

Renewable and Sustainable Energy

Research Center

**Pioneering
tomorrow's
energy**

The energy to discover

A new center of excellence.

A more sustainable future.

Advances in research at the molecular level of living systems We live in a changing world, where climate warming is driving a transition towards sustainable energy. Over the next few decades we can expect the historic domination of coal, oil and gas to give way to renewable energy and alternative fuels.

Water security represent one of the biggest challenges to a growing population, and again, climate change exacerbates these concerns. Especially in regions such as the UAE but increasingly in other geographies, desalination of seawater to produce potable water supply is critical. Doing this at huge scale and as economically as possible is crucial.

Our work drives and enables this transition towards a sustainable energy system and planet, one where water and energy are available to all.

Who we are

The Renewable and Sustainable Energy Research Center (RSERC)Pushing the technological boundaries across bioenergy, sustainable chemicals, carbon-neutral / clean fuels, renewable energy systems of all types, fuel cells, batteries, electrolyzers, seawater desalination, water treatment and re-use, sustainable agriculture and many more areas of sustainable technology, the RSERC at TII offers unique opportunities for world class research and scientific discovery.

We collaborate across disciplines to rapidly generate real-world impactful solutions designed to address the challenges of today and the future. RSERC is part of the Technology Innovation Institute (TII), a global scientific research center attracting the world's foremost scientists and researchers. TII leads worldwide advances in artificial intelligence, autonomous robotics, quantum computing, cryptography and quantum communications, directed energy, secure communication, smart devices, advanced materials, and propulsion and space technologies, and biotechnology fields.

TII belongs to the Abu Dhabi Government's Advanced Technology Research Council (ATRC), which oversees the technology research in the emirate.

What we do

At the RSERC, we are committed to using our highly innovative position in science and engineering to search for solutions that benefit society in areas as diverse as energy, water and agriculture. Our core works focuses on:

- Bio and chemical energy
- Sustainable chemicals
- Power storage
- Fuel cells and electrolyzers
- Solar energy and renewables
- Next generation grid systems
- Desalination technologies, membrane technologies
- Water treatment technologies
- Atmospheric water harvesting
- Agricultural innovation
- Sustainable agriculture and harsh environment farming





Our team

At the RSERC and TII, we've brought together the brightest minds from across the global energy and water community to address the toughest questions and most pressing challenges. We are motivated by a pressing desire to tackle climate change and create technologies that make the world we live in more sustainable.

At TII, our Renewable and Sustainable Energy Research Center is dedicated to innovation at the very frontiers of the energy and water space, developing solutions across the technology and value chain.

Our research

Ahead of the curve. Beyond tomorrow.

Operating at the leading edge of future energy and water science and engineering, TII's Renewable and Sustainable Energy Research Center offers limitless opportunities for research and fresh scientific discovery.

Working on a depth and breadth of research areas in both the fundamental and applied sciences, we are free to employ genuinely blue sky thinking, researching without fear or limitation, and without the burden of administration.

Our core research areas



Energy Technologies

- Bio and Chemical Energy
- Power Tech.
- Renewable Energy
- Energy Modelling



Water Technologies

- Production
- Distribution
- Utilization
- Reuse



Water-Energy-Biology Nexus

- Water
- Energy
- Biology

Innovation through collaboration

TII believes that the benefits of scientific discovery should be shared, and that the process of discovery is a collective one. At the Renewable and Sustainable Energy Research Center, we work in partnership to grow and develop the future energy ecosystem in Abu Dhabi and the UAE, and welcome partnerships and collaborations with academic and research institutes, as well as commercial opportunities – locally, regionally and globally.

Our advanced energy and water technologies developments and our wider work across the breadth of sustainable challenges means TII will offer benefits ranging from smarter, more efficient grids, to new non-polluting energy sources through to wider access to secure clean drinking water sources.

