceremony to commemorate the pouring of the "first concrete" for the foundations of the main power plant buildings in Kumho. During the ceremony, the US delegate said that the ceremony offered clear evidence the United States and KEDO were fulfilling their obligations regarding the reactor project, and called on the DPRK to accept inspections from the [International Atomic Energy Agency \(IAEA\)](#).

On 16 September, the United States revealed the DPRK's admission that it has a secret nuclear weapons program in violation of the 1994 Agreed Framework. The DPRK also informed the United States in October it is no longer bound by the Framework, which requires the DPRK to scrap its nuclear weapons development program in exchange for the two light-water nuclear reactors and supply of fuel oil.

In late October, the EU Parliament decided it will withhold its 2003 funding to KEDO at least for now, if not permanently. On 7 November, the EU Parliament adopted a nonbinding resolution to review the KEDO project. It called on the DPRK to "take immediate steps" to comply with the nonproliferation regime and abandon its nuclear weapons program "in a verifiable manner," condemning it as a "serious breach" of its commitments under treaties such as the 1994 Agreed Framework.

In the beginning of November, the United States told Japan and the ROK that it was considering freezing its provision of fuel oil to the DPRK in retaliation for the DPRK's failure to abide by the Agreed Framework. On 11 November, Japan and the ROK agreed that KEDO had played an important role in preventing the DPRK's nuclear development and confirmed their intentions to continue with the project.

On 14 November, KEDO's Executive Board members met in New York to discuss the implications of the DPRK's acknowledgement that it is pursuing a program to produce highly enriched uranium (HEU) for nuclear weapons. The agreements the Board members reached include: the condemnation of the DPRK's pursuit of a nuclear weapons program, which is a clear and serious violation of its obligations under the Agreed Framework, the Non-Proliferation Treaty (NPT), its IAEA Safeguards Agreement, and the Joint South-North Declaration on the Denuclearization of the Korean Peninsula; the requirement that the DPRK must promptly eliminate its nuclear weapons program in a visible and verifiable manner; the continuation of relations and interaction between the DPRK and KEDO and the members of its Executive Board hinging on the complete and permanent elimination of its nuclear weapons program; and the suspension of heavy fuel oil deliveries with the December shipment. Future shipments will depend on the DPRK's concrete and credible actions to dismantle completely its HEU program. In this light, other KEDO activities with the DPRK will be reviewed.

At the beginning of December, KEDO decided to postpone its planned Executive Board meeting scheduled for 11-12 December to review the KEDO missions in North Korea until early 2003. This post-

ponement reflected KEDO's hope to have more time to watch the DPRK's moves over its nuclear program.

2001: On 9 January, South Korean Unification Ministry officials said KEDO had selected a Japanese business consortium as the supplier of turbine generators for the LWRs in the DPRK, thereby replacing General Electric. The joint team, composed of Hitachi and Toshiba, will supply equipment and place orders for turbine generators worth \$1 million.

On 2 February, the DPRK announced that it would abandon its participation in the Agreed Framework if the Bush administration followed a "different" North Korea policy from that of the Clinton administration. The DPRK also accused the United States of "not sincerely" implementing the Agreed Framework and emphasized that, should the United States continue to delay implementation, there would be "no need" to be "bound to it any longer." The United States said that the new administration would honor US commitments under the Agreed Framework as long as the DPRK did the same.

On 9 March, Republican leaders in the US Congress urged the Bush administration to reconsider the terms of the LWR project. They called on the administration to abandon the reactor project in favor of "several clean-burning, coal-fired power plants to meet North Korea's civilian energy needs." Since March 2001, US-DPRK relations have soured due to the newly adopted comprehensive approach by the United States.

As of November, KEDO provided over 2.91 million metric tons of heavy fuel oil to the DPRK.

On 3 December, a Protocol was signed between KEDO and the government of the DPRK on quality assurance and warranties for the implementation of the LWR project. This protocol outlines, among other things, principles for establishing and implementing quality assurance activities, as well as KEDO's warranties for generating capacity, major components, nuclear fuel quality, and specified civil construction works for the project.

On 19 December, KEDO and the European Community concluded an agreement on renewal of EU membership to KEDO. Under the agreement, the EU will continue to be represented on the Executive board of KEDO and will contribute 20 million Euro annually from 2001 to 2005.

