

Opening doors

The Abdul Latif Jameel Magazine

Summer 2017

In this month's issue we talk about

Saudi Arabia: An attractive and fast-growing destination for foreign direct investment

Featured Articles

A new future for global education

Building Saudi Arabia's future communities

Community Jameel: Helping communities transform themselves

Addressing the impact of air and water pollution worldwide

Abdul Latif Jameel has been investing from the heart of Arabia across the promising MENAT region and beyond for over seventy years – shining a light on new opportunities for investment and growth. Trusted to open new doors; now, we are opening more.

Helping people who strive for better, to have better: better means; better lives; better prospects. Helping businesses who look further, to reach further. Into new markets, new homes, and new considerations.

We can do this because we are determined in our quest for new potential; and we succeed because we never lose sight of why this matters. In this magazine, we showcase our investment in the development of the economies and the quality of life of people in the region.

Contents

A new future for global education	01
Seven projects to transform future water and food security	04
J-WAFS in action: Creating food and fuel from algae	05
Turkish delight! Abdul Latif Jameel opens country's first Lexus showroom	08
Building Saudi Arabia's future communities	09
J-PAL to extend its efforts in the Middle East	12
J-PAL co-founder Esther Duflo receives major honor	12
Renewable energy: Meeting Saudi Arabia's 2030 ambitions	13
J-WAFS funding continues to transform water & food security	16
Global education laboratory launched at MIT	16
New facility for King Khalid International Airport	17
Saudi Arabia: An attractive and fast-growing destination for foreign direct investment	18
J-WAFS in action: Enabling local fertilizer production in Africa	20
MENA set to benefit from MIT plans	22
Abdul Latif Jameel supports Family Business Council summit	22
Community Jameel: Helping communities transform themselves	23
Real people, real stories – Empowering growth	25
Addressing the impact of air and water pollution worldwide	26
Abdul Latif Jameel Electronics continues to widen tech choices for Saudi Arabian consumers	28
Abdul Latif Jameel Energy takes the lead at MIREC WEEK	28
Abdul Latif Jameel wins four major prizes	29
Events round-up	29

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A new future for global education

In a world driven by the enduring forces of globalization and technological progress, education is crucial. It unleashes a child's potential, builds healthier societies, boosts economic growth and fosters peace¹, according to a study by the Global Partnership for Education, a global organization that aims to dramatically increase the number of children who are in school and learning.

The United Nation's 2030 sustainable development agenda, which 193 world leaders signed up to in September 2015, outlines 17 sustainable development goals. From ending extreme poverty through to ensuring gender equality, developing clean energy, and eradicating hunger, education is essential to the success of all 17 of those objectives².

Education is a human right enshrined in the Universal Declaration of Human Rights and the United Nations Convention on the Rights of the Child. However, around the world an estimated 263 million children and young people were out of school for the school year 2013-14³. Even more are unable to read, write or count.

¹ [The Benefits of Education](#), Global Partnership for Education, accessed May 2017.
² [Education and the Global Goals](#), Global Partnership for Education, 14 September 2015.
³ [263 million children and youth are out of school from primary to upper secondary](#), UNESCO, July 2016.

UNESCO Director-General Irina Bokova said: "Countries have promised to provide every child with a primary and secondary education by 2030... Our focus must be on inclusion from the earliest age and right through the learning cycle, (and) on policies that address the barriers at every stage, with special attention to girls – who still face the greatest disadvantage."⁴

The UNESCO Institute of Statistics estimates that 25 million – or 41% – of the world's out-of-school children of primary school age have never attended school. If current trends continue, they will probably reach adulthood without completing a single day of education⁵.

Progress in the Middle East

While there is still much to do to make education a universal experience for all children in the MENA region, there is little doubt that progress is being made.

⁴ [263 million children and youth are out of school from primary to upper secondary](#), UNESCO, July 2016.
⁵ [Leaving no one behind: How far on the way to universal primary and secondary education?](#), UNESCO, July 2016.

According to the World Bank, the average level of schooling across the MENA region quadrupled in the 54 years between 1960 and 2014. The adult literacy rate has risen from 59% in 1990 to 78% in 2010, and MENA governments invest an average of more than 5.3% of GDP in funding public education⁶.

Saudi Arabia itself appears to be performing well. Between 2008 and 2012, the youth (15-24 years old) literacy rate for males was 99%, while 97% of females reached the same threshold⁷.

However, challenges remain across the region, and indeed, the globe. In Western Asia, which includes the Middle East and parts of North Africa, 11% of primary-age children are out of school, rising to 16% at lower secondary age and 33% at upper secondary age. At each of these age groups, significantly more females are missing out on education.

There are also opportunities to improve the quality of education available to those attending school, and as well as doing more to ensure

new graduates are ready for the rapidly changing workplace⁸.

Introducing the Abdul Latif Jameel World Education Laboratory

As part of its determined drive to strengthen communities and increase living standards in Saudi Arabia, the MENA region, and the rest of the world, Abdul Latif Jameel has unveiled a ground-breaking initiative designed to address the challenges of education and “spark a global renaissance in education for all learners”.

Launched in May 2017, the Abdul Latif Jameel World Education Laboratory (J-WEL) is a partnership between Community Jameel and the Massachusetts Institute of Technology (MIT). By bringing together educators, technologists, policy-makers and societal leaders, J-WEL aims to reinvent primary and secondary education, renew higher education, and revitalize workplace learning.



⁶ Education in the Middle East and North Africa, The World Bank, 27 January 2014.
⁷ Statistics: Saudi Arabia, UNICEF, 27 December 2013.
⁸ Education in the Middle East and North Africa, The World Bank, 27 January 2014.

“Education and learning are fundamental to a strong society and economy. They promote employment and create increased opportunity for all – all central pillars of Saudi Arabia’s Vision 2030.”

“While there has been progress made in improving education, there is always more that can be done. Enabling individuals to reach their full potential, whatever their background, is a key priority for Community Jameel, and one on which we look forward to collaborating with the educational community in Saudi Arabia.”

Fady Mohammed Jameel
President of Community Jameel International

Change in Education at Scale

J-WEL aims to be an incubator for change in education at scale, developing a collaborative network of universities, nations, governments, foundations, and other organizations that will work together to revamp approaches to education. It will also provide models for extending that change to the realms of primary and secondary education, higher education, and workplace learning.

A guiding focus of J-WEL will be learners in the developing world, populations under-served by education such as women and girls, a growing displaced population that includes refugees, and a workforce in need of STEM knowledge and skills (Science, Technology, Engineering and Mathematics). Through J-WEL, MIT can provide unprecedented access to high-quality curriculum, pedagogical resources, and learning tools that, alongside policy research, will help address the inequities in global education.

J-WEL will be an entity within MIT’s open education and learning initiatives. It will be led by Sanjay Sarma, MIT’s Vice President for Open Learning, and aims to be operational by September 2017.

“Through J-WEL, we will forge new and long-lasting collaborations as we learn, share, and train together,” said Sarma. “To borrow an idea expressed by philosophers and educators across the centuries: J-WEL will help to spark fires in students’ minds, and enable educators to spark solutions

to their communities’ most demanding challenges.”

J-WEL’s approach will be focused on eight different objectives, including sharing evidence-based research on learning, redesigning schools and programs, developing learning tools and technologies, and informing best practices and policy in education worldwide.

M.S. Vijay Kumar, MIT’s Associate Dean of Digital Learning, will serve as J-WEL’s executive director.



Left to Right - MIT President L. Rafael Reif, Fady Mohammed Jameel, President of Community Jameel International, MIT Vice President for Open Learning, Sanjay Sarma



Together for Good – an Ongoing Partnership

J-WEL is not Abdul Latif Jameel's first initiative with MIT. The two organizations have been working together for a number of years, determined to bring about measurable and considerable change for the betterment of the world at large.

In 2003, the two partners joined forces to launch the **Abdul Latif Jameel Poverty Action Lab (J-PAL)**. This focuses on research, policy outreach and training, in a bid to reduce poverty worldwide by ensuring that policy is informed by scientific evidence. More than 300 million people have been reached by programs tested and found to be effective through J-PAL evaluations.

More recently, the **Abdul Latif Jameel World Water and Food Security Lab (J-WAFS)**

was launched at MIT in 2014, with the aim of promoting, coordinating and leading research related to water and food security that has an international impact.

MIT President L. Rafael Reif, recently visited Saudi Arabia on a trip organized by Community Jameel. Reif said: "For years, Community Jameel's commitment to finding practical solutions to complex global problems has inspired all of us at MIT. We are grateful to Community Jameel for their vision, their partnership, and their unwavering dedication to making a better world."

A priority focus for Community Jameel

As well as the new J-WEL initiative, Community Jameel already has a proud history of empowering educators around the world. Its stated mission – "We give

people the power to improve their lives and the lives of those around them" – is based around six key areas, one of which is Education and Training.

Formed in 2003, Community Jameel believes that "education and training are two of the most important pillars in achieving positive social impact, and to build sustainable communities for current and future generations".

Three of its programs have both harnessed and highlighted the ongoing power of education. In 2009, Community Jameel was a founding member of **INJAZ Saudi Arabia** working in partnership with the Ministry of Education, the National Commercial Bank and Savola Group to train students and prepare them for the transition into working life. In just two years this grew into

a self-sustaining organization, and Community Jameel remains a member of Junior Achievements worldwide (JA), the world's largest non-profit organisation specifically designed to focus on young people in school and their first year at university.

The Abdul Latif Jameel Toyota Endowed Scholarship was launched in 1995, at the Massachusetts Institute of Technology (MIT), to make it possible for ambitious and gifted young people from Middle Eastern and Asian countries to study at this esteemed institution when they would otherwise be unable to do so due to financial constraints. Students are hand-picked based on their ability, dedication, and potential and supported through their studies to achieve their professional goals. Since inception, the program has granted scholarships to more than 100 students of different nationalities and graduates have pursued careers in architecture, economics, electrical engineering, mathematics, chemistry, physics, and aviation sciences.

Bab Rizq Jameel, the job opportunities creation arm of Community Jameel, also offers exciting education, training and employment opportunities to Saudi Arabia's youth. Some have been given the chance to learn new media skills through writing and sports journalism programs, as part of Abdul Latif Jameel's sponsorship of the Saudi Professional Football League, known universally as "Dawry Jameel" (Jameel League in Arabic). Bab Rizq Jameel also helps young Saudis access employment opportunities that may otherwise be out of reach. "Bab Rizq Jameel has created 3,500 stadium jobs since our sponsorship of Dawry Jameel began," said Martin Copus, Head of Sponsorship at Abdul Latif Jameel.

"Thank you for the opportunity you have granted me by supporting my studies at MIT through the Abdul Latif Jameel/Toyota Endowed Scholarship Fund. Growing up in a middle class family in the Moroccan Sahara I have come to appreciate the value of education, not only in paving the way for my personal and intellectual growth, but also in allowing me to be in a better position to make a positive impact in my community. I hope in the future that I will be in a position to pay it forward by helping other students achieve their goals just as you have helped me."

Abdul Latif Jameel/Toyota Scholar
MIT Class of 2019

"We also have a program with Saudi orphans who are involved as player escorts, and we recently required our events agencies to include Bab Rizq employees in the field crew for any on-field activities we run."

The role of education in the development of strong economies, thriving societies and peaceful international relations is now unquestionable. With the launch of J-WEL, Abdul Latif Jameel, Community Jameel and MIT are committed to working together towards improving access to education and raising educational standards around the world.

For more information on J-WEL, [click here](#) and to learn more about the work of Community Jameel, [click here](#).



