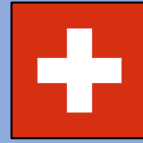


MISSION STATEMENT

CFEE STUDY TRAVEL PROJECT

SWITZERLAND AND FRANCE



In Spring 2019, the California Foundation on the Environment and the Economy (CFEE) will lead a Delegation of elected officials as well as business, environmental and labor leaders to Switzerland and France. The Delegation will conduct site visits and meet with government and international labor officials, energy executives and environmental specialists, and infrastructure developers and scientific pioneers.

By examining energy, transportation and other complex infrastructure projects, the Delegation intends to identify best practices on issues that have direct interest to California. The study tour will also explore how international labor rules, banking systems and public health initiatives are structured to support a successful and healthy global workforce and citizenry.

ENERGY | California is seeking to transform its economy by becoming carbon neutral by 2045. This ambitious undertaking will require the buildout and integration of existing and emerging technologies designed to enable the rise of a carbon neutral society at lowest cost.

One technology that could support this evolution is pumped-storage hydroelectricity (PSP), which entails pumping water uphill when energy supply is high and consumer demand is low, and then releasing it downhill when supply is low and demand is high. The world's largest PSP facility under construction is nestled in the Swiss Alps. When completed, the Nant de Drance project will be one of the most advanced PSP sites in the world and play an important role in a European electrical grid that is integrating increasingly higher levels of renewable energy.

Another climate smart technology is carbon capture sequestration (CCS). On the outskirts of Zurich, the first commercial direct air capture plant is sucking carbon dioxide from the atmosphere and repurposing the collected gas for use by a soda company and a local greenhouse. This CCS plant represents a compelling tool for decarbonization that other jurisdictions will consider deploying. The company, Climeworks, has also constructed a CO₂ liquification facility in Iceland and is helping to pursue CCS there.

In Marseilles, the French have just completed an innovative pilot project that could also assist in abating carbon levels. The project, the Jupiter 1000, uses excess renewable energy to create hydrogen that is then blended with CO₂ emissions. The process, known as "Power to Gas," produces a zero-carbon resource that can be directly inserted into an existing gas pipeline, powering a nearby Port and other operations. The hydrogen gas created is also used in fuel cell technologies.

SCIENTIFIC RESEARCH | Located in California's Bay Area, Lawrence Berkeley National Laboratory (LBL) employs premier scientists who conduct research for the U.S. Department of Energy and other government and industry partners. LBL is connected to a global network of research institutions via high capacity, high speed fiber optic lines. This backbone network enables LBL's supercomputer to process the calculations for researchers worldwide working on cutting edge scientific questions.

This supercomputer is used by scientists at the European Organization for Nuclear Research (CERN), which is ground zero for the testing of theoretical physics. Located on the Swiss and French border, CERN houses the world's largest machine – the Large Hadron Collider – that smashes particles together at the speed of light and reveals the fundamental workings of the universe.

CLIMATE IMPACTS | California is in a period of escalating climate duress. The state's hundreds of miles of coastline, millions of acres of forest and already erratic weather patterns are pressure points that climate change will stress in the coming years. It will demand the reimagining of infrastructure and behavior to adapt (and mitigate where possible) to this new world order.

Switzerland is similarly threatened by the immediate effects of a changing climate. Scientists estimate that the glaciers of the Alps have shrunk in half since 1900. It's a vivid example of rapid climate impacts and the resulting human health and infrastructure consequences in what is one of the most densely populated mountain ranges in the world.

HEALTHY & PRODUCTIVE CITIZENRY | Nearly a quarter of Californians live below the federal poverty line. It's a bleak reality that state leaders must confront through smart public policy. In particular, healthcare and workforce development are two areas that will be central to efforts to promote Californians' long term well-being.

Geneva is home to the World Health Organization (WHO), an arm of the United Nations (UN), that directs international public health initiatives that are designed to help all humans achieve the highest possible health. The International Labour Office (ILO) is another Geneva-based UN body, and it convenes governments, industry and workers to establish global labor standards. The ILO advances the economic and social conditions intended to give workers, employers and society enduring prosperity. The CFEE Delegation will meet with officials from both offices.

CFEE's MISSION is to facilitate an exchange of knowledge, insights and experiences between California policy leaders and their Swiss and French counterparts. CFEE strives to identify ideas that can support California policymakers as they work to deliver economic growth while demonstrating environmental stewardship.

California Foundation on the Environment and the Economy (CFEE)
Pier 35, Suite 202
San Francisco, CA 94133
www.cfee.net
415.788.1786

