



**UNIVERSITÉ  
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**INSTITUT DES SCIENCES  
DE L'ENVIRONNEMENT**

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CYCLE DE FORMATION ÉNERGIE – ENVIRONNEMENT

SÉMINAIRE 2013-2014

## **Swiss Energy Perspectives by 2050**

**Almut KIRCHNER**

*Prognos AG*

**jeudi 19 septembre 2013 à 17h.15**

**Auditoire D 185 - Bâtiment D - Uni Battelle**

7, route de Drize, 1227 Carouge

*PROGRAMME DES PROCHAINES CONFÉRENCES :*

**Jeudi 3 octobre 2013 à 17h15**

« *Virage énergétique : l'exemple de l'Allemagne* »

Vincent Boulanger, journaliste indépendant

**Jeudi 17 octobre 2013 à 17h15**

« *Stratégie Énergétique Suisse 2050 : le point de vue des Services Industriels de Lausanne* »

Jean-Yves Pidoux, Directeur des SIL

**Jeudi 31 octobre 2013 à 17h15**

« *Synergies entre le gaz, l'électricité et la chaleur* »

François Maréchal, LENI - EPFL

**Jeudi 14 novembre 2013 à 17h15**

À définir

**Jeudi 28 novembre 2013 à 17h15**

« *Politique gazière: compensation du CO<sub>2</sub> et label gaz-vert* »

Gilles Garazi, SIG

**Jeudi 12 décembre 2013 à 17h15**

« *Exploitation du gaz de schiste: potentiels et contraintes* »

Nicolas Imbert, Green Cross

## **L'orateur**

Almut Kirchner, physicist by degree, has been the head of the energy and climate policy department at Prognos AG since 2003. Before that and amongst other achievements, she was a consultant for energy efficiency and renewable energy in a state environment ministry for four years, and was CEO of a regional climate protection agency for five years.

Her work is focused around the areas of model-based energy forecasts and scenarios of overall energy systems.

She has extensive experience in the analysis, modeling as well as ex-post and ex-ante evaluation of energy and efficiency policies and instruments. Amongst other works, Dr. Kirchner was project manager of the scenarios work for the project "Modell Deutschland – Klimaschutz bis 2050" (Model Germany - Climate Change 2050) and the Swiss Energy Perspectives 2035 and 2050.

## **La conférence**

The 2050 energy outlook for Switzerland is a comprehensive scenarios work, where the long-term development of the energy system (energy demand and energy supply for all used energy carriers, with special consideration of the power plants) is studied and mapped under different conditions. The results of these scenarios provide the quantitative basis for the current discussion on the development of a new energy strategy.

The basic scenarios considered are:

- "Business as usual". Here the current energy (and economic) policies are updated according to the development in recent years.

- "New Energy Policy". Here an ambitious goal for 2050 is set (1 - 1.5 tons of energy-related CO<sub>2</sub> emissions per capita) and examined, to determine with which measures, economic costs and any other conditions it can be achieved.

- "Political package of measures". Here the effects of a given package of about 50 energy and climate policy instruments that enhance or complement the energy policies of the "Business as usual" scenario is calculated.

These basic scenarios are associated with different options and specifications in order to constitute a system for the electricity production with the condition that after 50 years of operating time nuclear power plants will not be used nor replaced in Switzerland. Several paths for the development of diverse renewable energies are examined, as well as the admissibility or non-admissibility of combined cycle power plants. In addition, variants with a strong expansion of decentralized Combined Heat and Power (CHP) plants are examined.