MIT President L. Rafael Reif (L) and Hassan M. Jameel (R) sign the agreement to create J-WAFS in 2014

Seven projects to transform future water and food security

The Abdul Latif Jameel World Water and Food Security Lab (J-WAFS) at MIT has announced its third round of seed grant funding.

J-WAFS, launched in 2014, is MIT's institute-wide initiative to promote, coordinate, and lead research related to water and food that will have a measurable and international impact as humankind adapts to a rapidly expanding

population on a changing planet. This year, seven new projects will be funded, led by 10 faculty principal investigators across seven MIT departments. The winning projects include fertilizer technologies, technologies for water supply, and policy-oriented research addressing the uptake of irrigation technologies in Africa.

An ever-increasing number of faculty from across the Institute and beyond are deeply invested in addressing critical global challenges in water and food security, and this is reflected in this year's batch of successful proposals. The third J-WAFS call for seed research proposals attracted 38 principal investigators, nearly two-thirds of whom had not submitted proposals to J-WAFS before.

2017 J-WAFS Seed Grant recipients and their projects:

- **Richer soils from sunlight, air & water**

Karthish Manthiram aims to develop a solar-powered device that can convert nitrogen from air, water and sunlight into ammonia – the main constituent of fertilizers - that can be added to soil to promote plant growth and avoid costly fossil fuel based production.

Project Name: Electrochemical Nitrogen Fixation for Distributed Fertilizer Production - Karthish Manthiram, Warren K. Lewis Career Development Prof. Dept. of Chemical Engineering.

- **Making food from algae a commercial scale reality**

Mathias aims to create a new class of multifunctional optical fibers that could transform large-scale industrial algae production, making microalgae-produced protein and fuel an economically viable, sustainable, and energy-efficient option in the future.

Project Name: Multifunctional Light-Diffusing Fibers for Simultaneous Light Management and Fluid Transport in Microalgae Bioreactors - Mathias Kolle, assistant Prof. Dept. of Mechanical Engineering.

- **Harvesting water from the air**

Mircea and Evelyn are aiming to develop a new technology that can be used to harvest water in even the most arid regions of the globe with a passive solar device that can extract clean, fresh water from the air at any range of humidity.

Project Name: Distributed Water Harvesting from Air in Water-Stressed and Remote Areas using Metal-Organic Frameworks - Mircea Dinca, Assoc. Prof. Dept. of Chemistry; & Evelyn Wang, the Gail E. Kendall Assoc. Prof. Dept. of Mechanical Engineering.

- **Cheaper fertilizer to boost Southern Hemisphere agriculture**

Supplies of potassium chloride (KCl) can be expensive and scarce in the southern hemisphere. Antoine is working to develop a new potassium fertilizer derived by hydrothermal processing of potassium feldspar to address this issue.

Project Name: Affordable Potassium Fertilizer from K Feldspar for Africa - Antoine Allanore, assistant Prof. Dept. of Materials Science & Engineering.

- **Affordable irrigation for farmers in drought risk areas**

Irrigation technologies can help farmers mitigate against a lack of adequate rainfall. Stephen and Bishwapriya aim to identify the supply chain designs that achieve availability and affordability of these technologies.

Project Name: Characterizing Extension Policy and Private Irrigation Supply Chain Linkages: Lessons from Senegal - Stephen Graves, Abraham J. Siegel Prof. of Management Science, Sloan School of Management; and Bishwapriya Sanyal, Prof. Dept. of Urban Studies & Planning.

- **Bio-engineering food crop plants that need less fertilizer**

Building on the success of his previously-funded project, Christopher will look at new designs to enable food crop plants like cereals to fix their own nitrogen from the soil.

Project Name: Evaluation of Fully Synthetic Nitrogen Fixation Pathways, Designed for Plant Mitochondria and Plastids - Christopher Voigt, Prof. Dept. of Biological Engineering.

- **Making desalinated water production more efficient**

Xuanhe and John, aim to develop a new, low energy and chemical-free cleaning strategy to efficiently prevent fouling of reverse osmosis membranes often used in desalination.

Project Name: High-efficiency Chemical-Free Backwash Strategy for Reverse Osmosis Membrane Antifouling - Xuanhe Zhao, Noyce Career Development Prof. Dept. of Mechanical Engineering; & John H. Lienhard V, Abdul Latif Jameel Professor of Water and Food, Dept. of Mechanical Engineering and J-WAFS.

In this and subsequent issues of 'Opening doors' we'll be speaking directly to some of these professors about their work and passion to solve mankind's most pressing problems.

J-WAFS in action: Creating food and fuel from algae



Professor Mathias Kolle in discussion with MIT students (Photo credit: Dept. of Mechanical Engineering, MIT)

Mathias Kolle, Assistant Professor in the Department of Mechanical Engineering at MIT, is leading one of seven research projects recently awarded J-WAFS funding. Mathias aims to tackle the challenges of large-scale microalgae cultivation for food and fuel, and help turn microalgae into a sustainable and energy-efficient option for feeding a growing human population in the future.

Opening Doors spoke to Professor Kolle about this fascinating project and its aims.

What is the title of your research project?

The project is called 'Multifunctional Light-Diffusing Fibers for Simultaneous Light Management and Fluid Transport in Microalgae Bioreactors'.

What is the project about?

The need for food and feedstock for animals will increase dramatically by 2050, by which time the world population is predicted to reach over 9.1 billion. This is a rise of over 25% on the current figure, according to United Nations forecasts. This growing population will need more and more food to survive. However, research suggests that the growth rate in yields of the major cereal crops that sustain much of the world's population is declining. Additionally, further intensification of agriculture has severe

side effects. Agriculture is one of the major sources of global warming and puts intense strain on water resources. Large amounts of water are needed to sustain production, and substantial water pollution results from agricultural run-off, which poses a threat to many ecosystems around the globe.

The world population is predicted to reach

9.1 Bn

and the need for food and feedstock for animals will increase dramatically by 2050.

Recent research into the generation of food, feedstock, and biofuel from microalgae suggests that algae is much more efficient at generating usable organic matter (or 'biomass') than 'traditional' crops like oil palm, wheat and corn.

This suggests that the cultivation of microalgae could be an important element of future strategies to ensure food and fuel security for the world's rapidly increasing population.

Could you explain what algae is?

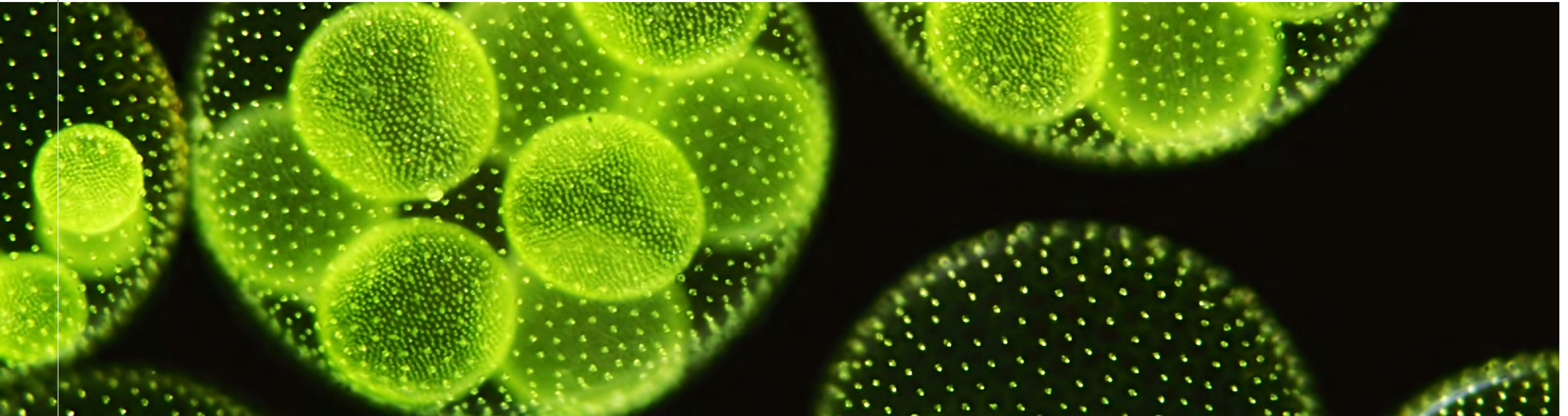
Microalgae is the green 'goo' you often see in ponds, lakes, rivers and along the sea shore.

It is made up of small organisms – you can see them very well under the microscope – that are only a couple of micro-meters to several hundred micro-meters across. A micro-meter is a tenth of a millimeter, so that's pretty small.

Microalgae can grow in virtually any type of water – sea water, fresh water, brackish water. It tends to grow near the surface, where it has ready access to sunlight and carbon dioxide (CO₂), but it can extend several meters lower down into the water.

What is the issue you are seeking to address?

Several companies across the world are developing and utilizing algae culturing on an industrial scale for food and fuel, but current methods are not yet economically viable. Algae grows in water and thrives on light and carbon dioxide. This usually means that algae near the surface of the water – with easier access to light and CO₂ – tends to grow better than algae nearer the bottom, where light and CO₂ are scarcer. In order to ensure time-efficient production of high quality algae, the whole culture has to be exposed to light and CO₂. Presently, the methods used to ensure adequate supply of light and CO₂ to the entire algae culture require a lot of energy, which significantly increases production costs.



How does your project overcome these challenges?

Our research aims to develop a new method for growing algae on an industrial scale that is economically sustainable and does not require large amounts of energy.

At its core is a new type of optical fiber that will enable us to distribute light and CO₂ to microalgae cultures more effectively and efficiently. With the J-WAFS seed funding, we will design, build and test different variations of optical fibers. Our goal is to be able to control the light and CO₂ that is delivered to all the algae. In simple terms, the fibers will take light and CO₂ from the surface of the water and channel it down to those parts of the algae tank that have less access to light and CO₂. We estimate that this method could save around 50% or more of the energy currently required.

This simple, energy-efficient means of ensuring homogeneous light distribution and simultaneous delivery of CO₂ will help industrial

algae cultivation reach its full economic and social potential for food, feedstock, and biofuel generation.

What are the benefits of using algae to produce biomass for fuel, feedstock and food?

