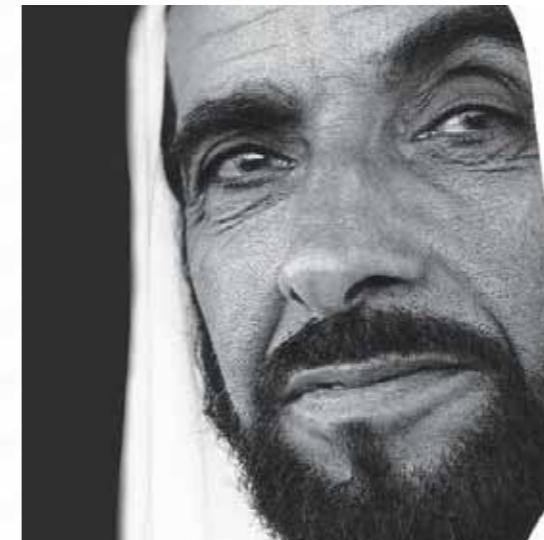


Learning to Change the World



Masdar: The Reality of Future Energy



“The real asset of any advanced nation is the people, especially the educated ones, and the prosperity and success of the people are measured by the standard of their education.”

Building on a legacy

Masdar Institute of Science and Technology is inspired by the visionary leadership of Abu Dhabi, as can be seen through these quotes from Sheikh Zayed bin Sultan Al Nahyan, late UAE President and Founding Father:

On the environment and economy he said:

“Right from the beginning, we considered the environment as the main target for the UAE’s development policy and exerted great efforts, in very tough environmental conditions, to solve its major problems.”

“We must not rely on oil alone as the main source of our national income. We have to diversify the sources of our revenue and construct economic projects that will ensure a free, stable and dignified life for the people.”

On education he said:

“The real asset of any advanced nation is the people, especially the educated ones, and the prosperity and success of the people are measured by the standard of their education.”

“Nothing could delight me more than to see a woman taking up her distinctive position in society ... Nothing should hinder her progress ... Like men, women deserve the right to occupy high positions according to their capabilities and qualifications.”

**Sheikh Zayed bin Sultan Al Nahyan,
the late President of the UAE**

Board of Trustees

The Board of Trustees of Masdar Institute holds a responsibility to see that the Institute adheres to the purposes for which it was established and that its integrity and financial resources are preserved.

The Board and its committees are responsible for reviewing and providing guidance on strategic direction, approving annual budgets, exercising fiduciary responsibility, approving new degree programs, approving degrees, appointing the President and being available to advise senior leadership on issues of importance to the Institute.

The Board members are expected to represent the interests of Masdar Institute to outside constituencies as appropriate and help to provide financial support for the Institute.

The members of the Board include distinguished leaders in government, academia, and industry. The board is chaired by HH General Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces while the Patron of the Institute is His Royal Highness, Prince Charles, Prince of Wales.

Masdar Institute President Dr. Fred Moavenzadeh is also a member of the Board.

Board Members

HH General Sheikh Mohammed bin Zayed Al Nahyan,
Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces

HE Mohammed Ahmed Al Bawardi,
Secretary General of the Abu Dhabi Executive Council

HH Sheikh Abdullah bin Zayed Al Nahyan,
Minister of Foreign Affairs of the United Arab Emirates

HE Sheikh Nahyan bin Mubarak Al Nahyan,
UAE Minister of Higher Education

HH Sheikh Diab bin Zayed Al Nahyan

HE Dr. Adnan Badran,
President of Petra University; former Prime Minister and Education Minister of Jordan and Deputy Director General of UNESCO

HE Dr. Sultan Ahmed Al Jaber,
Chief Executive Officer of Masdar

Dr. Fred Moavenzadeh,
President, Masdar Institute

HE Khaldoon Khalifa Al Mubarak,
Chief Executive Officer of Mubadala Development Company

Dr. Rafael Reif,
Provost of Massachusetts Institute of Technology

HE Ahmed Ali Al Sayegh,
Chairman of Masdar

HE Abdulla Nasser Al Suwaidi,
Deputy CEO and Director, Exploration and Production, of the Abu Dhabi National Oil Company

Message from the CEO of Masdar and Chairman of the Executive Committee of the Board of Trustees of Masdar Institute



Answering the call

The world today faces two major challenges: global warming and the need to meet the ever-growing demand for energy. Leadership in both areas is necessary. The Masdar Institute of Science and Technology aims to provide just that.

Masdar Institute is part of Masdar's multi-faceted initiative to lead the way in the development of low carbon energy technologies and clean, sustainable ways of living. In partnership with the Massachusetts Institute of Technology (MIT), we are working to shape today's ambitious youth into tomorrow's scientific pioneers through unique academic programs focusing on alternative energy and sustainable technology.

Masdar Institute is also a crucial part of Abu Dhabi's evolution as a leader in global energy – from a provider of fossil fuels to a developer of alternative energy and clean technologies. The Institute is helping develop our country's most crucial resources: its people. People are the true driving force behind Abu Dhabi's ambitions and Masdar Institute is strategically positioned to feed the UAE and the region with highly talented

individuals and research expertise, enhancing economic development and diversification for the benefit of future generations to come.

