

## Nuclear Risks across Borders: Doel and Tihange Seen from a Neighbour's Perspective<sup>1</sup> - Event Report

The Belgian nuclear power plants Doel and Tihange are well known beyond Belgian borders. In particular Doel 3 and Tihange 2, the two reactors that started operation in the early 80s, have reached a dubious distinction across Europe. In 2012, after a scheduled safety review, thousands of flaw indications in the steel walls of the reactor pressure vessels of Doel 3, and later of Tihange 2, were discovered by the operators. The responsible authority, the Federal Agency for Nuclear Control (FANC), prohibited the restart of these two reactors until it had been conclusively proven that there was no risk to the safety of the reactor pressure vessels.

After a number of tests which some described as non-conclusive, both reactors received the green light to be restarted end of 2015. At the same time, the government decided to extend the lifespan for the reactors Doel 1 and 2 until 2025 – supposed end date for Belgian nuclear power usage - without a public consultation or a new environmental impact assessment. Not only in Belgium, but also in neighbouring countries such as the Netherlands and Germany, these decisions were criticised.



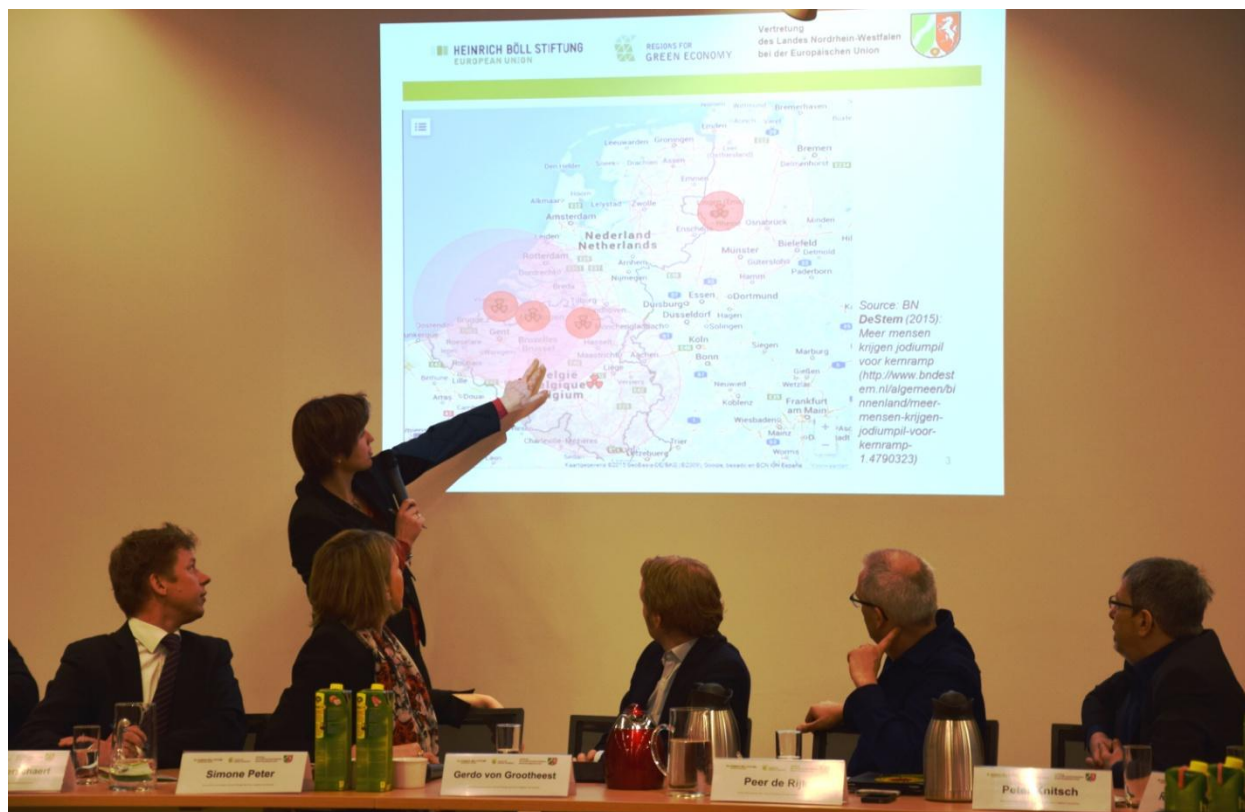
A breakfast debate on the 3<sup>rd</sup> of March, hosted by the Heinrich-Böll-Stiftung (hbs) European Union Office and the Representation of North Rhine-Westphalia, was introduced by Rainer Steffens, Director of the Representation as well as Klaus Linsenmeier, Director of the hbs EU Office. It aimed at shedding a light at the current situation in Belgium after the repeated shutdown of nuclear power plants, as well as discussing the Belgian nuclear policy