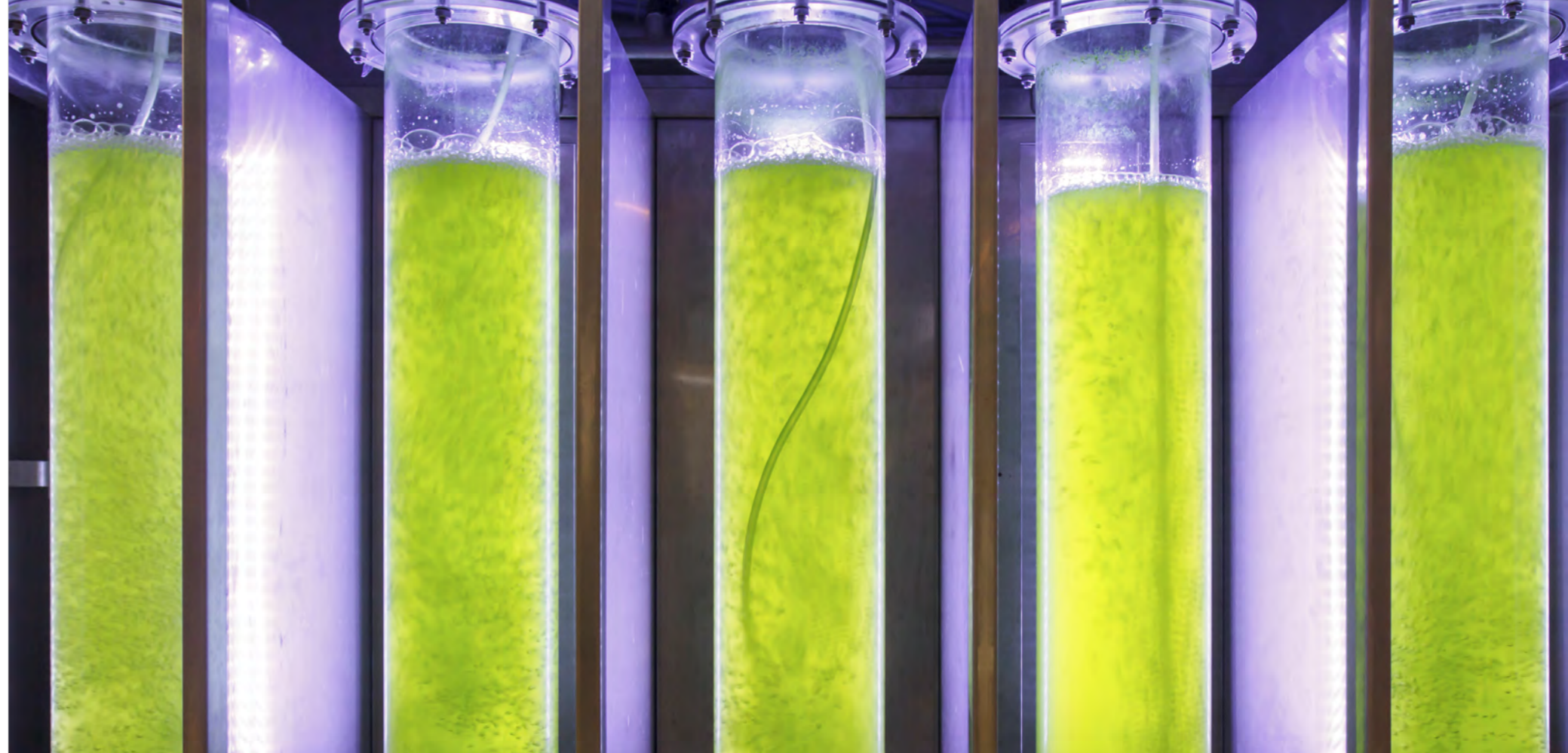
Large-scale algae culturing can contribute to food security: Algae can produce biomass for nutrition and fuel more efficiently than more common crops like oil palm, wheat and corn. Consequently, industrial cultivation of algae would not only yield a more efficient production of biofuels, it could also enable the generation of nutrients for food and feedstock.

Although increased industrial interest in the culturing of microalgae in recent years has largely been driven by the prospect of more efficient biofuel production – algae can be 40-times more efficient than land-based oil producing plants – cultivating microalgae for biomass production would also have strong positive effects for food security.

A bigger emphasis on using algae as a source of biomass would enable us to shift biofuel production from agricultural crops to algae aquacultures. This in turn would mean more land would be available to grow crops for food, rather than fuel, and ultimately ease pressure on food supply and prices.

Another exciting benefit of algae application is that by basing the algae farm near a wastewater treatment plant, the algae can do part of the work of wastewater treatment, because they thrive on the nutrients that are in wastewater.

Algae can also reduce CO₂ emissions at power plants. For example, from the smoke stack of a power plant you could channel the flue gases through the algae culture, and the algae will remove the CO₂.



What could be the implications of this technology for the Middle East and North Africa?

The long hours of sunshine all year round, access to seawater and availability of non-arable land for algae cultivation mean that much of the Middle East has strong potential for producing algae-based biofuels.

The presence of numerous oil refineries and power plants from which CO₂ could be captured and delivered to the algae, as well as the large number of sewage and wastewater treatment plants, also make the Middle East an ideal location for industrial algae cultivation.

Indeed, several organizations in the region are already active in the algae industry. In Saudi Arabia, the King Abdulaziz City for Science & Technology is funding an innovative project called Saudi Arabia Biorefinery from Algae (SABA Project) to increase

research and training in microalgae-based biofuel production. In Abu Dhabi, the Algae Research Laboratory and Microbial Environmental and Chemical Engineering Laboratory (MECEL) at the Masdar Institute of Science and Technology is undertaking research to assess and analyze algae-based fuel for the production of aviation and jet fuel, while Dubai-based Lootah Biofuels is working with Singapore-based algae oil producers, AlgaOil, to develop raw materials for biofuels, such as algae, that contain a high oil content.

Do you expect to have completed your research by August 2019, when this round of J-WAFS funding comes to an end?

Hopefully, we will have proven the concept that this technology is capable of supplying light and CO₂ to algae cultures at large scale.

Once we've achieved that, the next step is to commercialize the product, either as a spin-out of our research or by working with existing companies that have an interest in this field. In fact, we aim to start talking to companies in the sector quite early in the process, so we can adapt our research to the actual needs of the market.

As the world seeks new sources of food and fuel to address the forecast population growth, this technology is a growing industry for investment. According to industry research, by Transparency Market Research¹, the global algae market was valued at US\$ 608 million in 2015 and is projected to reach US\$ 1,143 million, with a volume of 27,552 tons, by 2024.

¹ <http://www.transparencymarketresearch.com/algae-market.html>

Turkish delight! Abdul Latif Jameel opens country's first Lexus showroom



Following its appointment as the Lexus distributor in Turkey, Abdul Latif Jameel has opened its first Lexus showroom continuing its expansion and investment in the country.

Alain Uyttenhoven Head of Lexus Europe reaffirmed investment in Turkey saying: **"We expect the Turkish automotive premium market to grow from about 80,000 units in 2015 to more than 100,000 units in the near future. This puts Turkey in the top 7 in Europe. We are therefore extremely happy to launch Lexus in this strategic emerging market, together with our partner, Toyota Turkey Marketing and Sales."**

The 1,000 m² facility, which opened in the Maslak district of Istanbul is another sign of Abdul Latif Jameel's ongoing investment across the MENAT region. In a further mark of its confidence in the burgeoning Turkish market, new Lexus showrooms are also planned in Adana, Ankara, Antalya, Bursa and Izmir.

Ali Haydar Bozkurt, President and CEO of Toyota Türkiye Marketing and Sales Inc (TTMS), said: **"We were waiting impatiently for this day to come. Our president, Akio Toyoda, said the ultimate goal of Lexus is not to produce cars but to produce a work of art – and every Lexus model sold today is a proof of this idea."**

"Lexus is not just a luxury car brand, it is a way of life. Lexus will help redefine what luxury means in Turkey, and will give premium segment customers the experience they deserve. Lexus is the new definition of luxury."

The Istanbul showroom features a range of Lexus models, including the RX, NX, GS, RC, IS, CT and LS. The company's new 2.0l turbo engine is expected to drive sales, while full hybrid models are also available. Lexus owners receive a personalized service and have access to a network of almost 60 service points across Turkey.

Meanwhile, Toyota Turkey has also been recognized by the Great Place to Work Institute as one of the 'Best Employers in Turkey' in its annual survey.

More than 57,000 employees from 92 companies across Turkey were questioned for the survey, which was unveiled in June. TTMS was the only automotive industry brand listed in the organization's 'Best Employers in Turkey' list, where it was ranked third out of 13 companies in the 50-250 employee category.

The Great Place to Work Institute is active in 56 countries and represents more than 16 million employees worldwide.



Aerial view of Abdul Latif Jameel Land's J | ONE residence in Jeddah (artist's impression)

Building Saudi Arabia's future communities

Across Saudi Arabia and the wider MENA region, one challenge to socio-economic development is the increasing demand for suitable housing from middle-income earners. A family space of their own is a key aspiration of the region's young, connected and increasingly global population, to fulfil their ambitions for personal independence.

In 2011, research suggested there was a demand for an additional of 3.5 million middle-income homes across the MENA region¹. In Saudi Arabia, the figure was estimated to be around 400,000, with the rising population and urbanization pushing this figure ever higher.

To address this demand, some 3.3 million new housing units will need to be built by 2025, according to the Ministry of Housing, with population projections reaching 37 million over the same period.

This will entail a significant increase in the rate of supply compared with previous decades, where only half that number of homes came to market, hindered by longer-term constraints such as the rising cost of land and high costs of construction at the time.

Defining middle-income housing

Middle-income housing is defined as housing that can be secured for no more than 30% of the gross household income of the middle 40-60% of households on

the income distribution scale². Two-thirds of the Saudi Arabian population now earns between 6,000 and 20,000 Saudi Riyals per month (approximately US\$ 1,600 to 5,000), yet just 30% of these own their own homes, compared to a worldwide average of 70%³.

The Saudi Arabian government recognized this unsatisfied demand early, and began addressing the situation in 2011. Today, its Vision 2030 strategy outlines how it will coordinate three aims – an ambitious nation, a thriving economy, and a vibrant society – to energize growth in the housing market.

“We recognize each family’s aspiration to own a home and the important role home ownership plays in strengthening family security. Even though 47% of Saudi families already own their homes, we aim to increase this rate by five percentage points by 2020... We will meet this target by introducing a number of laws and regulations; encouraging the private sector to build houses; and providing funding, mortgage solutions and ownership schemes that meet the needs of our citizens.”



Building affordable homes

Providing affordable homes for Saudis, however, is not a task the government can be expected to meet alone.

Saudi Arabia's construction sector must become more active in reshaping itself and tackling these challenges. There are also opportunities to increase the awareness of energy-saving materials; develop a greater focus on after-sales

services; and continue to work towards a healthy balance between property size and quality.

However, even if these issues are addressed, the key problem of supply remains: the average Saudi Arabian family finds it difficult to afford to buy its desired home.

In the short-term, there is some relief on the horizon. The Government Authority for Statistics' Real Estate Price Index⁴ shows a decrease in domestic real estate prices during the first quarter of 2017 of around 2.3%, over Q4/2016, and a decrease of 9.9% year-over-year for the first quarter – but price alone is not the answer.

¹ Middle-Income Housing in the Middle East and North Africa, Jones Lang LaSalle, 2015.

² Middle-Income Housing in the Middle East and North Africa, Jones Lang LaSalle, 2015.

³ Middle-Income Housing in the Middle East and North Africa, Jones Lang LaSalle, 2015.

⁴ www.stats.gov.sa



Rooftop garden of Abdul Latif Jameel Land's J | ONE residence in Jeddah (artist's impression)

Government initiatives to increase accessibility

An emphasis on residential housing has been a keystone of government initiatives for over five years, with a number of regulatory changes aimed at improving the accessibility of real estate.

These include restructuring and recapitalizing the Real Estate Development Fund (REDF) to target low income households, and introducing new mortgage regulations to help increase home ownership rates.

While these are creating more momentum, the policies are only slowly filtering through. The decision in December 2014, to set the loan-to-value ratio at 70% also had an unintended impact on middle-income households unable to find the 30% down payment. The aim was to reduce the risk of a property-driven credit bubble, like those seen in some Western markets, but it meant that retail real estate loans grew by only 8% in 2015, against 34% in 2014.

Increasing housing supply

The Saudi Government recognizes that, irrespective

of measures to increase demand, market growth is still being held back by an ongoing shortage in supply.

It has therefore introduced several reforms designed to encourage developers – local and foreign – to build 1.5 million homes in the country by 2025.

Real Estate Investment Trusts (REIT) have been introduced to stimulate the market, offering tax benefits to foreign investors that could, according to reports, help “channel additional sources of funding into the development of private-sector schemes across the Kingdom”⁵.

