

DUNCAN RICHEY MIDSUMMER REPORT 2017

I arrived at the southeast corner of Germany on June 4th in a medium-sized city named Freiburg. The bustling city and social atmosphere of the twenty-three other UNC students was a stark change from my previous two weeks. I had just walked 200 miles along the Camino de Santiago through small Spanish villages and spent most of my time with myself. It was a formative experience that taught me more about myself but left me with palpable feelings of confidence and uncertainty impossible to describe. Needless to say, I wasn't prepared for the busyness and outpour of knowledge I would receive over the next three weeks- the first half of my study abroad program that takes me throughout Germany and The Netherlands studying renewable energy and smart cities.

We spent our first two weeks in Freiburg- the focus of my research this summer in which I am analyzing Freiburg's transportation system and applying its lessons to the Triangle area and sharing it with area planners. Luckily, our first day in Freiburg was focused on its sustainable multimodal transport system. The historical town of Freiburg was largely destroyed in the World War II. Due to the reconstruction of complexes and the establishment of a pedestrian zone, the heart of Freiburg is today an attractive and vibrant center. Current projects, such as a new tramway line and the extension of the pedestrian zone are paving the way for the future. Cars are not allowed in the center city, only the streetcar, bikes, and pedestrians. The street is a shared space that makes the dense city center walkable and safe for all. I have read about Freiburg and similar city plans in books before but finally seeing and experiencing it was a dream come true and validated my thoughts on sustainable city planning.

Over the course of the two weeks, we learned about various sustainability-related issues of Freiburg and the surrounding region. One day our group toured wind turbines and were given a lecture on how rural communities are enjoying new profits by selling renewable energy. Another day we toured multiple organic farms and discussed the challenges cities face to feed a growing population in a sustainable fashion. We also explored what has made the German economy sustainable by learning and visiting companies in the German Middelstand.

These family-owned companies, which are also small to medium sized and whose annual profits do not exceed €5 billion, make up around sixty percent of jobs in Germany. What is even more incredible about the Middelstand is its sustainability. By most metrics, Germany is not an innovative country. In a list of entrepreneurial countries, Germany is rarely at the top among the likes of Israel and the United States: countries that have many start-ups and are celebrated for their numerous entrepreneurs. However, in an age of constant innovation and globalization, Middelstand companies remain at the top of their industries, locally and globally. Our professor, Dr. Gangi, told us Middelstand companies are incredibly innovative and reinvent themselves to ensure their place in an always-changing global market.

My time in Freiburg was incredible but as our third week came we left for The Hague, a large city in a region of the Netherlands that contains three large cities in close proximity. Our first week in The Hague focused on water management and smart cities. Water management in the Netherlands is as old as the Netherlands itself. If it weren't for the country's extensive water management system sixty percent of the country would be underwater. One day we visited its

most famous storm barrier, the Maeslantkering. This massive structure took thirty years to construct and has two swinging arms that are each the height of the Eiffel Tower. It was costly and lengthy but necessary to defend the country against rising sea levels and increasingly powerful storms due to climate change.

The coming weeks we will spend more time in The Hague, Amsterdam, Eindhoven, Bochum, Hamburg, and finally, Berlin. I am excited to learn more and gain new experiences. The trip so far has shown me how the subjects and issues I read about in school are applied in real life. The summer is changing me in ways I am not sure how yet, personally, professionally, and academically. With any luck, the rest of my program will be as enriching as it has been so far.