<sup>1</sup> This event was the first in the series “Regions for Green Economy”: The European Commission, the Council and the Parliament have all repeatedly called for regional cooperation in the context of the 2030 framework on climate and energy and the Energy Union. Together with experts of regional representations of the German Länder the Heinrich-Böll-Stiftung European Union Office wants to highlight best practices of front runner regions as well as promote the increasing number of renewables co-operations beyond national borders. In a series of events we want to demonstrate how regions manage to decouple economic growth and job creation from environmental consumption in practice.

with Dutch and German neighbours who are equally concerned. The panel represented a wide range of viewpoints, from both the involved countries and the pro- and anti-nuclear sides: Simone Peter (Co-Chair, Alliance '90/The Greens, Germany), Pierre-Etienne Labeau (Professor at Nuclear Metrology Department, Université Libre de Bruxelles), Gerdo van Grootheest (Deputy Mayor of Maastricht), Peter Knitsch (Secretary of State, Ministry for Climate Protection, Environment, Agriculture, Conservation and Consumer Protection of the State of North Rhine-Westphalia), Matthias Meersschaert (Belgian Nuclear Forum) and Peer de Rijck (WISE Netherlands) were the panellists at this breakfast meeting. Kathrin Glastra from the Heinrich-Böll-Stiftung chaired the debate, which was taking place almost five, respectively 30, years after the Fukushima and Chernobyl nuclear catastrophes.

### **Nuclear Power Plants in Belgium: Carefully Analyzed and Controversially Debated**

The areas around Doel and Tihange are densely populated: Doel, in the North of Belgium, is located near the border with the Netherlands and around nine million people live in a 75 km radius around this power plant. Tihange is located in the East of Belgium, only 50 km away from Maastricht and 70 km away from Aachen. In 2012, the two reactors Doel 3 and Tihange 2 were kept shut down after safety reviews, because thousands of flaw indications were found at the base metal of the reactors' pressure vessels. These indications are probably linked to hydrogen flaking, stemming from the production of the plant's steel, several decades ago. It is controversially debated, whether these indications could possibly grow during the normal operation phase or in accidental conditions. Pierre-Etienne Labeau, who was Chairman of the 2012 international board reviewing the reactor pressure vessel issue of Doel 3 and Tihange 2, explained that hydrogen flakes are a well-known issue in metallurgy. It is the first time that they were detected in a nuclear reactor, where they are almost laminar and not bigger than a one Eurocent coin. He stressed that extensive studies have been carried out and eventually led the Belgian authority FANC to conclude that hydrogen flakes do not jeopardize the safety of the nuclear power plants. Simone Peter, Co-Chair of the German Green party, countered that other studies were published, thus it cannot be ruled out that the flaws keep growing, impairing the overall safety. Regarding the high number of studies, Mr. Labeau pointed out that these two Belgian reactor vessels are probably the most carefully analysed reactor vessels in the world. Matthias Meersschaert confirmed the careful investigation by the FANC. He presented figures about the better performance of neighbouring reactor units Doel 1 and 2 compared to the Dutch nuclear power plant Borssele, where the number of INES (International Nuclear Events Scale) reported incidents is considerably higher. In his opinion, the Belgian nuclear power plants have an overall excellent safety and security record: "There is no technical closure date for a nuclear power plant: It is a purely political decision". Mr. Meersschaert remarked that, according to polls, a majority of the Belgian population would be in favour of a future use of nuclear energy or a combination for nuclear with renewables. At the same time, he lamented an increasing discrepancy between the negative public perception of nuclear energy and the real situation.