In 2016, the mortgage regulations were loosened, and the requirement for a minimum 30% down-payments was halved to 15%, meaning that homebuyers could now secure loans for up to 85% of a property's value⁶.

The remit of the Real Estate Development Fund (REDF) has also been widened, so it is now the largest financier for the real estate sector,

with a portfolio of approximately 190 billion Saudi Riyals⁷.

Impact of ‘White Land’ Tax

The introduction of the White Land Tax in March 2017, is a further positive development expected to help reduce the shortfall in supply of middle-income housing.

‘White Land’ is open land not designated for development and, according to research by consultants Ernst & Young (EY), it is “seen as a major contributor to a growing housing shortage”⁸.

With up to 50% of the land inside Saudi Arabia's major cities remaining vacant, and much of it owned by wealthy individuals or companies⁹, the White Land Tax is a way of encouraging active investment and housing development, while discouraging land hoarding, with the government promising to impose fees on undeveloped plots in urban areas.

⁵ First Saudi Arabian real estate investment trust blazes a new trail, Oxford Business Group, May 2017

⁶ Saudi Arabia Loosens Mortgage Rules After Home Sales Wane, Bloomberg, 28 February 2016

⁷ Saudi Arabia to issue real estate development fund sukuk, The National, 9 June 2016

⁸ Kingdom of Saudi Arabia white land tax: opportunities, implications and challenges for the real estate sector, EY, 2016

⁹ Saudi Arabia to issue real estate development fund sukuk, The National, 9 June 2016



Abdul Latif Jameel Land's J | ONE residence in Jeddah (artist's impression)

Under the tax, landowners will pay 2.5% of the value of their non-income generating undeveloped land each year, as an incentive for them to develop the land themselves, or release the land for development¹⁰.

The introduction of the White Land Tax will also generate additional revenue for the exchequer and increase "the overall real estate transactions by value and numbers"¹¹. As much as 40% of the capital, Riyadh, has been identified as liable for the tax, which economists have estimated could raise up to US\$ 15 billion a year, reported a recent Financial Times article.¹²

A changing country

Abdul Latif Jameel has long recognized the challenges facing Saudi Arabia's real estate sector, together with the opportunity they bring, and is

committed to playing a significant role as the country shapes itself for the future.

In 2013, it set up a dedicated real estate arm, Abdul Latif Jameel Land, to help drive innovation and expansion in the market. Its first residential project – the J | ONE development in Jeddah (jonesidence.com) – is an inspiring model for the future of affordable housing across the country.

Located in the vibrant Al Salamah area in the north west of the city, J | ONE features 242 new apartments, ranging from one to four-bedrooms and floor areas between 80m² and 220m². Its five stories of living space give residents easy access to Jeddah's business district, while also providing amenities including a fitness center, swimming pool, retail facilities and play areas for children.

Fady Jameel, President of Abdul Latif Jameel International, says: "With J | ONE, and all our future residential projects, our aim is to build on our 70 years of real estate expertise to develop a new community that suits the evolving needs of the Saudi market, for both lower and middle-income sectors. From the location, to the use of material and the correct use of space, this project will stand out in the city."

In recognition of Saudi Arabia's Vision 2030 aims of increasing renewable energy consumption, the apartments will be powered by solar panels. In addition, Abdul Latif Jameel's own finance provider can help purchasers arrange mortgage finance for their property – helping to ease one of the key stumbling blocks for those seeking to buy middle-income properties.



"We're enormously proud of J | ONE and we're immensely grateful to the municipality, whose help and support have been vital in making the project a reality. We want customers to know that if they do buy a property from Abdul Latif Jameel Land, they are buying not just a quality place to live: they are buying into an investment that will remain for the next 20 or 30 years."

Fady Jameel
President of Abdul Latif Jameel International

In developing J | ONE, Abdul Latif Jameel Land is already attracting interest from young Saudis looking to move onto the housing ladder.

It has a pipeline of further residential developments already in planning,

with the aim of bringing at least one new residential community to the market every year from 2018, to 2023.

With its relentless focus on investing in Saudi Arabia's future communities, Abdul Latif Jameel Land is showing that

by tapping into the resources, knowledge and talent available across the country, by listening to the demands of the population, and by working closely with government at all levels, Saudi Arabia's middle-income housing market could be on the threshold of a brighter future.



¹⁰ Saudi Arabian cabinet approves land tax, foreign investment rules, The National, 14 June 2016

¹¹ Kingdom of Saudi Arabia white land tax: opportunities, implications and challenges for the real estate sector, EY, 2016

¹² Saudi housing crisis proves taxing, ft.com, April 2016



J-PAL to extend its efforts in the Middle East

The Abdul Latif Jameel Poverty Action Lab (J-PAL) at Massachusetts Institute Technology (MIT) will increase its work and presence in the MENA region, it confirmed at a recent event in Dubai.

Government officials, NGOs and representatives from the private sector attended the April event, where J-PAL announced plans to build on its existing projects in Egypt, Iraq, Jordan, Morocco, Saudi Arabia, and Qatar.

Abhijit Banerjee, Professor of Economics at MIT and Director of J-PAL, (pictured above) told the delegates in Dubai: "Our plan is to focus on the Middle East and wider region, and play a key role in improving lives and alleviating poverty."

Fady Mohammed Jameel, President of Community Jameel International, said: "The work of the Abdul Latif Jameel Poverty Action Lab at MIT touches on key issues such as youth employment, health, and education. So MIT increasing its focus on the Middle East and North Africa to help improve lives in the region is welcome news."

Since its formation in 2003, J-PAL has established almost 150 affiliated professors from more than 40 universities worldwide. More than 300 million people have been reached by programs tested and found to be effective through J-PAL evaluations.



Fady Mohammed Jameel
President of Community Jameel
International



J-PAL co-founder Esther Duflo receives major honor

A co-founder and co-director of the Abdul Latif Jameel Poverty Action Lab (J-PAL) has been elected to the U.S. based National Academy of Sciences (NAS) for her groundbreaking work to reduce poverty worldwide.

Esther Duflo is the Abdul Latif Jameel Professor of Poverty Alleviation and Development Economics in the Department of Economics at the Massachusetts Institute of Technology (MIT).

Her research aims to understand the economic lives of the poor to aid the design and evaluation of social policies. She has worked on health, education, financial inclusion, environment, and governance. With first degrees in history and economics from École Normale Supérieure, in Paris; she subsequently received a PhD from MIT and has received numerous academic honors and prizes including the Princess of Asturias Award for Social Sciences, the A.SK Social Science Award, the Infosys Prize, the David N. Kershaw Award, a John Bates Clark Medal, and a MacArthur "genius" grant.

She is also a celebrated author. With Abhijit Banerjee (also a J-PAL Professor) she co-wrote *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*, which won the Financial Times and Goldman Sachs Business Book of the Year Award in 2011. It has since



been translated into 17 languages. She is also a founding editor of the *American Economic Journal: Applied Economics*.

Duflo's inclusion in National Academy of Sciences recognizes her "distinguished and continuing achievements in original research." Almost 10% of NAS members have won a Nobel Prize.

The Abdul Latif Jameel Poverty Action Lab – part of Community Jameel – is a network of 145 affiliated professors from 49 universities, with a mission to reduce poverty by ensuring that policy is informed by scientific evidence. This is accomplished through research, policy outreach, and training across six regional offices worldwide.



Renewable energy: Meeting Saudi Arabia's 2030 ambitions



Omar Al-Madhi
Energy CEO, Abdul Latif Jameel

¹ Project Finance -- EMEA: Saudi Arabia's Renewable Energy Plans: Strong Rationale, Untested Framework, Moody's Investors Service, April 2017

² [Unlocking the sunbelt potential of photovoltaics](#), European Photovoltaic Industry Association, 2010-2014

³ [EU-GCC Cooperation on Energy – Technical Report \(Sharaka Papers\)](#), Al-Shalabi A., N. Cottret, and E. Menichetti, June 2013

⁴ [Assessment of solar radiation resources in Saudi Arabia](#), Solar Energy (vol. 119, pg 422-438), September 2015

⁵ [Renewable Energy Market Analysis: The GCC Region](#), International Renewable Energy Agency, 2016

⁶ [Renewable Energy Market Analysis: The GCC Region](#), International Renewable Energy Agency, 2016

⁷ [More action need to meet energy goals by 2030](#), World Bank, 23 April, 2017



Natural Potential

As the world explores the increasing need for energy diversification, Saudi Arabia has the natural potential to capitalize on enormous opportunities in the renewable energy sector.

Independent sources such as Moody's Investors Service have highlighted the country's renewable energy market as a key growth opportunity: its "abundant solar resource, land availability and A-rated sovereign credit" make it ideally suited to become a world leader in renewable electricity generation¹.

Although global progress so far has been relatively modest, despite the falling production costs of renewable energy, Saudi Arabia is blessed with enviable conditions that could enable it to secure a pivotal status in future energy markets.

Omar Al-Madhi, Abdul Latif Jameel Energy CEO, Saudi Arabia, said: **"As a nation we are well-endowed with vast stretches of flat land, which is ideal for incorporating solar plants. We are one of the highest solar radiation locations on Earth and we have, to a certain degree, the other necessary elements as far as [power distribution] network connectivity is concerned."**

Saudi Arabia's solar power potential is enormous. It lies in the 'Global Sunbelt', a geographic region situated between 35°N and 35°S and generally characterized by high solar irradiation². Its solar irradiances are among the highest in the world³, with annual average daily global horizontal irradiance (GHI) measured at 5700 Wh/m² to 6700 Wh/m²⁴. Indeed, more than 59% of the Gulf Cooperation Council's (GCC) surface area "has significant potential for solar photovoltaic (PV) deployment. Developing just 1% of this area can potentially result in 470GW of solar PV capacity,⁵" according to the International Renewable Energy Agency (IRENA).

Saudi Arabia is equally blessed in terms of its wind energy resources, too. Three regions of the country are particularly suitable for generating wind energy. Average wind speeds in the northeast, central and mountainous regions to the west are all 33% above the levels needed for wind energy to become economically viable.

"There's already been a pilot project by Saudi Aramco where they have installed a wind generation turbine," says Mr. Al-Madhi. "That will hopefully create a good example for the rest of the country to follow."

Indeed, economic and environmental factors that benefit renewable energies are aligning across the GCC. According to IRENA⁶, "the abundance of solar resource potential and the falling cost of associated technologies, mainly photovoltaic (PV) modules, are major factors influencing the attractiveness of solar energy in the region. Solar PV modules, for instance, cost three quarters less today than in 2009 and will continue to decrease."

IRENA has also highlighted encouraging developments in the provision of wind energy. "Globally, onshore wind costs have been declining, making it one of the most competitive sources of electricity available in wind-rich countries."

However, while new technologies such as wind and solar power generation have grown, they have done so from a small base and there is still much work to do globally. The latest Global Tracking Framework report produced by the World Bank and the International Energy Agency⁷, for example, says more significant steps are to be reached. It argues that large, energy-intensive industries – such as heating and transport sectors – must now be encouraged to develop greater use of renewable energies.



Government support

Saudi Arabia's government is backing the process of energy diversification, with its comprehensive Vision 2030⁸ national development strategy emphasizing the country's commitment to a cleaner future. It is targeting 3.45GW of renewable energy by 2020, 9.5GW by 2023, and 54GW (41GW solar, 9GW wind, 3GW waste-to-energy and 1GW geothermal) by 2040⁹.