This is just the beginning of a long journey. Our aspirations are broad and our ambitions are global, and we are on the right track to turn Abu Dhabi into a truly global center of excellence. We welcome the support and collaboration of those inspired by Masdar Institute's vision. Join us as we lead the way to a better future

Dr. Sultan Ahmed Al Jaber, Chief Executive Officer of Masdar, Chairman of the Executive Committee of the Board of Trustees of Masdar Institute



Message from the President of Masdar Institute



Our collaboration with the Massachusetts Institute of Technology allows us a comprehensive approach and focus on research that is unique, offering the necessary ingredients for faculty and students to flourish within a unique learning environment at the heart of an emerging global hub for future energy.

Undoubtedly the energy challenges the world faces are sizeable but so too are the opportunities for those at Masdar Institute. I firmly believe such challenges can be overcome by offering the highest standards of education and research and by providing a platform for the best minds to collaborate.

This is our aim at Masdar Institute: to provide a world-class research and education environment that attracts and nurtures future leaders and critical thinkers in science and technology with particular focus on advanced energy and sustainability. It is an evolving story but already great strides have been taken towards our goals and firm foundations laid.

Masdar Institute is starting to become a living, vibrant and creative research community with students and faculty from across the world, conducting ground-breaking research with a rich international network of collaborating partners.

For those inspired to be part of the solution I invite you to join us on this exciting journey.

**Dr. Fred Moavenzadeh,
President, Masdar Institute**

Inspiring new solutions

Welcome to Masdar Institute of Science and Technology, a dedicated research university inspired by the visionary leadership of Abu Dhabi in response to the defining challenges of our time: climate change and energy security.

Established on the principles of environmental preservation and human development as outlined by His Highness, Sheikh Zayed bin Sultan Al Nahyan, the late UAE President and Founding Father, Masdar Institute exemplifies an unparalleled commitment by the emirate to take a leading role in the search for viable solutions that address today's environmental challenges.



Masdar Institute Campus

Vision

- To be a world-class graduate-level institution, seamlessly integrating research and education to produce future world leaders and critical thinkers in advanced energy and sustainability.
- To position Abu Dhabi as a knowledge hub and engine for socioeconomic growth.

Mission

- To establish and continually evolve an interdisciplinary, collaborative research and development capability in advanced energy and sustainability.
- To educate students to be innovators with the breadth and depth necessary to grow technology and enterprise regionally and globally.



The Wind Tower
at Masdar Institute Campus

Developing Future Leaders

Sustainability has become the need of every business and the goal of every economy. Today we live in a world where global climate change is not a myth, but a scientific fact. It is in this reality that Abu Dhabi created its Vision 2030, driving the transformation of the emirate from an oil economy to one based on crucial knowledge.

As part of that farsighted and comprehensive strategy, Abu Dhabi has established the Masdar Institute of Science and Technology as a university founded to help solve humanity's most pressing sustainability challenges.

Responsible conservation, sustainable development

Masdar Institute, which had its first intake of students in 2009, is a graduate-level research-driven university focused on developing advanced energy and sustainable technologies. Its mission is in keeping with the ideals of Sheikh Zayed bin Sultan Al Nahyan, the late President of the UAE,

who believed strongly in responsible conservation and sustainable development.

At Masdar Institute, we are developing the critical thinkers and future leaders who will meet the challenges of the 21st century – providing a real-world forum to test, apply and transfer ideas.

Partnering for excellence

To drive us forward, we have developed partnerships and collaborations with leaders from academia and industry from all over the world. Our flagship collaborator is the Massachusetts Institute of Technology (MIT), internationally renowned for its unparalleled caliber of science education. We are also pursuing research projects with industry leaders.

By securing world-class partners, we believe that the synergies between our programs and industry leaders will ensure the success of future innovations.