2000: KEDO concluded a loan agreement with the Japan Bank for International Cooperation (JBIC, formerly the Export-Import Bank of Japan) on 31 January at JBIC's headquarters in Tokyo. The

agreement was signed between KEDO Executive Director Desaix Anderson and Mr. Kyosuke Shinozawa, JBIC Deputy Governor and Managing Director.

Under the agreement, JBIC will provide a loan in the amount of up to 116.5 billion yen. The loan agreement was concluded in accordance with the "Agreement between KEDO and the Government of Japan on the Provision of Financing for the Implementation of the Light-Water Reactor Project" approved by the Japanese Diet in 1999. The loan from JBIC will be used for KEDO's LWR project to be supplied to the DPRK, along with a loan from the Export-Import Bank of Korea, with which KEDO concluded an agreement for the ROK's provision of 70 percent of the actual cost of the LWR project on 15 December 1999. The LWR project, with an estimated budget of \$4.6 billion, proceeded under a turn key contract with KEDO's prime contractor, the Korea Electric Power Corporation (KEPCO), signed on 15 December 1999. On 3 February, full-fledged work began on the LWR project.

On 20 October, KEDO and the DPRK signed a Protocol on Training for the Implementation of a LWR Project. The Training Protocol is designed to enable staff and management from the DPRK operating organization to participate in a training program to ensure that they are optimally prepared to operate and maintain these LWRs in a safe and reliable manner.

On 4-5 December, the Nuclear Safety Advisory Group (NSAG), which advises KEDO regarding its nuclear safety activities, held its fifth meeting at KEDO headquarters in New York. For the first time, experts from the nuclear regulatory body of the DPRK accepted the group's invitation to participate in the meeting. On 28 December, Uzbekistan joined the Organization increasing its membership to 13 members.

1999: Major construction at the Kumho site was still delayed due to regional tensions, including the DPRK's missile test on 31 August 1998 and disagreements over financial restrictions. Other challenges to the implementation of the Agreed Framework included delays in heavy fuel oil shipments and procurement of power grids to convey energy from the LWRs. Power grids were not part of the LWR deal, and KEDO did not intend to provide any assistance for them.

On 15 December, five years after the Agreed Framework was concluded, the "Turnkey Contract" was signed between KEDO and the KEPCO. KEPCO is the prime contractor for construction of the two modern, proliferation-resistant 1,000 megawatt LWRs to

be built in Kumho, on the northeast coast of the DPRK at a cost of about US\$ 4.6 billion. The reactors are targeted for completion by the year 2003. KEDO officials attributed the delay in signing the contract to complex legal and financial challenges and the tense political climate generated by the North Korean Taepodong-1 test in August 1998.

The Organization was joined by the Czech Republic.

1998: On 19 June, Russia proposed constructing nuclear reactors in the Russian Far East region in order to transfer energy to the DPRK as a means of replacing the KEDO LWR reactor project.

In September, the US Congress urged the stopping of aid to the DPRK and eventually cut the \$35 million budget for heavy oil provision to the country in response to North Korea's 31 August missile test and allegations of construction of an underground nuclear facility at Kumchang-ri. Japan also suspended food aid and political normalization talks in response to the DPRK's missile test. Japan suspended \$1 billion in financial assistance to KEDO for the LWR construction.

On 17 October, the budget was revived but the United States imposed the following conditions: first step (1 March – 1 June 1999): progress in the inter-Korean talks, North Korea's implementation of the Geneva Agreement, sealing and safe storage of spent fuel rods, prevention of North Korea's diversion of US-provided aid, preventing the North from developing and exporting ballistic missiles; second step (after 1 June, 1999): substantial talks on the nuclear-free Korean Peninsula agreement concluded in 1992 must ease concerns over suspected underground nuclear facilities, and considerable progress must be made in removing and reducing the DPRK's ballistic missile threats. On the same day, Japan also decided to lift the freeze on its funding for the two LWRs.

On 9 November, KEDO members adopted a resolution on cost sharing for the LWR project. The Executive Board agreed on a new budget estimate of \$4.8 billion. The ROK agreed to cover up to 70 percent of the project cost. Japan agreed to contribute an amount equivalent to \$1 billion, the European Union, \$75 million (evenly distributed over a five-year term), and the United States reconfirmed its commitment to seek funding for the supply of heavy fuel oil and for other KEDO needs, when appropriate, from the US Congress and other possible sources.