Vision 2030 states: **“Even though we have an impressive natural potential for solar and wind power, and our local energy consumption will increase three-fold by 2030, we still lack a competitive renewable energy sector at present. To build up the sector, we have set ourselves an initial target of generating**

9.5 gigawatts of renewable energy. We will also seek to localize a significant portion of the renewable energy value chain in the Saudi economy, including research and development, and manufacturing.”

The government is also taking firm steps to ensure that the positive words of Vision 2030 are carried through into positive actions. In Vision 2030, the government pledges to “review the legal and regulatory framework” around the private sector investing in renewables; “localize the industry” by encouraging public-private partnerships; and ensure the competitiveness of renewable energy through “the gradual liberalization of the fuels market”.

It has also set up a Renewable Energy Project Development Office (REPDO) within the Ministry of Energy, Industry and Mineral Resources, which aims to ensure renewable energy growth matches the ambitions laid out in Vision 2030.

It is aided in this role by the National Renewable Energy Program (NREP) and the National Transformation Program (NTP), which are both working to ensure the country meets the target of 9.5GW of renewable energy by 2023.



⁸ Vision 2030, Kingdom of Saudi Arabia, April 2016

⁹ Renewable Energy Market Analysis: The GCC Region, International Renewable Energy Agency, 2016



In February 2017, Saudi Arabia launched its first request for qualifications (RFQ) for round one of the NREP – which is run by REPDO.

H.E. Khalid A. Al-Falih Minister of Energy, Industry and Mineral Resources said: **“It is our goal to make the National Renewable Energy Program among the most attractive, competitive and well executed government renewable energy investment programs in the world, and we have all the necessary infrastructure in place to ensure that is the case.”**¹⁰

The NTP, meanwhile, is hailed as “a key part of a blueprint to prepare the kingdom for the post-oil era”. Its objectives include ensuring 4% of Saudi Arabia’s total energy use comes from renewables by 2020, and that almost 7,800 jobs are supplied by the atomic and renewable energy sectors in the same timeframe¹¹.

Those targets look eminently achievable. In April 2017, the government announced it will offer as much as 1 GW of contracts to buy renewable electricity by the end of 2017¹². It will auction power-

purchase agreements covering 620 megawatts of photovoltaic installations and 400 megawatts for wind farms in its second round of tenders for the technologies, according to Turki al-Shehri, head of renewable energy project development at the Ministry of Energy, Industry and Mineral Resources.

Working to advance Saudi Arabia and its people
Abdul Latif Jameel continues to work tirelessly to support the Saudi government in achieving its vision for renewable energy in the country. It formed Abdul Latif Jameel Energy in 2012, and since then has been harnessing global best practice in a bid to develop increasingly efficient and cost-effective renewable energy solutions. Its efforts are designed to ensure the country meets its specific renewable energy targets for 2020, 2023 and 2040, and that Saudi Arabia’s citizens enjoy ever more prosperous and enhanced standards of living.

Mr. Al-Madhi said: **“As an organization, we are in an advantageous position. We have the international know-how needed for solar and wind development because we’ve developed**

projects outside the boundaries of Saudi Arabia, extending as far as Uruguay in the west and Australia in the east. That allows us to benchmark against the best practices applied in different countries.”

“But above all, we are a Saudi-centric organization; this is where we began and this is where we have built up a strong brand, based on excellent customer service and the ability to deliver operationally.”

“The combination of our international experience, technical know-how and in-depth knowledge of Saudi Arabia means we can bring a range of benefits to the country. These include, creating new jobs, transferring know-how to the local population and localizing services such as Operation and Maintenance and Asset Management used for our projects.”

Abdul Latif Jameel Energy is doing everything it can to help deliver a cleaner future for its home country. Mr. Al-Madhi was among the attendees at the inaugural Saudi Arabia Renewable Energy

Investment Forum (SAREIF) in April 2017. The event, which was staged in Riyadh, Saudi Arabia, saw industry leaders gather to explore the opportunities afforded by the country’s vast renewable energy potential.

Mr. Al-Madhi said: **“I firmly believe that Saudi Arabia can be a reliable, global and very significant energy supplier to the world in a renewable energy era, just like it has been in the hydrocarbon era.”**

“We have all the fundamental requirements for achieving a leadership role, whether that’s location, an abundance of land, or irradiation numbers. The renewable energy sector could be a platform for us stretch beyond meeting our local requirements and continue to supply energy to the whole world.”

¹⁰ Kingdom of Saudi Arabia Issues Request for Qualifications for Round 1 of National Renewable Energy Program, Saudi Press Agency, February 20, 2017

¹¹ National Transformation Program 2020, Kingdom of Saudi Arabia, June 2016

¹² Saudi Arabia to offer 1GW of renewable energy contracts in 2017, Joe Ryan, Bloomberg, 24 April 2017



J-WAFS funding continues to transform water & food security

Projects focusing on fertilizer and water supply technologies are among those to have been granted a total of US\$ 1.4 million in the third round of seed funding announced by the Abdul Latif Jameel World Water and Food Security Lab (J-WAFS) at Massachusetts Institute of Technology (MIT).

Seven projects, led by 10 faculty principal investigators across seven MIT departments, will receive grants of up to US\$ 200,000 per year.

A total of 38 principal investigators submitted seed research proposals before the awards were announced in May. The seven newly-funded projects mean 24 projects have been supported by J-WAFS since 2015.

Full details about the seven projects awarded seed funding can be found [here](#).

J-WAFS Director John Lienhard said: **“We must continue to advance innovations and creative ideas for delivering safe and secure food, and clean and renewable water supplies.”**

“Through the innovative technologies and collaborations, we are supporting with these new research projects, J-WAFS is working to secure the future of our communities, the sustainability of our cities, and the prosperity of our economies in the face of rising populations, greater urbanization, and changing climates.”

Launched in 2014, J-WAFS aims to promote, coordinate and lead research related to water and food that will have a measurable and international impact.



Global education laboratory launched at MIT



MIT President, L. Rafael Reif (left) and Fady Mohammed Jameel, President of Community Jameel International (right) announce the new Abdul Latif Jameel World Education Lab (J-WEL) at MIT.

A “global renaissance in education for all learners” is being promised after Community Jameel and the Massachusetts Institute of Technology (MIT) launched the Abdul Latif Jameel World Education Laboratory (J-WEL).

The new global education lab aims to help educators, universities, governments and private organizations revolutionize the effectiveness and reach of education. It will focus its efforts on reinventing primary and secondary education, renewing higher education, and revitalizing workplace learning.

J-WEL is expected to be operational by September 2017. Fady Mohammed Jameel, President of Community Jameel International, said: “Education and learning are fundamental to a strong society and economy. They promote employment and create increased opportunity for all – all central pillars of Saudi Vision 2030.”

“Enabling individuals to do their very best and reach their full potential, whatever their background, is a key priority for Community Jameel, and one on which we look forward to collaborating with the educational community in Saudi Arabia.”

L. Rafael Reif, MIT President, said: **“For years, Community Jameel’s commitment to finding practical solutions to complex global problems has inspired all of us at MIT. With J-WEL, Community Jameel builds on that extraordinary legacy with an effort that will empower learners around the world, opening educational pathways that are currently closed to millions. We are grateful to Community Jameel for their vision, their partnership, and their unwavering dedication to making a better world.”**

Learn more about J-WEL [here](#).



New facility for King Khalid International Airport



Abdul Latif Jameel has signed an agreement with the General Authority of Civil Aviation (GACA) to build a 5,500m² express gateway facility at King Khalid International Airport in Riyadh, Saudi Arabia.

The new facility will provide FedEx Express operations – of which Abdul Latif Jameel Transportation Co. is licensee – with 24-hour in-house clearance processes and enhanced security for all shipments.

The Saudi Arabian General Investment Authority expects international air cargo in Saudi Arabia to grow significantly by 2020, and this facility – which will be operational by January 2019 – will allow Abdul Latif Jameel and FedEx Express to cater for the increased demand.

The agreement's signing ceremony was attended by Tariq Al-Abed Al-Jabbar (Vice President, GACA), Faisal Al-Samannoudi (Vice Chairman, Abdul Latif Jameel Investments), and Omar Hariri (Managing Director, Abdul Latif Jameel Transportation Co. Ltd.).

Faisal Al-Samannoudi said: **"The new, state-of-the-art facilities at King Khalid International put Abdul Latif Jameel and FedEx Express at the forefront of logistics in the Kingdom, building our shared capabilities to meet all our customers' import and export needs."**

In January 2015, FedEx Express, the world's largest express transportation company, appointed Abdul Latif Jameel Transportation as its authorized service provider in Saudi Arabia, providing international services to and from 220 countries and territories.

Saudi Arabia: An attractive and fast-growing destination for foreign direct investment



¹ Facts and Figures, Saudi Arabian General Investment Authority/World Bank.
² Doing Business in Saudi Arabia, International Market Advisor, accessed May 2017.
³ Doing Business in Saudi Arabia, International Market Advisor, accessed May 2017.
⁴ Investment Incentives, Saudi Arabian General Investment Authority (May 2017)/World Bank.
⁵ Doing Business in Saudi Arabia, International Market Advisor, accessed May 2017.
⁶ Positive Laws and Regulations, Saudi Arabian General Investment Authority, accessed May 2017.
⁷ Infrastructure, Saudi Arabian General Investment Authority, accessed May 2017.
⁸ Positive Laws and Regulations, Saudi Arabian General Investment Authority, accessed May 2017.



For 50 years, Saudi Arabia's economy has boomed. Its GDP growth, over this past half-century, has been the third fastest in the world, trailing only China and South Korea¹, and its forecast per-capita income is set to rise from US\$ 25,000 in 2012 to US\$ 33,500 by 2020². Now, as it continues to diversify its economy away from the traditional pillars of hydrocarbon-based industries, Saudi Arabia is building a growing reputation as a dynamic destination for Foreign Direct Investment.

Forecast per-capita income is set to rise from US\$ 25,000 in 2012 to

US\$ 33,500

by 2020

There are multiple reasons for Saudi Arabia's continued success. The country is already established as one of the world's leading economies, a member of the G20, as well as the largest and most successful economy in the Middle East and North Africa (MENA) region³. With its oil supplies representing roughly a fifth of the world's reserves, Saudi Arabia contributes 38% of the total Arab Gross Domestic Product (GDP)⁴. As it is a leading member of the Gulf Cooperation Council (GCC), doing business in Saudi Arabia also provides duty free access to

the other five members of the GCC (Bahrain, Kuwait, Oman, Qatar and the United Arab Emirates), as well as to other MENA economies⁵.

Both businesses and individuals benefit from the country's competitive tax regime. Among the common forms of taxation absent in Saudi Arabia are income tax, sales tax, and property tax (although not currently present, Value Added Tax (VAT) is planned for implementation in 2018 across the GCC, including in Saudi Arabia). Tax exemptions are available on earnings from exports, while tax credits apply on research and development investments. For overseas investors, there is further good news, with a relatively low 20% corporate tax on total profits from companies and 5% withholding tax, but any losses can be carried forward indefinitely to offset future taxes⁶.

At the enviously strategic geographic position as a cross-road between Europe, Asia, Africa and the Indian subcontinent, Saudi Arabia's infrastructure and transport links are well-established, while an increasingly young population has been a key factor in many of the government's strategic decisions. Saudi Arabia was among the first countries to license 3G services (2004) and 4G services (2011), and by early 2015 the mobile phone penetration rate

was 167.5% – with almost 52 million subscriptions across the country⁷. The rapid urbanization of Saudi Arabia's citizens has fueled expansion of urban transport systems, while the country's three main airports – in Riyadh, Jeddah and Dammam – continue to serve growing numbers of air passengers and freight.