Academics

Educating for the future

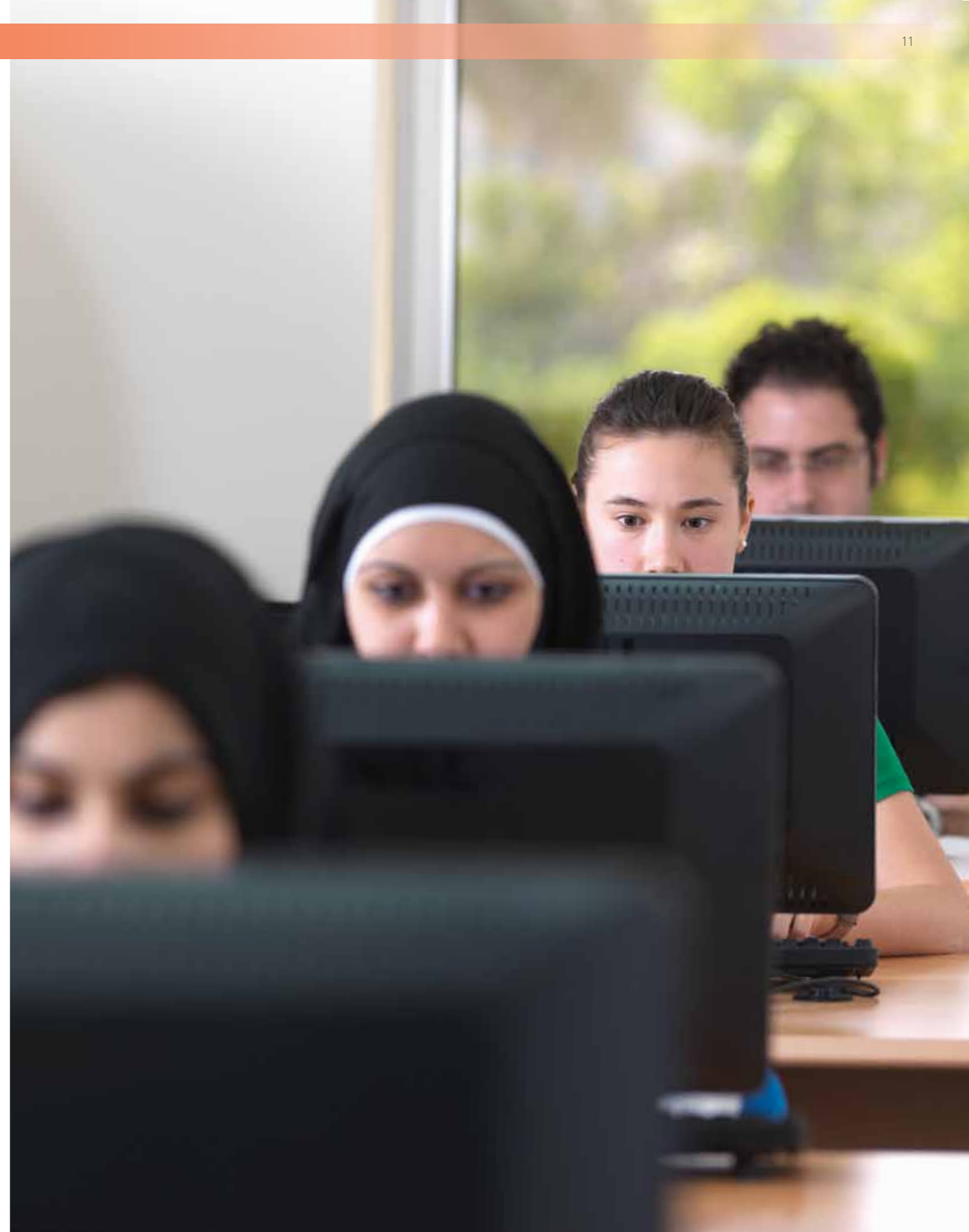
Masdar Institute is a graduate-level, research-driven university focused on generating advanced energy and sustainable technologies. Our advanced courses take an integrated approach to education and research, preparing students for life as innovators, researchers, scientists and thinkers.

The Institute offers a range of graduate programs, which currently includes eight Master's degree programs and an Interdisciplinary Doctoral Degree Program.

These unique agenda-setting and forward-thinking academic programs and opportunities have been created in response to the defining challenges of our time.



Knowledge Center at the Masdar Institute Campus



Foundation Program

Empowering the future

Masdar Institute invites all UAE Nationals who are driven, dedicated and ambitious to be among our elite students.

Building strong foundations

Masdar Institute's enriching Foundation Program gives students courses to refresh and extend their knowledge of the principles that underlie the academic field of their choosing. The program will prepare students for two years of advanced studies in one of Masdar Institute's Master of Science (MSc) programs.

For admission to our Foundation Program applicants must have:

- UAE citizenship
- An undergraduate degree relevant to an existing Masdar Institute MSc program

- A minimum cumulative grade point average of 3.0 on a scale of 4.0
- 3 recommendation letters
- Statement of objectives

After successfully completing the Foundation courses and an optional summer practical experience at the Massachusetts Institute of Technology (MIT), students continue their studies in their chosen Master's program. Masdar Institute offers MSc programs in Engineering Systems and Management, Computing and Information Science, Materials Science and Engineering, Mechanical Engineering, Water and Environmental Engineering, Microsystems Engineering, Electrical Power Engineering and Chemical Engineering.



Master's Programs

Advancing education

Masdar Institute empowers the next generation of thinkers – from the UAE and around the world – through a range of multidisciplinary Master's degrees, each developed in collaboration with the Massachusetts Institute of Technology (MIT).

Graduates of Masdar Institute will receive a Master of Science (MSc) degree from Masdar Institute – and a certificate jointly signed by the President of Masdar Institute and the Director of the MIT/MI Collaborative Agreement.