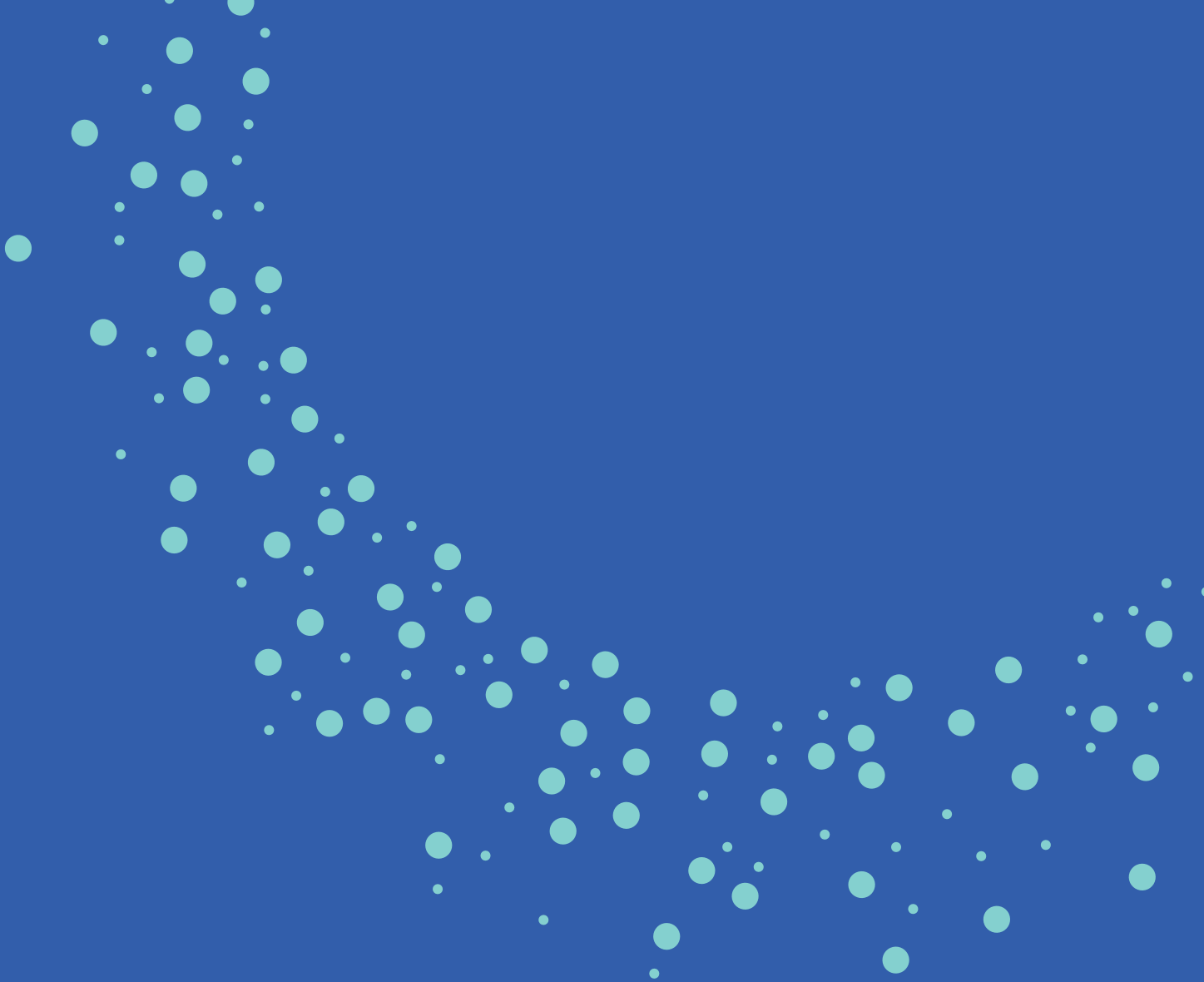




The ingenuity to power tomorrow

At the Renewable and Sustainable Energy Research Center, we're helping to shape the global transition to a cleaner, lower carbon energy and water system of the future.

Find out more about our ideas for tomorrow's energy at tii.ae



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