One of the world's 20 largest economies, and No.1 in the MENA region, Saudi Arabia ranks 49th out of 189 countries for the overall 'Ease of Doing Business', according to the International Finance Corporation/World Bank's 'Doing Business' report in 2015. Only two countries possess larger current account surpluses. For the last two decades, Saudi Arabia has worked to foster international cooperation.

In 1997, it was a founding member of the Greater Arab Free Trade Area (GAFTA). Eight years later, Saudi Arabia joined the World Trade Organization. It has also signed bilateral trade and investment treaties with countries across Europe and Asia. Furthermore, as a founding member of the GCC, it was also crucial to the introduction of the GCC Customs Union in 2003. This agreement eliminated internal tariffs and enabled the free movement of labor and capital within member countries⁸.



(Right to left) H.E. Dr. Ibrahim Al-Assaf, Minister of Finance, Mr. Takeshi Uchiyamada, Chairman of the Board Toyota and Mr. Mohammed Abdul Latif Jameel, Chairman and CEO Abdul Latif Jameel

Regulatory incentives for Foreign Direct Investment

The Saudi government has made no secret of its desire to attract Foreign Direct Investment, which is regarded as one of the most effective ways to diversify the economy and provide employment for future generations. Indeed, the nation's strategic development plan, Vision 2030, sets out the country's ambition to increase Foreign Direct Investment from 3.8% of GDP to the international benchmark level of 5.7% of GDP by 2030⁹.

In the National Transformation Program (NTP), which outlines interim targets up to 2020¹⁰, Saudi Arabia outlines its aim to increase Foreign Direct Investment from SAR 30 billion (US\$ 8 bn) to SAR 70 billion (US\$ 18.6 bn). This goal is reinforced by the ambitions of Vision 2030, which outlines the country's "determination to become a global investment powerhouse". Vision 2030 goes on to state that Saudi Arabia will:

"...develop our investment tools to unlock our promising economic sectors, diversify our economy and create job opportunities. We will also grow our economy and improve the quality of our services, by privatizing some government services, improving the business environment, attracting the finest talent and the best investments globally, and leveraging our unique strategic location in connecting three continents."

As such, the Saudi government has taken several steps to attract foreign investors to the country – primarily through its Foreign Investment Law of 2000 and the subsequent establishment of the Saudi Arabian General Investment Authority (SAGIA).

SAGIA is the central agency for inward investment in Saudi Arabia. It aims "to help attract investments to serve the development goals and participate in the diversification of the Saudi economy." It is responsible for issuing

investment licenses, with business registration and set-up now occurring within 30 days of submission to SAGIA¹².

Foreign investors can also access a range of financial programs, including: the Arab Monetary Fund, which promotes the development of Arab financial markets and trade among member states¹³; the Arab Fund for Economic and Social Development (AFESD), which finances social development and economic projects across the Middle East; and the Arab Trade Financing Program, which offers medium and long-term loans to boost trade. There is also funding for industrial projects through the Saudi Industrial Development Fund (SIDF) as well as other government and commercial bank funding mechanisms. Saudi Arabia also relaxed some of its foreign ownership and investment regulations in May 2016¹⁴, with a view to encouraging the participation of international institutional investors in its privatization program.

Forging strong business links around the world

In addition to its practical legislative changes and insightful strategic policies, Saudi Arabia's determination to spread its message led to the country's involvement in several high-profile international trade and diplomatic initiatives during spring 2017.

One prime example of this is the visit by King Salman with Japanese Prime Minister Shinzo Abe in Tokyo.

The duo "agreed to strengthen bilateral economic cooperation in announcing what was billed the 'Saudi-Japan Vision 2030'."¹⁵ Reports suggested that Japan views Saudi Arabia as "an attractive market for its infrastructure exports", while the possibility of establishing economic zones to invite more investment by Japanese companies into Saudi Arabia is also being explored¹⁶.

The combination of regulatory reforms and diplomatic efforts appears to be bearing significant fruit elsewhere, too. In February 2017, PepsiCo indicated its confidence in Saudi Arabia's future by unveiling plans to open a significant manufacturing plant in Jeddah. It will initially supply the entire Gulf region, before expanding further in future years. Sanjeev Chadha, CEO of PepsiCo in Asia, the Middle East and North Africa, said: "The plant is going to be one of the largest in the PepsiCo system globally."¹⁷

Global electronics giant Sony is also aiming to grow its presence across the Middle East and Africa. It aims to increase business by 20% in 2017 through a combination of new product launches and a refreshed business strategy¹⁸. In March this year, as part of King Salman's visit to Japan, Toyota Motor Corp signed a memorandum of understanding with Saudi Arabia's National Industrial Clusters Development Program (NICDP) to conduct a feasibility study for producing vehicles and parts in the Kingdom¹⁹.

Abdul Latif Jameel, as the local distributor of Toyota for over 60 years, will also be taking part in the feasibility study which will evaluate the development of a local supply base using materials produced by major Saudi companies; the likes of SABIC, Ma'aden, PetroRabigh, and other major industrial companies in the country. It will also study the development and attraction of a talented Saudi workforce and putting in place adequate training programs.

Investing in the Future of Saudi Arabia

As new investors look to the potential of Saudi Arabia, Abdul Latif Jameel is delivering its key vision of being the most trusted partner in its home market. In 2016, following nearly 70 years of proven success investing domestically and internationally, Abdul Latif Jameel increased its investment focus for the development of their home

market, forming 'Abdul Latif Jameel Investments' – a dedicated and well-resourced venture.

This initiative, led by Omar Al-Madhi, is set to identify opportunities and drive investment contributing to the economic development of the country and its approach aligned with contributing to make the ambitions of Vision 2030 become reality. Abdul Latif Jameel Investments is actively seeking new opportunities for diversification and growth that will maximize value and returns for partners, shareholders, and communities. Commenting on this, Omar Al-Madhi said: **"Building on Abdul Latif Jameel's strong presence and brand recognition in this dynamic part of the world, we seek out new opportunities for growth and diversification through M&A transactions and joint ventures with leading global players in several high-growth sectors with significant potential for contributing to the development of the Kingdom of Saudi Arabia, its citizens and business sector. Community development remains a pivotal part of our plans in continuation of the wonderful and long-lasting contributions made by Community Jameel in Saudi Arabia over the past decades"**

With the economy at a structural inflexion point, and the drive of Vision 2030, there has never been a better time to invest in Saudi Arabia. Abdul Latif Jameel, with its proud heritage, history and cultural understanding, continues to be in a commanding position as the investment partner of choice for Saudi Arabia and the wider Middle-East, North Africa and Turkey region uncovering the investment and development potential. We look forward to guiding you through the exciting opportunities ahead.

⁹ Goals, Vision 2030: Kingdom of Saudi Arabia, accessed May 2017.

¹⁰ National Transformation Program 2020, Kingdom of Saudi Arabia, 2016.

¹¹ About SAGIA, accessed June 2017.

¹² Investment Incentives, Saudi Arabian General Investment Authority, accessed May 2017.

¹³ Investment Incentives, Saudi Arabian General Investment Authority, accessed May 2017.

¹⁴ Saudi Arabia overhauls foreign ownership regulations for listed companies, The National, 3 May 2016.

¹⁵ Japan, Saudi officials agree to accelerate efforts to realize joint projects, The Japan Times, 14 March 2017.

¹⁶ Japan, Saudi officials agree to accelerate efforts to realize joint projects, The Japan Times, 14 March 2017.

J-WAFS in action: Enabling local fertilizer production in Africa



Photo Credit: Lillie Paquette, MIT School of Engineering Deans Office

Karthish Manthiram, Warren K. Lewis Career Development Professor in the Department of Chemical Engineering at MIT, is leading one of seven research projects recently awarded J-WAFS funding. Karthish aims to develop a solar-powered electrochemical device that can convert nitrogen from air, water and sunlight into ammonia that can be added to soil to promote plant growth.

Opening Doors spoke to Professor Manthiram about the project and its aims.

What's the title of your research project?

It's called 'Electrochemical Nitrogen Fixation for Distributed Fertilizer Production'.

What is the project about?

Low crop yields are a key contributor to malnourishment and poverty in Africa. At the same time, the use of fertilizers is much lower in Africa compared to other regions of the world, limiting the agricultural productivity of the soil. This is partly because there are no robust local markets for fertilizers in Africa. Farming remains largely small-scale and scattered, and the costs of fertilizer distribution are very high due to poor infrastructure. This situation is not compatible with the highly centralized production of ammonia for fertilizers, which uses the Haber-Bosch process. This process needs to be conducted at large scales due to the high temperatures and pressures used, which are cost-prohibitive at smaller scales.

Our research aims to demonstrate a new way to produce ammonia locally, using commonly available feedstocks, and avoid the problems of cost and distribution that have hindered the use of fertilizer in Africa to date.

We propose an electrochemical device, which can be driven using solar panels, to convert nitrogen from air and water to produce ammonia. Because the device requires only air, water and sunlight, it can be deployed at remote locations. The ammonia produced can then be directly injected into soil or reacted with carbon dioxide to create urea, which can be easily handled by farmers for local use.

Altogether, the research will help to illuminate whether local, electrochemical generation of fertilizers is a viable method for small communities of farmers to take control of their own soil health.

Why is ammonia so important in the production of fertilizer?

Ammonia is an important source of nitrogen, which is one of the

key nutrients that plants need to grow. When we use fertilizer, we are putting nitrogen back into the soil that has been depleted by previous agricultural use. Increasing the nutrients in the content of the soil in this way helps to increase the agricultural productivity of the land.

Why is there a relatively low level of fertilizer use in Africa?

It's a combination of infrastructure and resources. There's a big need for fertilizer in Africa to improve soil health, but the infrastructure to import, store and distribute fertilizer to areas where it's most needed just isn't developed enough. There is also a lack of resources at an individual level. Fertilizer can be too costly for individual farmers, even though it can increase their productivity, which helps them to lift themselves out of poverty. So it becomes a 'chicken and egg' problem, with limited local demand meaning that regional governments and the private sector are reluctant to invest in developing the infrastructure.

“There is no need for centralized infrastructure and it is easier to break the poverty cycle”

Are fertilizers widely used in the Middle East?

The use of fertilizers in the Middle East is more common, and the region has considerable natural potential for fertilizer production. To produce ammonia, you require hydrogen, and a great source of hydrogen is natural gas, which of course is a mainstay of the Middle East's economy. But producing ammonia in this way results in a very large carbon footprint. Our technology would potentially enable the Middle East to capitalize on the global market for fertilizer, while reducing carbon emissions.

Can you briefly describe how your proposed device works?

What we're proposing is a new process to harness clean electricity from domestic solar panels or wind turbines, for example, and combine it with nitrogen and water to create ammonia. This could be done at

an individual level, or even at a village or community level, so there is no need for centralized infrastructure and it is easier to break the poverty cycle.

What would the technology actually produce?

The technology could produce ammonia or urea, both of which are effective fertilizers. There are two practical ways of doing this. One method is to make ammonia and then find a way to inject it directly into the soil. This is what our research will partly be focusing on. The other is to react the ammonia with CO₂ to make urea, which can then be sold as a solid fertilizer that is easy to handle and distribute.

Given that the technology could be driven by solar or wind energy, it would seem to be ideally suited to the Middle East and North Africa. Is this the case?

Yes, absolutely. There is a strong commitment from many governments in the region to make the most of their sustainable natural resources like solar and wind, to help improve their societies, and the lives of their citizens.