Masdar Institute offers MSc degrees in:

- Engineering Systems and Management
- Computing and Information Science
- Materials Science and Engineering
- Mechanical Engineering
- Water and Environmental Engineering
- Microsystems Engineering
- Electrical Power Engineering
- Chemical Engineering

For admissions to our Master's Program applicants must have:

- Undergraduate degree relevant to an existing Masdar Institute MSc program
- Minimum cumulative grade point average of 3.0 on a scale of 4.0
- Minimum TOEFL score of 91 (IBT) on the international TOEFL scale
- A competitive GRE score. (The average score on the quantitative section for the 2010 students intake at Masdar Institute was 765)
- 3 recommendation letters
- Statement of objectives

The GRE is mandatory and cannot be waived. The minimum score for consideration of admissions is 700 on the GRE Quantitative section and while there is no cut-off score for the GRE Verbal and Analytical sections, these scores are taken into account and evaluated. TOEFL can be waived for native English speakers. The minimum academic IELTS score is 6.5. Acceptance depends on academic qualifications and English language proficiency, as all lectures, laboratory sessions and examinations – written and oral – at Masdar Institute will be conducted in English. High grades and scores are a prerequisite but are not a guarantee of admission.

PhD Program

Crossing academic boundaries

Advances in our complex world have led scholars to pursue multifaceted problems that cannot be resolved from the perspective of a single academic discipline. With this new reality in mind, Masdar Institute developed its Interdisciplinary Doctoral Degree Program (IDDP) for the Doctor of Philosophy (PhD) degree.

The IDDP is designed to give students the flexibility to respond to complicated problems by crossing academic boundaries, while offering the necessary specialist depth to produce well-rounded experts.

The two major components of the IDDP are course work and research. The course work comprises a minimum of 14 graduate-level courses, inclusive of those earned during Master's degree work, and focuses on a program of study in the student's chosen specialist fields. The research involves an original investigation of an advanced problem, summarized in a written thesis and reported in a thesis seminar.

Candidates must be enrolled on a full-time basis and it is expected that each candidate will spend a minimum of four years in the PhD Program. The GRE and TOEFL (or academic IELTS) are mandatory tests and incomplete applications will not be processed.

Proficiency of a set of core courses will be assessed by Part I of the qualifying exam (written and oral) which has to be administered no later than the third semester of a student's admission into the program. One semester later, the student has to defend his research proposal (part II of the qualifying exam) in order to proceed with the actual research work of his doctoral degree. Upon the completion of his thesis, the student has to defend his thesis in order to be granted the doctoral degree.



Masdar Institute Campus at Masdar City



The Wind Tower at Masdar Institute Campus

Students

Facilitating greatness

Masdar Institute invites aspiring students from around the world – male and female, UAE National and international – to be part of our landmark endeavor. Applicants that demonstrate ambition, dedication and aptitude will be given a unique opportunity to fulfill academic ambitions and contribute to the global challenges of climate change and sustainability. All students granted admissions will be provided full scholarships and access to our world-class facilities as well as the opportunity to work as part-time research assistants during their studies.

Admitted applicants will be granted a full scholarship which includes:

- 100% tuition fee scholarship
- Textbooks

- Laptop
- Medical Insurance
- Housing
- International students will receive reimbursement of travel expenses (economy class ticket) into Abu Dhabi and back home after completion of studies as well as a return ticket at the end of each year of study.
- Reimbursement of TOEFL and GRE exam fees (upon registration at Masdar Institute and submission of original receipts)
- A competitive stipend per month (cost of living allowance)



Masdar Institute students at the Labs

Research

Breakthrough thinking

Developing new technologies and pioneering perspectives are at the heart of Masdar Institute's mission. We believe that the sustainability challenges facing mankind require innovative solutions involving groundbreaking technologies, methods and systems. The research focus at Masdar Institute addresses real-world energy and sustainability challenges from an integrated technology, systems and policy perspective.

To that end our faculty and students are dedicated to pursuing research that will meet the economic and developmental needs of not only Abu Dhabi and the UAE, but also the world at large.

Masdar Institute's core research specializations are:

- Sustainable Energy Production and Storage
- Efficient Energy Delivery and Use
- Water, Environment and Climate
- Integrated Sustainable Development

Along with core research projects and with a unique focus on the integration of technology, policy and systems, Masdar Institute has a broad portfolio of new research projects in development that integrates theory and practice to incubate a culture of innovation and entrepreneurship.

A large number of research projects are currently being undertaken by Masdar Institute faculty and students on topics including solar energy, energy efficiency, carbon sequestration, smart grids, waste to energy and water. We believe that research in these critical areas will place Masdar Institute's graduates at the forefront of progress in solving humanity's common issues. Faculty have already filed for a number of patents resulting from their research in those fields.

Through this innovative and critical research Masdar Institute's faculty and students are doing their part to contribute to the solution of the critical and challenging global problems posed by climate change and energy insecurity.

Collaboration

Partners in leadership

At Masdar Institute, education and research collaboration are the key drivers of socio-economic development. Our collaboration with the Massachusetts Institute of Technology (MIT) is centered on our mission to deliver the quality of education needed to take our research out of the laboratory and into the real world.

