



# August 2019

STUDENT PROFILES, EXCURSIONS AND LIFE IN BERLIN

ENERGY ENGINEERING DEPARTMENT

## Campus El Gouna

### An insight to the Energy Engineering department

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The energy engineering department is in preparation of this year's new intake of students in October 2019 but also in preparation of the Graduation ceremony that will be taking place together with the Semester opening on October 12<sup>th</sup>.

This newsletter is dedicated to share the experiences of some of our students during their journey in our master's programs, to report on some academic excursions in Berlin and to give an insight on student life in Berlin.

#### This summer's excursion to Vattenfall CHP Power Plant

On the 22<sup>nd</sup> of May, Students from our Energy Engineering, Business Engineering Energy and IT for Energy Master programs visited **Vattenfall HKW-Reuter West power plant (Combined heat and power plant).**

Which is one of the biggest coal powered power plants in Germany reaching to **564 MW**. It was built in 1987 to supply the west of Berlin with heat. **The aim of this excursion is to give our students hands on experience for what they study in their Energy Engineering modules** and introduce them to one of the **leading companies in Germany**. In this excursion students were introduced to combined heat and power principle where steam boilers are fired with hard coal and are equipped with efficient flue gas cleaning systems. Residues from the combustion process and the flue gas cleaning are processed and returned to the economic cycle as high-quality cement in which the power plant sells to the market.



#### Our boat trip across Berlin

On July 10<sup>th</sup> students from the Energy Engineering departments students, staff and professors went on a **boat tour across Berlin in the framework of intercultural bilateral as well as a networking and get to know with involved partners**. A tremendous guided tour about Berlin's main attractions was held where staff and students had a day out experiencing different sides and spectacular sceneries of Berlin. Amongst **other the museum island, parliament and government district, TV Tower, the Berlin Wall, the Bellevue castle** and many more sights were toured. The boat trip lasted for 4 hours of pure enjoyment and refreshment.



## Student's profiles



**Ali Vaqar, Pakistan**  
Energy Engineering student since 2018

Having previously completed my bachelor's in mechanical engineering in my home country, I chose this master program as it is **uniquely structured and not only discusses renewable energy technologies but the conventional technologies** and their inter-dependencies on each other.

It not only goes into detail of each technology; they are accompanied by **simulation models** on how to implement them in real life.

Another unique thing about this master program is that **it focuses on the economics of the technologies as well and conducts feasibility studies** on what is viable and what is not. **The professors are extremely professional** and always encourage participation from the students and are always available to guide them in their respective fields.



**Andrea Cabañero Spapens, Spain**  
Business Engineering student since 2017

In my master thesis project, I am working on an **analysis of the technical and economic potential as well as environmental impact of rural mini-grid systems as means to tackle energy poverty** through rural

electrification, water potabilization and to transform local communities by developing bottom-up local value chains. **I learned during my masters important skills like software** I am relying on for my current work.

**Conversion Technologies for Renewable Energy and Photovoltaics** were the core modules that allowed me to gain a deep technical understanding of all renewable energy technologies. While it did not come as entirely new, it certainly allowed me to dig deeper. The module "Project Sector Coupling" provided me with incredible insights on the potential of hydrogen as a fuel as well as tools to simulate integrated energy systems. On the other side, the modules relating to Energy Engineering allowed me to gain a **solid understanding on the thermodynamics of energy conversion processes**, which given my previous Economics background, was a real enrichment.

Both the courses of the Master program as well as my thesis topic have allowed me to complement my Economics background with very solid engineering skills as well as programming. I feel this is endowing me with a range of assets that open a wider set of career options for me in the field of energy and across a wide range of markets, from Europe to the Middle East and beyond.

## Life in Berlin

Our student Mariam Hafez shared with us her experience in Germany's capital:

"**Berlin is a great city of a rich culture, history and noteworthy events** that will take you off the beaten tracks. I have never felt bored in such a city. Every day, you have a new thing to discover and awesome people to meet that breaks all your stereotypes and leaves you craving for the next adventure.

From hiking, hundreds of **different meet ups every day to high quality technical conferences** where great minds inspire you with ideas and strengthen your career network. It is an international city, where everyone is so welcoming. So never feel erratic if you go for dinner or a hike with people you just met. That's the charm of this city. As a student I had here the opportunity to attend and volunteer in different international conferences like Start Up Energy Transition (SET), which is a leading international platform supporting innovation in energy transition. I had the honor to contribute in an event by **the World Energy Council and the German Energy Agency (dena).**"





**Abdelnasser Farrag, Egypt**  
Energy Engineering student since 2017

I am a senior Energy Engineering student; I am writing my thesis at Karlsruhe Institute for Technology (KIT). I am also an entrepreneur who has his own startup in Egypt "VWaste". In VWaste, agro-industrial waste is transformed into market-valued products through eco-friendly process.

In May 7<sup>th</sup>, I was a speaker at the 4<sup>th</sup> Green and Sustainable Chemistry conference organized by Elsevier journal in Dresden, Germany. I had the opportunity to give a presentation about my experience in co-founding an eco-friendly recycling-based start-up company.



**Abdul Hannan Anwar, Pakistan**  
Business Engineering student since 2018

I'm from Lahore, Pakistan. I did my bachelor's in Electronic Engineering from Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, GIKI.

I chose MBE because of its technical and management diversity. Being an engineering student who dreams to be an entrepreneur, I believe this program can give me the tools to shape myself into a professional with versatile knowledge skills and can help shine a brighter light on my goals.

This program has been really challenging for me so far, because for a person like me who did his bachelor's in Electronic Engineering, I stepped into a completely new world of thermodynamics. I must say that the only thing that has brought me this far is just the technical knowledge and teaching capabilities of TUB professors. They have always tried to provide us with the best of opportunities that would help us in the future in the best possible way. I really appreciate this program because of its social and cultural diversity. By being part of this program, I've been able to experience & be a major part of a lot of different cultures and their life standards here



**Vilay Gawade,**  
Energy Engineering student since 2018

My name is Vijay Gawade from Mumbai, from India. I have completed my bachelor's in mechanical engineering and have handful of work experience as a design consultant. The Master program in Energy Engineering focusses on today's era energy demand. With ever increasing energy demands and its problems associated with the environment, desperate efforts are being taken to improve the efficiencies of conventional power plants. Additionally, non-renewable energy sources are also getting recognition. The perfect blend to improvise the already existing technologies and future trends in energy market made me choose the master program in energy engineering at the Technische Universität Berlin- Campus El Gouna, Egypt.

The best experienced senior professor and well-informed team of research assistants are primary asset of TUB. The courses are very engaging and well-structured. The labs are well equipped, in addition to the canteen, study room and net facilities available in the campus to bolster your studies all day long.

The social life in El Gouna is quite electric with good sandy beaches and affordable lifestyle in El Gouna. The dormitories are well managed and within walking distance from the campus. With more than 7 nationality students studying together, we make sure to take a time out to arrange a food party for each other. Also, on certain days popular festivals are also celebrated between everyone.