If we can provide a new process to take clean energy and use it to produce fertilizer in a more sustainable way, expanding current markets and pioneering new ones, it could be a very exciting development.

What about the wider environmental impact?

Current methods of ammonia production derive from processes that were invented 100 years ago, which have a big carbon footprint. Our technology could significantly reduce the carbon footprint of fertilizer production. A second environmental benefit involves fertilizer run-off. Traditionally, adding fertilizer to the soil in large amounts means that when it rains, a certain amount of ammonia and other ingredients is lost through run-off discharged into streams and rivers. Our hope is that by producing fertilizers locally and injecting them into the soil in a much more controlled way, we reduce the run-off problem by delivering only the amount of fertilizer that the crop actually requires.

This latest round of J-WAFS funding will run until August 2019. Do you expect your research to be complete by then?

We are still only at the early stage of this research. Although we are very positive about the project, there is still some fundamental science to figure out first in order to enable this technological innovation. There are likely to be further phases of research where we fine tune the technology and find the best way to implement it, so that it has the maximum impact on people's lives.





MENA set to benefit from MIT plans

The MENA region is set to benefit from increased activities in education, research, innovation and service under a new global strategy unveiled by the Massachusetts Institute of Technology (MIT).

MIT - a key long standing Community Jameel partner on initiatives such as tackling the causes of global poverty, on securing water and food supplies, driving

a renaissance in education, (including scholarships with Toyota), and supporting young entrepreneurs – plans to increase its international activities in the Middle East and North Africa region. This includes new efforts to cultivate and coordinate faculty and institute-level collaborations in different regions of the world.



“MIT is increasing its focus on the Middle East and North Africa as part of its global strategy to help improve lives is welcome news.”

“As a key partner in the Middle East, Community Jameel is proud to work closely with MIT on a range of initiatives to tackle pressing regional challenges, including alleviating poverty through J-PAL, improving food and water safety and security through J-WAFS, and sparking a renaissance in education through the recently announced Abdul Latif Jameel World Education Lab (J-WEL). We are also helping young students from the region study at MIT through the Jameel-Toyota Scholarship program.”

“Our partnership with MIT has the potential to help transform communities in Saudi Arabia and make a real difference to improving lives in the region.”

Fady Mohammed Jameel
President of Community Jameel International

For more information on how Community Jameel is ‘helping communities to transform themselves’, please [click here](#).

Abdul Latif Jameel supports Family Business Council summit

Hassan Jameel, Deputy President and Vice Chairman of Abdul Latif Jameel, was among the speakers at the recent two-day Family Business Council – Gulf (FBCG) Annual Summit in Dubai, UAE.

Mr Jameel joined sustainability experts from around the world in a panel session discussing effective ways of giving in the context of the family business. Representatives from

Community Jameel also attended the summit, where they shared the organization’s approach to developing community projects centered on job creation.

“We believe each family business has its own secrets to success, but we also believe families can inspire each other on ways to regenerate their own formula to success. By tailoring the summit agenda around real-world case studies and success stories, we aimed to provide families with practical insights they can learn from and incorporate to better address the challenges of growth, business model evolution, and generational transition.”

H.E. Abdulaziz Al Ghurair
Chairman, FBCG

Now in its fourth year, the summit brought together leading GCC family businesses, experts, and academics under the title ‘Secrets to Family

Business Continuity: Committed to Evolve Over Generations’. FBCG is the regional associated for Family Business Network International (FNBI).



Community Jameel: Helping communities transform themselves

Building on the knowledge and expertise developed by Abdul Latif Jameel over more than 70 years, Community Jameel, which was formalized in 2003, is today helping to transform communities and improve the lives of countless people in the MENAT region and beyond.

At the recent two-day Family Business Council – Gulf (FBCG) annual summit in Dubai, UAE, Hassan Jameel, Deputy President and Vice Chairman of Abdul Latif Jameel, was among the speakers and he presented how Community Jameel has evolved into a sustainable social enterprise organization, an example for other family businesses looking to give something back to society.

The FBCG published a case study illuminating its work, an abridged version of which is reproduced by kind permission below.

Holding the Mirror

Community Jameel's mission is to give people the power to improve their lives and the lives of those around them in essence to 'help communities help themselves'.

This vision is distinct from many charitable organizations as it seeks to address the world's societal and economic problems at the source rather than merely alleviating their effects. Three generations of the Jameel family are engaged with Community Jameel, honouring the late founder's dedication to conscientious growth and the pursuit of positive change.

Community Jameel focuses on six priority areas: job creation, global poverty alleviation, food and water

security, arts and culture, education and training, and health and social. Some of the organization's key initiatives include:

- **Bab Rizq Jameel**, a jobs program which has helped create over 720,000 job opportunities globally since 2003, including almost 500,000 in Saudi Arabia.
- **Abdul Latif Jameel Poverty Action Lab (J-PAL)**, a global network of affiliated professors based at the Massachusetts Institute of Technology (MIT)
- **Abdul Latif Jameel World Water and Food Security Lab (J-WAFS)** at MIT, which conducts research to help combat worldwide water scarcity and food supply shortages
- **Jameel Gallery for Islamic Art** at London's Victoria and Albert Museum; the Jeddah Sculpture Gallery; and the Jameel House of Traditional Arts based in Jeddah, Cairo, and Scotland
- **MIT Enterprise Forum Arab Start-up Competition**, which promotes entrepreneurship and innovation across the Arab world

The Bab Rizq Jameel initiative, in particular, epitomizes Community Jameel's vision and commitment to helping people and communities to help themselves.

Connecting the dots

The seeds for Bab Rizq Jameel (BRJ) were planted in 2003, when Abdul Latif Jameel took some of its vehicles and trained young men without jobs to become taxi drivers. With a philosophy of sustainability and economic independence in mind,



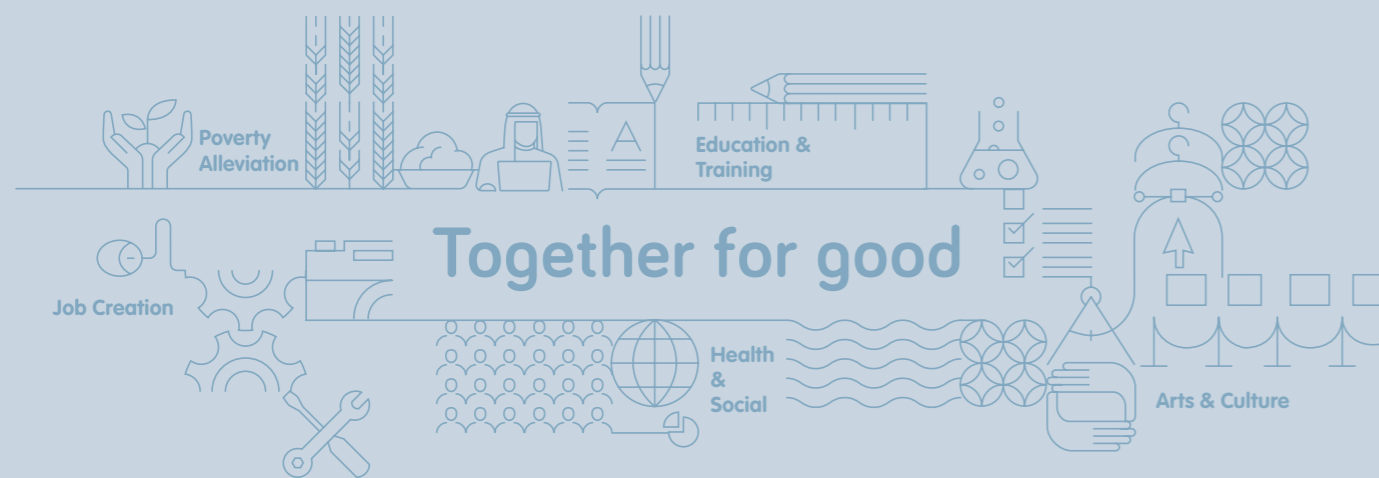
A beneficiary of BRJ's Taxi Ownership programme

those who received vehicles were asked to pay them off, interest-free, as the money from driving came in. Over time, therefore, these men became taxi owners, not just taxi drivers.

Early in its development, BRJ recognized the need to inform and educate potential participants about its programs. Television campaigns spread the message, as did consultation opportunities at employment services centers.

The organization grew quickly, funding more entrepreneurial activities using the same principle of repayable loans to support new groups, such as women working from home and other small business start-ups. It enabled individuals to find economic independence and value in the workforce.

Over the years, BRJ has created programs to develop links between job seekers and employers; offer support and interest-free loans to entrepreneurs; and provide remote work and home-based job opportunities. It now employs over 700 people itself. BRJ's Direct Recruitment program has proved a significant success.



BRJ's Direct Recruitment program has proved a significant success. **"The Direct Recruitment program is an example of the down-to-earth, realistic thinking that we encourage at Community Jameel,"** says Hassan Jameel, Deputy President and Vice Chairman of Abdul Latif Jameel Domestic Operations.

"We understand there are employers in the region in search of willing and capable people, and, conversely, there are people eager to work. Yet at times the two parties struggle to find each other, so we put ourselves in the middle to connect them and to develop skill-sets to match employer needs."

Government support has also been a success factor, by fostering relationships with key officials, aligning efforts with government employment goals, and exploring new models and approaches. In addition, BRJ found that creating mutually beneficial partnerships with existing organisations helped widen opportunities to generate

employment. This mindset of partnership – bringing the right resources together at the right time to solve the right problem, not just for the short-term but over a sustainable long-term – led to the simple tagline that still underscores all Community Jameel's work: **Community Jameel – Together for Good.**

Creating Impact

One ambition of Abdul Latif Jameel's corporate brand strategy is 'helping people who strive for better to have better: better means, better lives, better prospects'. We do this because we are determined in our quest for new potential, and to support growth and development in the MENAT region, and beyond.

This orientation is reflected in the evolution of Abdul Latif Jameel from a small distributorship to a diversified international business, of Community Jameel from a small experiment to a multi-faceted sustainable social enterprise organization, and of Bab Rizq

Jameel from a small project to a 700-employee company.

Community Jameel projects typically blend a Jameel family member's passion and desire to make a difference with experimentation, leverage of Abdul Latif Jameel's expertise, people, and networks, and an examination of lessons learned. The initiatives under Community Jameel are either owned and operated by Community Jameel or organized and managed by external partners with relevant expertise.

New BRJ initiatives often begin with research to understand needs in the community, an audit of available resources, and a small pilot to test the program in Jeddah. After proven success, BRJ program have expanded to Egypt, Turkey, and Morocco. The door is open for new collaborations to increase the number of branches in countries already serviced, and for new partnerships to enter countries not yet in its portfolio.

BRJ also seeks opportunities to integrate with other Abdul Latif Jameel business units and activities. One example is with corporate sponsorship. Abdul Latif Jameel is the title sponsor of the Saudi Professional League, a football league with 14 teams now known simply in Arabic as Dawry Jameel (or Jameel League). Abdul Latif Jameel sees Dawry Jameel as an opportunity to bring people together, to entertain, to engage, and to contribute to the ongoing development of Saudi society. In just three years, BRJ created over 10,000 stadium jobs to help young Saudis find work as snack sellers at matches and field crew employees during other on-field events.