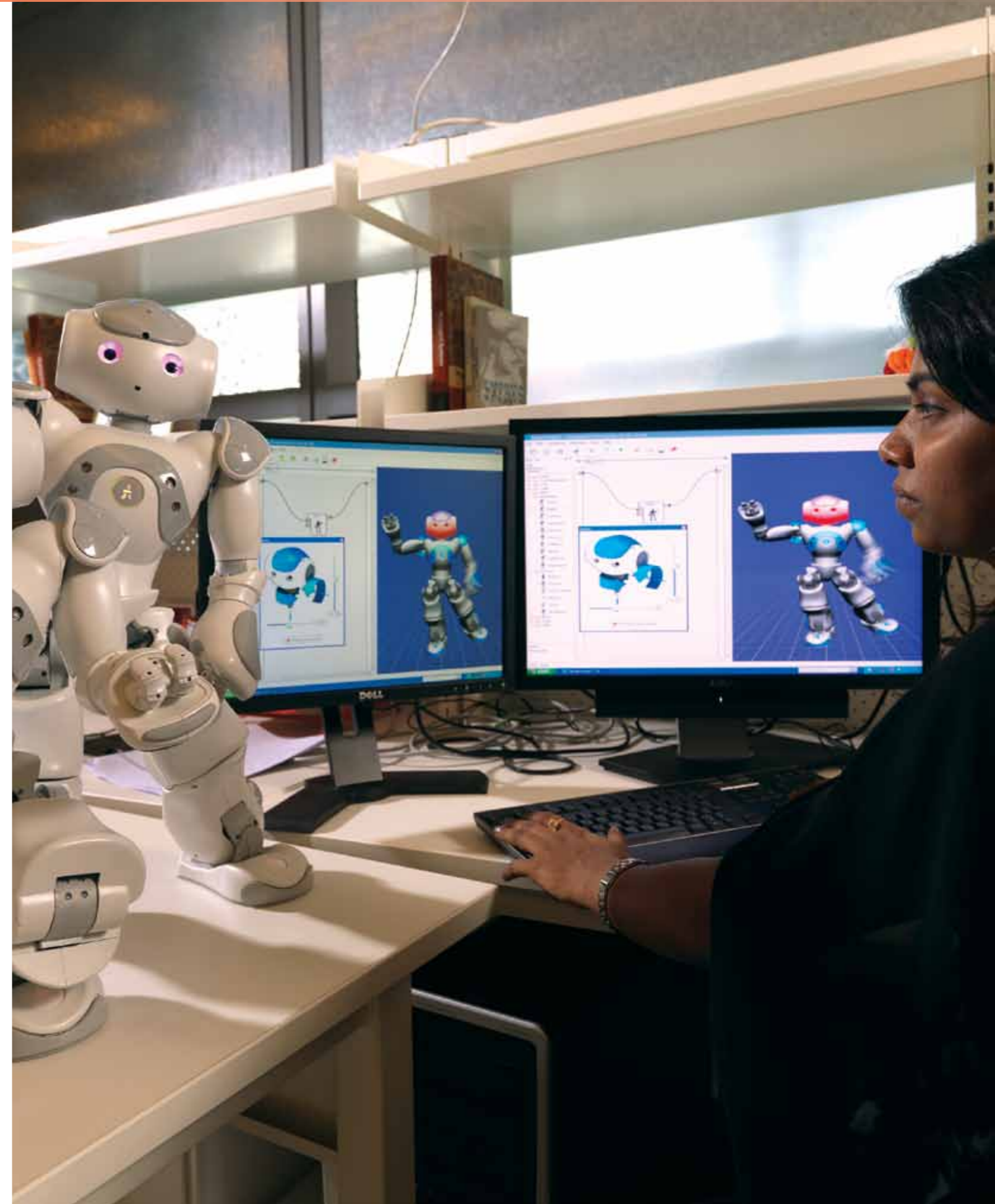
We believe that our tripartite collaboration with industry, academia and government helps to foster a diverse, knowledge-based economy in

Abu Dhabi and the UAE. With this in mind, we have embarked on joint research projects with a number of leading international corporations.

Our researchers will benefit from the Institute's location in the heart of Masdar City, which will be our 'living laboratory' and clean tech cluster that will be home to scores of innovative, enterprising businesses. Providing unrivalled opportunities to transform applied research into viable solutions on a commercial scale, we will help deliver the inspiration behind future Masdar projects and the wider UAE economy.



Solar panels





Masdar Institute Faculty

Faculty

Committed to excellence

Every year, as part of the Masdar Institute-Massachusetts Institute of Technology (MIT) collaboration, MIT assists in the scholarly review of potential faculty members. Jointly-selected faculty spend up to a year at MIT, working on shared research projects and developing the graduate-level course materials for classes they will teach later at Masdar Institute.

We currently have over 40 faculty members from 20 countries, enabling our students to benefit from a low student-to-teacher ratio and a unique range of insights and experiences.

Our faculty are graduates from leading international institutions including MIT, Stanford University, Harvard University, University of California - Berkeley, Brigham Young University, Purdue University, Virginia Polytechnic, Johns Hopkins University, and University of California - Los Angeles.