Construction of the LWR site was postponed several times due to delays in production cost sharing talks between the members. The DPRK, in response, and also because of the position of the US Congress and the postponement of the heavy oil shipment by the

United States, threatened to scrap the 1994 Agreed Framework.

1997: On 13 April, Russia announced that it would participate in KEDO only if the amount of assistance that Russia had given the DPRK in the past was counted towards current membership dues. Russia stated that it would like to participate in KEDO on an equal footing with Japan and the ROK.

On 19 August, KEDO officially broke ground at the project site in Kumho (Sinpo), South Hamgyong Province, on the East coast of the DPRK. Three weeks earlier, KEDO had opened its liaison office in Kumho. The United States stated that key components to the LWRs would not be delivered until the United States believed that the DPRK had come into full compliance with safeguard agreements with the IAEA.

On 9 September, EURATOM joined KEDO with representation on the KEDO Executive Board for a term to coincide with their substantial and sustained support. Later that year, the Republic of Poland joined the organization increasing the total membership to 11.

In November, the KEDO Executive Board agreed on a budget estimate of the LWR project of \$5.1785 billion.

1996: On 19 March, KEDO designated KEPCO as the prime contractor on the LWR project.

On 22 May, KEDO representatives and North Korean officials signed the first of the 10 supplementary diplomatic protocols necessary to bring the KEDO-North Korean Supply Agreement into force. The protocols covered the privileges and immunities that North Korea would grant to KEDO staff and representatives, and addressed such matters as arrests, visas, and protection of property, assets, and income.

On 1 July, the DPRK threatened to restart its nuclear program if the heavy oil was not supplied on time, as scheduled.

During the 11-12 September KEDO First General Conference, KEDO approved plans to begin physical work at the LWR site in the DPRK. However, KEDO's Executive Director said that the scheduled 2003 completion date for the reactors would be difficult to achieve due to financial difficulties.

On 7 November, the DPRK again threatened to unfreeze its nuclear program if KEDO did not resume work on the construction of the LWRs, which had been suspended after a North Korean submarine entered South Korean waters on 18 September. The ROK, according to a key KEDO member, was await-

ing an apology from the DPRK before resuming construction.

KEDO was joined by Indonesia, Chile, and Argentina, thereby increasing the Organization's membership to nine members.

1995: In January, Russia voiced opposition to the KEDO plan to make the ROK a prime contractor for LWR construction in the DPRK, saying that North Korea was interested in receiving Russian LWRs because it was familiar with Russian equipment. North Korea also stated that it wanted the ROK to play a secondary role in furnishing LWRs to the DPRK.

On 9 March, the United States, the ROK, and Japan signed an agreement formally establishing KEDO. The agreement named the South Korean "standard nuclear plant model" as the type of LWR to be provided to the DPRK. The United States, the ROK, and Japan jointly announced that the DPRK would be provided with the necessary reactor components only after it has complied with its full-scope safeguards obligations. The ROK announced that Russia might participate in KEDO by supplying uranium fuel for the LWR.

On 25 March, the DPRK announced that it would restart its nuclear program if the LWR contract was not concluded by 21 April 1995.

On 13 June, the United States and the DPRK issued a joint statement saying that the DPRK would be provided with the "two pressurized light water reactors with two coolant loops and a generating capacity of approximately 1,000MW each." The design model was defined as the advanced version of US-origin design and technology currently under production. US Ambassador Robert Gallucci said that the joint statement gave an "accurate description" of the South Korean Ulchin reactors No. 3 and 4, and that KEDO had taken the necessary steps to guarantee that the ROK would be the primary supplier of the LWRs.

On 19 July, KEDO began formal office operations in New York.

On 15 December, KEDO and the DPRK signed the Supply Agreement for the provision of LWRs to the DPRK. North Korea urged the United States and other KEDO members to end their references to the North Korean "nuclear threat" and to halt Team Spirit military exercises, saying that "these commotions" jeopardized the smooth implementation of the LWR project. The DPRK warned that it would automatically restart its nuclear program if KEDO failed to meet all terms of the contract.

New Zealand, Australia, and Canada joined KEDO, bringing the number of the Organization's members to six.

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