### Concerned Neighbours: A Discomforting Mixture of Incidents and Lack of Information

Peer de Rijk also diagnosed a widening gap. However, he located this gap between the official statements on paper and the reality of a growing number of incidents. In winter 2015, when the two Belgian reactors Doel 3 and Tihange 2 were restarted, a series of incidents led to a back and forth of closing down and restarting the reactors (for example after a leakage of radioactive water in December 2015). In the broader context of Belgian nuclear power plants, he mentioned that for Doel 4, there has been at least one case of human sabotage. Originally, the plants were scheduled to be in service for 30 years. However, with the current license prolongation, they will run between 40 and 50 years.

Gerdo van Grootheest also made reference to these incidents: “The combination of these incidents and a lack of information result in a lack of trust by the people. They don’t trust the situation and the facts anymore.” In his opinion, the information sharing and the consultations with the neighbouring cities are not sufficient. National safety plans are also considered to be inadequate, since they are designed for a too small radius and without sufficient cross-border coordination.





### **Growing Awareness: The Adjacent Regions Take Action**

Mr. de Rijk described the growing worries in the Netherlands – not only from anti-nuclear activists, but more and more from local politicians and ordinary citizens. Peter Knitsch confirmed that worries are growing in Germany as well: the government of North-Rhine Westphalia has voiced its concerns to the Belgian authorities several times. He compared the situation in Belgium to that in Japan before the Fukushima catastrophe: “Everyone tells the citizens that the reactors are safe, but they actually are not. Experts from Germany state that under German law, Tihange would not have been restarted. Therefore we ask the Government of Belgium to stop these power plants.” Representatives from FANC or the responsible Belgian ministries did not follow the invitation to speak about these points at the breakfast debate.

As one result from the Belgian decision to restart Tihange 2 and Doel 3 and to prolong the running time of further plants, the city district of Aachen started lawsuits against Belgium. Maastricht and several other municipalities from Germany, the Netherlands and the German-speaking part of Belgium, joined these lawsuits. “We have a unique situation in Europe”, said Mr. van Grootheest. “Many cities across different European countries are now joining forces to shut down these nuclear power plants.”

## Steps for Tomorrow: More Transparency and a True Energy Transition

The need for better information exchange and more transparency was central to the discussion about how to move forward. Mr. van Grootheest called for adequate cross-border information sharing and cross-border safety plans. Simone Peter, who shared her experience from her time as environment minister in the Saarland, close to the French border and the French nuclear power plant Cattenom, supported that conclusion: “Nuclear radiation does not stop at borders and therefore, people should also have a say about that issue across borders.” For the Green Party in Germany, a bilateral nuclear safety contract between Belgium and Germany would not be enough. “We Greens demand new European regulations, to give neighbouring countries more influence on the security requirements on the nuclear plants close to the borders. We also need a European summit to discuss nuclear safety as soon as possible”.

In order to be able to replace nuclear power plants, the share of renewable energy needs to be increased. Germany has driven up its’ renewables and the dire predictions of the nuclear lobby have been proven wrong, as Mrs. Peter emphasized: “In Germany, nine of the 17 nuclear power plants have already been shut down. There were no power shortages or blackouts. We are producing and exporting more energy than ever and electricity wholesale prices have dropped by half since 2011.” Mr. van Grootheest concluded: “Today the communities across the border join forces to shut down the nuclear power plants. Tomorrow, we need to join forces to drive up renewable energies.”