Though Masdar Institute is still a young university our faculty have already had their work published or accepted in 52 journals and have several patents pending.

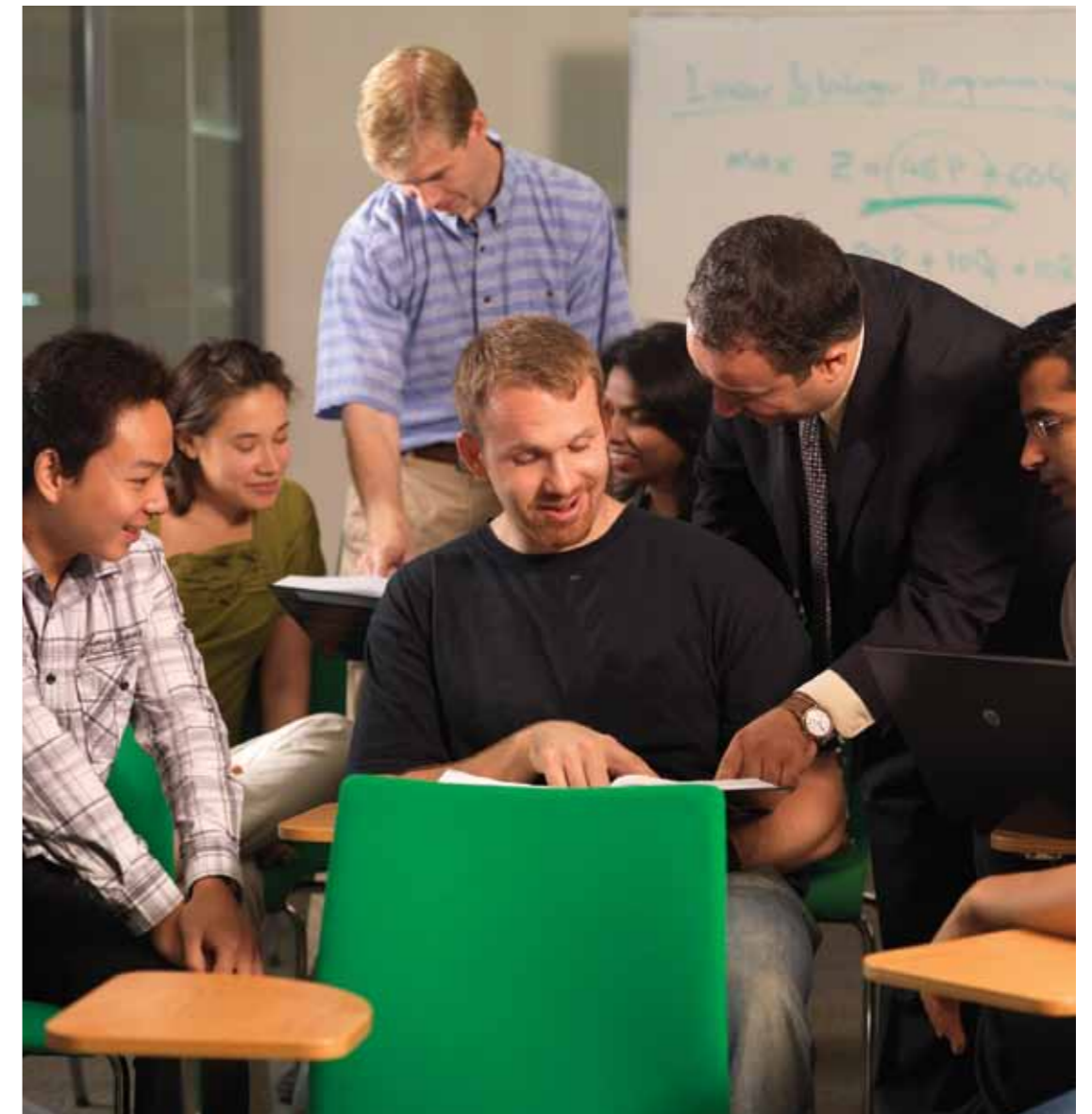
Achievements

Making waves, making progress

Since academic operations launched in 2009, Masdar Institute's students, researchers and faculty have steadily been making waves in the academic and science communities. Our faculty members are committed scholars whose findings and assertions are being published across local and international media.

In our first year of operation our talented professors and researchers made great achievements, the highlights of which are:

- Over 100 conference papers presented by Masdar Institute experts
- More than 80 papers published in peer-reviewed journals
- 3 patent applications filed and pending
- 6 invention disclosures under review





The Knowledge Centre at Masdar Institute Campus

Campus

Sustainable living, sustainable learning

At the beginning of the academic year of 2010, Masdar Institute moved into its new campus in Masdar City. Completion of Phase 1 of the Masdar Institute Campus saw the opening of a complex structure that includes laboratories, dormitories, classrooms and faculty offices, among other amenities. The Masdar Institute campus has clean technology at its core and innovation at every turn.

