

Hervé Macheaud

The History of France-China Relations: The Example of Nuclear Power

This is the prepared text as edited of the presentation of Hervé Macheaud to Panel II, “Why It Is in the Strategic Interest of European Nations To Cooperate with the Global South,” of the Schiller Institute’s July 8–9 conference, “On the Verge of a New World War—European Nations Must Cooperate with the Global South!” Mr. Macheaud is the former Executive Director of the EDF Group (for engineering and electricity generation) and former Director of the Asia-Pacific Branch, France. A subhead has been added.



Schiller Institute

Hervé Macheaud

Mr. Ambassador, Madame President, Chairmen, Ladies and Gentlemen,

Dear Friends,

I am particularly pleased and grateful to have been invited by the Schiller Institute to speak about what I believe, in all objectivity, to be one of, or perhaps even *the* finest cooperation project in international industrial history.

I’m talking about cooperation between France and China in the field of civil nuclear power.

In the early 1980s, France was chosen by China to help her launch its nuclear program. The contract signed in 1986 for the construction of the Daya Bay Power Plant was a pact of trust between France and China, between EDF (*Électricité de France S.A.*) and GNPJVC, the Guangdong Nuclear Corporation created for the purpose.

A pact of trust because, in addition to training dozens of Chinese engineers who have come to France to work in EDF power plants, China asked EDF to manage the project and guarantee its successful completion. I’m proud to have been the Chinese company’s first Technical Manager.

A pact of trust, because very quickly, the hundred or so highly-qualified Chinese engineers in charge of observing, monitoring and questioning our practices were, at their request, integrated into EDF’s engineering teams. We are no longer under surveillance, but

partners—a truly integrated team.

A pact of trust, because when EDF studies the upgrading, after ten years of operation of the Gravelines Power Plant, the Daya Bay reference, it offers without hesitation to make available to GNPJVC the 110 modifications, the invaluable fruit of know-how acquired over hundreds of man-years of feedback. China will appreciate this gesture.

As a further act of trust, shortly before Daya Bay was commissioned, GNPJVC asked EDF to take responsibility for the first few years of operation. EDF then sent some sixty operators to start up the plant and train the Chinese teams, who within a few years would be taking the reins of their plant.

In 1995, just as Daya Bay was coming on stream, CGNPC (China General Nuclear Power Group) commissioned a second plant based on the same French model, on the same site. EDF will provide technical assistance and French companies will act as suppliers, but Ling Ao will be a Chinese power plant, built under Chinese responsibility by Chinese companies. China has acquired its autonomy in this area.

Cooperation Leads to Success

This will not prevent close cooperation between French and Chinese operators: exchanges of experience, spare parts, support in the event of incidents. Daya Bay and Ling Ao take part in performance competitions for French power plants, often winning first prize. This cooperation continues today between the operators of the 56 French reactors and the 36 Chinese reactors of the same technology.

In 2007, CGN invited France to build two EPR (European Pressurized Water Reactor) reactors on the Taishan site, and EDF to invest alongside it. This agreement, unique in China’s history, was signed for the plant’s fifty-year lifetime.

The next step, in 2013, would be CGN’s commitment to EDF to build and operate two EPRs at Hinkley Point in the UK, with the prospect of building two

more at Sizewell and two HPRs (high pressure reactors), the Chinese Hualong model, at Bradwell.

This cooperation is set to last a century.

The partnership between France and China culminated in Premier Li Keqiang's trip to France at the end of June 2015. The joint declaration on deepening Franco-Chinese cooperation on civil nuclear energy was made public on the occasion of his visit. It provides for comprehensive cooperation "from mining to reprocessing," in all areas of operation, the design of new medium- and high-power reactors, their construction in China, France and third countries, the association of industrialists from both countries and the construction of a reprocessing plant in China. All French companies, starting with Areva and Alstom, and the hundred or so members of the *Partenariat France Chine Electricité* (PFCE) association, are involved in this agreement, which opens up immense prospects.

Confidence is at its zenith.

The industrial alliance between France, which has the world's most extensive operating experience, and China, which is going to build the biggest nuclear program in history, is an asset for both countries, and beyond, for the safety and progress of nuclear power worldwide.

This historic partnership is the fruit of the work of men and women who have put their faith in projects to be built together, and have given each other their trust. Today, they are tied by bonds of friendship.

In a field as strategic as nuclear energy, such a partnership is a cornerstone for building cooperation and peace between peoples and nations.

And if today, this cooperation has weakened somewhat under the effect of various negative influences, let us hope that it is revived. Its foundations remain intact, and it is certainly not only in the mutual interest of our two countries, but also a contribution to progress and peace in the world.

Alain Gachet

Jacques Cheminade, Introduction

Water for Peace and Development

This is a synopsis of a video message from French water expert Dr. Alain Gachet, preceded by the edited introduction given by Jacques Cheminade, presented to Panel II, "Why It Is in the Strategic Interest of European Nations to Cooperate with the Global South," of the Schiller Institute's July 8-9 conference, "On the Verge of a New World War—European Nations Must Cooperate with the Global South!" Dr. Gachet is President of Radar Technologies International Exploration and inventor of the WATEX (Water Exploration) method for locating aquifers by satellite. Unable to attend in person, Dr. Gachet provided a video on the WATEX process, introduced by Jacques Cheminade, President of the Solidarité & Progrès Party, who gave the keynote to the panel.



Alain Gachet's Twitter page

Alain Gachet

development. In France, between 10% and 40% less water will be available in the coming years, and the challenge cannot be met by multiplying the number of large run-off basins.

On a global scale, a diagonal of thirst stretches from Tangiers to north-east China, passing through the whole of Southwest Asia. The challenge cannot be met simply by multiplying dams. It is a matter of life and death.

The urgency is immediate. Failure to act is criminal. The consumption of unsafe water causes over 2.5

million deaths a year worldwide. All the refugees to be found in the streets and under the bridges of Europe have one thing in common: they come from countries that are cruelly short of water: Sudan, Eritrea, Mali, Chad, Burkina Faso, Afghanistan, Syria and many others. Not to act is criminal, because there are solutions.

We can start with reducing water leakage, which is often enormous, stopping losses through unsealed soil channels, restoring wetlands where possible, recovering the precious liquid from wastewater treat-