

The Competence Center for Renewable Energy and Energy Efficiency (CC4E) is a central scientific institution of the University of Applied Sciences Hamburg (HAW Hamburg) that addresses the current and future challenges of the energy transition in an interdisciplinary manner. Practical solutions are developed for a broad spectrum of technological, social, political and economic problems – from the idea to the implementation. In this way, the CC4E makes a sustainable contribution to effective climate and environmental protection.

**Our motivation is the passion to develop ways of achieving a sustainable energy supply – for the preservation of a world worth living in.**

With our Energy Campus Technology Center and the adjacent Curslack Research Wind Farm, we have created a strong infrastructure and are constantly expanding our competencies in the context of the diverse research projects. Through the successful implementation of innovative projects in the field of renewable energy, we increase the visibility of the HAW Hamburg and are one of the most important scientific institutions in northern Germany within this field.

Dear readers,

*the challenges in the field of climate protection and energy transition require innovative solutions and great commitment. As part of the CC4E, we are determined to make our contribution.*



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*It is one of the tasks of the century to build a sustainable and future-proof energy supply system in Germany – especially in metropolitan regions like Hamburg. Through our intensive research at CC4E, we are working to make precisely that a reality.*

*Together, we are laying the foundations for effective climate policy and shaping the future. We are proud to be part of this important mission.*

*Let's keep thinking, keep networking, and keep driving the energy transition forward!*

*With sustainable greetings,  
Prof. Dr.-Ing. Hans Schäfers*

- CC4E Director

We transfer our practice and research-relevant knowledge into studies and further education.

We want to take interested parties on the journey of the energy transition, inform them about the current state of research and create a joint dialogue.

We view the energy transition as a challenge for society as a whole and find solutions within a framework that is feasible for the market economy and socially sustainable.

Through our research, we make a sustainable contribution to effective climate and global protection – for the preservation of a world worth living in.



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IMPRINT

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**Competence Center for Renewable Energy and Energy Efficiency**

SUSTAINABLE SOLUTIONS FOR SOCIETY'S ENERGY PROBLEMS.



# Areas of Expertise

Strongly anchored in the Hamburg metropolitan region, we assume an important interface function between science, business, politics and society.

The spectrum of areas of expertise in combination with the technical research equipment at the Energy Campus Technology Center and the close cooperation with partners from industry, science and politics are the main features of the research activities at the CC4E. The core areas of expertise of the CC4E are in the areas of:



**Sector coupling and hydrogen**



**Heat**



**Social transformation and acceptance**



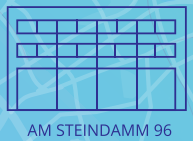
**Wind energy**

With regards to its projects, the CC4E has a high level of expertise across all content-related research focal points – from the idea, through conception, application and control, to content-related execution. Within this framework, the CC4E also places special emphasis on innovation management, which is particularly relevant in this context and is primarily concerned with the systematic management and planning of projects. In addition, technology and market evaluations must be carried out and innovations brought to market.

The overriding goal under the German government's new climate protection law is to achieve a mandatory reduction of 65% in greenhouse gas emissions by 2030 compared with 1990 levels, and a reduction target of at least 88% by 2040. Germany is to achieve greenhouse gas neutrality as early as 2045, and the German government is aiming for negative emissions by 2050. At that point, Germany is to bind more greenhouse gases than it emits. To be able to achieve these goals, the CC4E is conducting intensive research. Together, we are making our contribution to the success of the energy transition.

## Location

As a cross-faculty scientific institution of HAW Hamburg which addresses the current and future challenges of the energy transition in an interdisciplinary manner, the CC4E marks out Hamburg as an important science location. At our four locations, we develop sustainable and practical solutions in the areas of sector coupling, heat, wind energy, and social transformation and acceptance.



AM STEINDAMM 96

### Steindamm

The Steindamm site is home to the project management of the major projects, the business development department, the strategic planning department and the CC4E management with central functions. From here, a total of around 30 ongoing projects with a total of around 80 employees are managed.



BERLINER TOR 21

### Berliner Tor

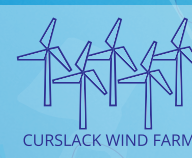
Not far from our headquarters at Steindamm, our wind team is researching, among other things, how the rapid expansion of wind energy in Germany – both onshore and offshore – can enable wind turbines to make an ever-greater contribution to security of supply.



AM SCHLEUSENGRABEN 24

### Am Schleusenengraben

One of the cornerstones of the CC4E is the infrastructure in Bergedorf. With the Energy Campus Technology Center, the CC4E has its own research center where a large part of the scientific team works. At its heart are the smart grid laboratory and the wind laboratory.



CURLSLACK WIND FARM

### Curslack Research Wind Farm

The Curslack Research Wind Farm is located in the immediate vicinity of the Technology Center – a unique constellation in Germany. Host to five wind turbines of the 2.40 to 3.15 megawatt class, it can supply up to 11,000 two-person households per year with electricity.