Our buildings

The Masdar Institute campus gives an insight into the ways the future city will pursue sustainability, and a wander through the complex is illuminating. The campus, which consists of a main building, a knowledge center and students' quarters, will use significantly less energy and water than business as usual. In particular, residential quarters of the complex are designed to use around 51 percent less energy than average buildings in the UAE, and 54 percent less water.

The buildings' façade and roof are of high thermal performance, highly-sealed and insulated material. The buildings' windows and openings have been designed to optimize daylight into the interiors to reduce artificial light reliance.

Low flow water saving fixtures are installed as standard and grey, condensate and rain water are harvested and recycled for irrigation to minimize both use and waste of water.

Our transport

Masdar Institute is part of a low-carbon transport system. Fossil-fuel powered vehicles are parked outside the premises and personal travel takes place via the electric-powered, large-scale, rapid transit system.

As part of our low-carbon transport culture, the campus has pedestrian colonnades with retractable screens that are closed during the day to provide shade and are opened at night to purge warm air and collect cool breezes.

Our innovations

Inspired by traditional elements of Arabian architecture, a six-storey wind tower in the central courtyard of the campus helps bring cool air down to ground level. The tower also broadcasts the levels of energy use at the campus, and is lit in red when energy use is high and is lit blue when energy use is below its ideal usage.

Laboratory façades have been developed to provide glare-free daylight and solar control without impacting views out of the building. Student accommodations have been designed with the latest low energy lighting systems and a low energy 'sleep mode' when the rooms are unoccupied.



Personal Rapid Transit vehicle



Abu Dhabi

Cradle of innovation

Masdar Institute is the anchor tenant of the visionary Masdar City development, situated on the outskirts of Abu Dhabi's urban center, just a short drive from the hustle and bustle of city life.

Located at the crossroads of Africa, Asia and the Middle East, Abu Dhabi is the cosmopolitan capital of the diverse and tolerant UAE. Today, Abu Dhabi is among the Middle East's most dynamic and rapidly advancing cities, with a regular stream of new developments and ambitious projects.

Abu Dhabi offers some of the best in education, entertainment, health, infrastructure, security and commerce. The emirate is home to malls, hotels, cinemas, restaurants, markets, parks, beaches and cultural and activity centers.

Local attractions

Abu Dhabi boasts a number of major attractions including the majestic Sheikh Zayed Grand Mosque, which is probably the most imposing

religious and national landmark in Abu Dhabi to date. It is also arguably one of the most important architectural treasures of contemporary UAE society - and one of the most beautiful in the world. Nearby Yas Island is home to the world's largest indoor theme park - Ferrari World - the destination's major entertainment center, as well as the popular Yas Marina Circuit, the second Formula One track in the Middle East and the venue of Abu Dhabi Grand Prix. Yas Island hosts also a golf course, a polo club, hotels and restaurants. Abu Dhabi is also currently developing its Saadiyat Island, which will house a performing arts center, a maritime museum, Louvre art gallery and the Guggenheim Abu Dhabi.

Local transport

To get around Abu Dhabi's attractions, there is a comprehensive bus and taxi network. A civic transport network is also in development, which will include high-speed passenger railway lines and a metro line, as well as a light railway line linking Masdar City to the rest of Abu Dhabi.



Masdar Integrated Units

Masdar was born out of a national strategy to establish proactive links between the UAE's current fossil fuel economy and future energy sources.

Growing together

The first step towards Masdar Institute of Science and Technology's formation took place in 2006, when Masdar and Masdar Institute were established.

Masdar is a commercially driven enterprise that functions from a holistic point of view to reach the broad boundaries of the renewable energy and sustainable technology industry – thereby giving it the necessary scope to meet these challenges.

Masdar was born out of a national strategy to establish proactive links between the UAE's current fossil fuel economy and future energy sources. This powerful vision has formed around four key areas – Masdar City, Masdar Carbon, Masdar Power and Masdar Capital – with Masdar Institute as the centerpiece. Masdar Institute is a not for profit institution with its own senior leadership and Board of Trustees, chaired by His Highness General Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces.

Masdar City

Aspiring to be one of the most sustainable cities in the world, approximately 6km² Masdar City is an emerging global clean-technology cluster that places its resident companies in the heart of the global renewable energy and cleantech industry. Situated 17km from downtown Abu Dhabi, Masdar City is a high-density, pedestrian-friendly development where current and future renewable energy and clean technologies are showcased, marketed, researched, developed, tested and implemented.

The city, which at full build out will house 40,000 residents and hundreds of businesses, will integrate the full range of renewable energy and

sustainability technologies, across a living and working community.

As with most dynamic technology clusters, the city has a top-notch research university that is a source for innovation, technologies, R&D and highly skilled graduates. The Masdar Institute of Science and Technology, developed in cooperation with the Massachusetts Institute of Technology, is already operating in Masdar City, and its students are the city's first residents. Other major partners include: the GE ecomagination center; BASF; a Schneider Electric R&D center, the Swiss Village Association, the Korea Technopark Association and the International Renewable Energy Agency (IRENA), as well as Masdar itself.

Masdar Capital

Masdar Capital seeks to build a portfolio of the world's most promising renewable energy and clean technology companies. It helps its portfolio companies grow and scale-up by providing capital and management expertise. Masdar Capital targets investments that have the greatest potential globally and to the UAE and is particularly focused on the following sectors:

- Clean energy: including power generation and storage technologies, transportation technologies, cleantech/clean energy innovation, and sustainable biofuels.
- Environmental resources: including water and waste management, and sustainable agriculture technologies.
- Energy and material efficiency: including developments in advanced materials, building and power-grid efficiency, and the enabling technologies.
- Environmental services: including environmental protection and business services.

Investment in these markets is made via two funds: the Masdar Clean Technology Fund (MCTF),

launched in 2006, and the DB Masdar Clean Tech Fund (DBMCTF), launched in 2009. MCTF, a fully deployed \$250 million fund invested \$45 million in three cleantech funds and the remaining \$205 million in 12 direct investments in companies, as lead or co-lead investor. It was launched in conjunction with partners Consensus Business Group, Credit Suisse and Siemens AG.

DBMCTF, is jointly managed with Deutsche Bank and raised US\$265 million in its first close, has an initial investor group led by Siemens and includes the Japan Bank for International Cooperation, Japan Oil Development Co. Ltd., Nippon Oil Corporation, Development Bank of Japan and GE.

Both funds follow an active management investment strategy. The targeted investment amount is between US\$15-35 million and seeks to realise strong risk-adjusted returns. Through these funds, Masdar Capital also seeks to demonstrate, commercialise and promote renewable technologies in the UAE, and to identify synergies between its investments and other Masdar activities, as well as the long-term energy and development programme of the UAE.

Masdar Carbon

Masdar Carbon manages projects that bring reductions in carbon emissions through energy efficiency and waste heat/CO² recovery, as well as through carbon capture and sequestration (CCS). The unit provides value to industrial asset owners by monetizing carbon emission reductions under the current United Nations-based Clean Development Mechanism (CDM) or other applicable future international climate trading schemes, and by providing an end-to-end solution to achieve this, including carbon finance, project identification and management, technology sourcing project analysis and registration at the United Nations. Masdar Carbon's geographic focus under the CDM is the Middle East, Africa and Asia, while its sector focus is on oil, gas and power. Masdar's CDM project portfolio includes a diversified range of projects focusing on gas flaring reduction, gas leakage reduction, combined heat and power, industrial CO² recovery and solar power.

Masdar Carbon also has entered into a joint venture with E.ON Carbon Sourcing to invest in carbon abatement projects in Africa, the Middle East, and Central and Southeast Asia. The

company will develop, finance and implement projects in the Middle East, Africa and Asia with a particular focus on power generation and oil and gas. The emission reductions will be monetized in the form of carbon credits and traded under the CDM or other applicable future schemes.

As part of its mandate to invest in technologies for the production of clean fossil fuels, Masdar Carbon is developing one of the world's most ambitious large-scale CCS projects in partnership with the Abu Dhabi National Oil Company (ADNOC), its group of companies, and others in the power and industrial sectors in the Emirate. The project will capture carbon dioxide emitted from power plants and heavy industry and transport it, via a national pipeline network, for injection into Abu Dhabi's oil & gas reservoirs for enhanced oil recovery. The first phase of the project is currently in the front-end engineering and design stage and upon completion, will capture five million tonnes of carbon dioxide per year. Masdar Carbon will contribute to Plan Abu Dhabi 2030 by helping to lower the Emirate's carbon footprint.

Masdar Power

Masdar Power is a developer and operator of renewable power generation projects. In building a portfolio of strategic utility-scale projects, Masdar Power makes direct investments in individual projects in all areas of renewable energy, with a focus on concentrated solar power (CSP), photovoltaic solar energy and on- and offshore wind energy. In a joint venture with Abengoa Solar and Total, Masdar Power is developing the 100MW Shams 1 CSP plant in the Western Region of Abu Dhabi, set to be the largest CSP plant in the world. It also is developing a 30MW wind farm and a PV array on Sir Bani Yas Island. Through these and future projects, the unit will contribute to Abu Dhabi's goal of generating 7% of its energy needs from renewable sources.

International projects include the 1,000 MW London Array offshore wind farm and a wind farm in the Thames Estuary, a joint venture with DONG Energy and E.ON, that when completed will be the largest offshore wind farm in the world. It is also building a wind farm in the Seychelles that will provide 25% of the island's energy needs.

Masdar Power also strategically invests in technology relevant to utility-scale renewable energy. Companies in which it holds significant ownership stakes include Torresol, a joint venture with SENER Grupo de Ingeniería of Spain to build and operate concentrated solar power (CSP) plants globally. Wholly owned subsidiaries include Masdar PV, a thin-film solar panel manufacturer in Germany.



A view of the CSP beam
down pilot at Masdar City

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In collaboration with



Massachusetts
Institute of
Technology