These achievements led to BRJ receiving the Arab Social Media Influencers Award in the Corporate Social Responsibility category in 2015 in recognition of the organization's success in generating job opportunities through its social media platforms. In 2012, BRJ received an award from the Sheikh Mohammed bin Rashid Al Maktoum Foundation for Entrepreneurs for 'Best Initiative to Support Entrepreneurship in Arab Countries'. In 2008, Mohammed Abdul Latif Jameel was presented with the King Abdul Aziz Medal of the First Order by His Majesty King Abdullah of Saudi Arabia, the country's highest civilian order, in recognition of his personal contribution to job creation initiatives for you men and women in Saudi Arabia.

Identifying Next Steps

The experience and success of Abdul Latif Jameel and Community Jameel provides useful lessons for other organizations looking to re-invest their time, passion and expertise in the communities they operate in:

- 1. Passion:** Community Jameel has managed to engage senior management over multiple generations, by allowing people to explore their passion for social causes. The Jameel family's passion is visual art – both traditional and contemporary. It has leveraged this deep interest into programmes showcasing world-class art, expanding arts education for students, and supporting the careers of artists.
- 2. Experimentation:** Bab Rizq Jameel began with a humble experiment

with 10 young men. It has grown through smart pilot projects, iterative learning, and strategic expansion, demonstrating the power of innovation and experimentation. For many businesses, the greater hindrance is a lack of trying or a 'planning paralysis', which limits their action.

- 3. Community:** Community Jameel makes great efforts to connect with the community it is hoping to serve. Many philanthropists skip this step and launch programmes that are not aligned with local circumstances, resulting in failure.
- 4. Expertise:** Recruitment is crucial. To be successful, philanthropic initiatives need to hire top quality advisors and recruit staff with the right expertise and practical knowledge to move swiftly from ideas to execution. Alternatively, some choose to partner with international NGOs with the expertise and experience to take the lead.
- 5. Evolution:** Just as businesses must anticipate and adapt to changes in the marketplace, philanthropic initiatives must also evolve to stay relevant and effective. Finding a balance between sustaining financial support for older efforts that are working, while also advancing new opportunities, is challenging, but as Community Jameel demonstrates, the return is worth the effort.

Hassan Jameel offers the following advice: **"Let your family's core values for business also serve as a guidepost for giving. Ours**

are respect, improve, pioneer, and empower. We respect and consult with the people we are serving. We have feedback loops to help us improve our results. We pioneer through pilot projects that are of deep interest to family members, and we seek to empower communities with our efforts."

Reproduced by kind permission of the Family Business Council – Gulf

About Family Business Council - Gulf (FBCG)

The Family Business Council is a private, non-profit membership organisation that aims to strengthen family business governance and ensure their continuity over generations, while learning from and where applicable adopting international best practices. Through research, education, and networking, we seek to address issues that are unique to this region. We are run by families for families, the following is our list of GCC Board Members www.fbc-gulf.org FBCG is a member of a worldwide organization - the Family Business Network International (FBN) www.fbn-i.org - which is the largest global network 'by families, for families' representing leading family businesses all over the world.



One of the 10,000 snack vendors who have found a sustainable livelihood through BRJ's Dawry Jameel programme

Real people, real stories – Empowering growth



When it comes to fulfilling career ambitions, hard work and dedication are key factors. So, too, is workplace support and encouragement, which is why Abdul Latif Jameel invests in its employees and provides the environment in which people can truly develop.

Lukman Hakim, a Technical Manager in Jeddah, Saudi Arabia, has worked for Abdul Latif Jameel for 19 years. During

this time, he has benefitted from the Abdul Latif Jameel Center for Continuous Learning, spending three months training on technical support at Toyota Motor Corporation in Japan.

He believes the opportunity for individuals to make significant professional progress is a major reason behind Abdul Latif Jameel's enduring appeal to employees around the world – and its continuing success.

“Abdul Latif Jameel gives all its employees the chance to improve – and I’m proof of its approach. I’ve worked for the company for 17 years. When I started I was an unclassified technician. Since then, I’ve been able to train, develop and work in Japan, before returning to Saudi Arabia and earning a significant promotion.”

“I’m now a Technical Manager in Jeddah, and there are so many special things about working here. The support and cooperation is exceptional. Every morning we have a team meeting that covers technical information and evaluations of quality.”

“Away from work, I have a wife and three children – and our family really feels part of the Jeddah community.

Every weekend we are out with other families and friends, either relaxing at the beach or playing outdoor games. Having the chance to combine that lifestyle with the benefits of working for Abdul Latif Jameel is something for which I’m very grateful.”

Addressing the impact of air and water pollution worldwide



Between 2008 and 2013, global air pollution levels increased by 8%¹. According to the World Bank and the Institute for Health Metrics and Evaluation (IHME), 87% of the world's population now live in countries in which ambient pollution levels exceed air quality guidelines set by the World Health Organization – a figure that rises to 90% in low - and middle - income countries².

Of cities with more than 100,000 inhabitants in low and middle-income countries, 98% fail to meet World Health Organization air quality guidelines³. As air pollution increases, so too does the risk of a range of health concerns – including stroke, heart disease, lung cancer, and chronic respiratory diseases.

With 5.5 million lives being lost to air pollution in 2013, it is now the fourth leading risk factor for premature deaths worldwide⁴. That year alone, it cost the global economy US\$ 225 billion⁵. Laura Truck, Vice President for Sustainable Development at the World Bank, said: **“Air pollution is a challenge that threatens basic human welfare, damages natural and physical capital, and constrains economic growth.”**

Agriculture is a significant factor in the growth of air pollution. The introduction to the air of large quantities of ammonia, either from fertilized fields or livestock

waste, enables it to combine with other pollutants to create particulate matter (otherwise known as PM2.5⁶) – tiny particles that are about 1/30th the width of a human hair⁷. These particles are small enough to enter people's lungs and are known to cause deadly illnesses such as lung cancer and heart disease⁸.

Working towards a cleaner, healthier future

While air pollution is undoubtedly a global problem, the highest concentrations of PM2.5 have been found in the Middle East and North Africa (MENA) region and South and East Asia. In 1990, there were 3,945 deaths in Saudi Arabia as a result of air pollution, and its measurement stood at 49.7 µg/m³. By 2013, that measurement was 54 µg/m³, the third highest population-weighted mean concentration of air pollution in the world, and 6,285 people died in Saudi Arabia in 2013 as a direct result of air pollution⁹.

There is not just a human cost to air pollution: the economic impact is considerable, too. Across the MENA, in 2013 labor income losses from air pollution were more than US\$ 9 bn¹⁰. However, a growing population means the need for large-scale agriculture is set to continue to rise – so innovative solutions are required to tackle this urgent and increasingly pressing issue.

Through the Abdul Latif Jameel World Water and Food Security Lab (J-WAFS) at the Massachusetts Institute of Technology (MIT), Abdul Latif Jameel is attempting to provide answers to some of the planet's biggest challenges – including pollution. By funding pioneering research into new technologies, J-WAFS aims to coordinate and promote research that will have a measurable and international impact on humankind.

Twenty-four projects have been supported by J-WAFS since 2015, with US\$ 1.4 million being awarded in the latest round of seed grant funding announced in May 2017.

Understanding the impact of air pollution on crop yields

One project supported by J-WAFS attempts to assess and predict the impact of air pollution on future agricultural yields. The United Nations Economic Commission for Europe (UNECE) estimates that, in 2000, ozone caused approximate global losses for the three main crops grown across the world – soy, wheat, and maize – of 6-16%, 7-12%, and 3-5% respectively.

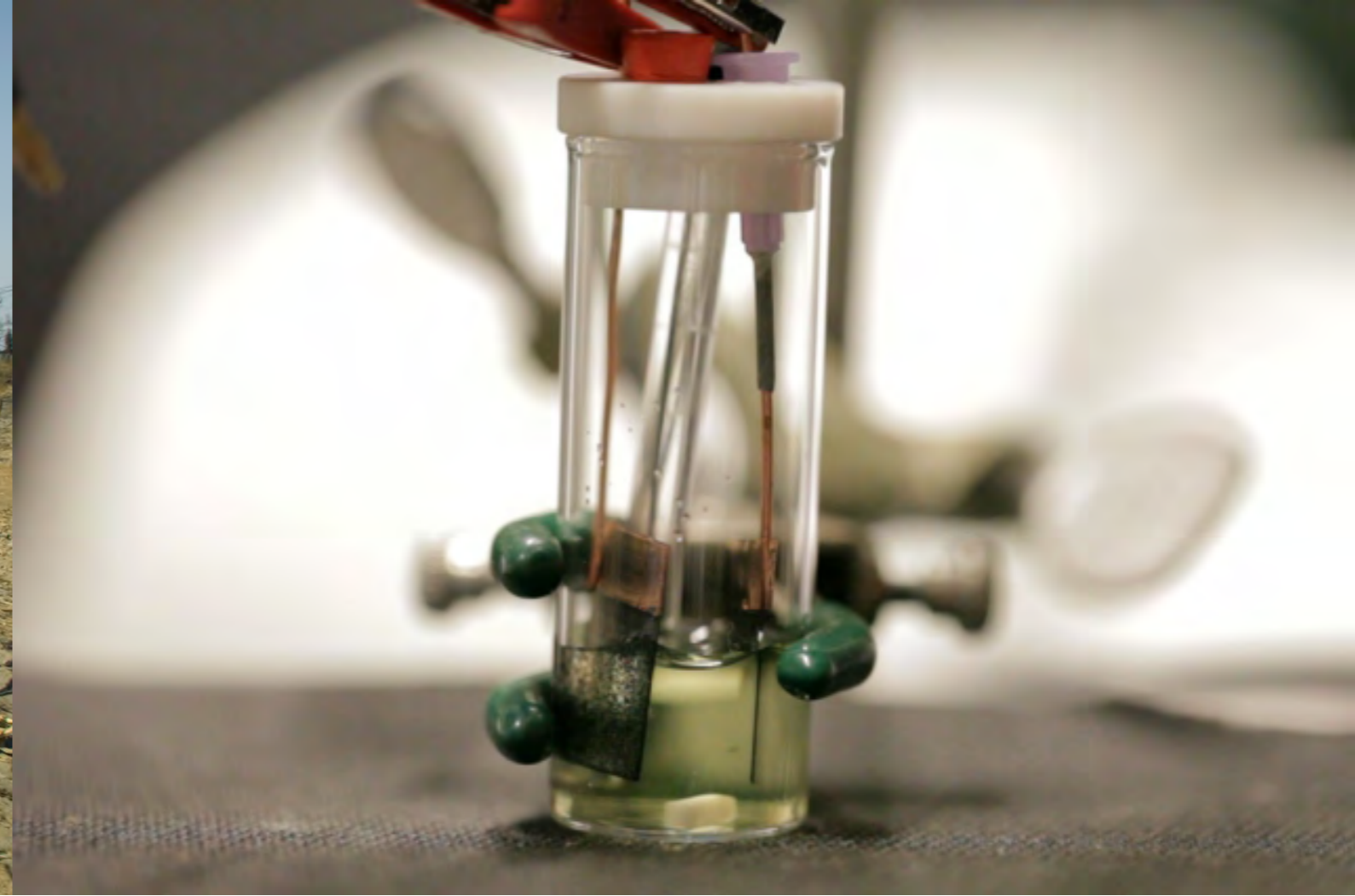
Colette Heald is Associate Professor and Associate Department Head of Civil and Environmental Engineering (CEE) at MIT. She has worked extensively

with CEE PhD student Luke Schiferi on a project designed to better understand the relationships between ozone precursor emissions, particulate matter, and crop yields.



Colette Heald, Assoc. Prof and Assoc. Det. Head of Civil and Environmental Engineering. Assoc. Prof. of Dept. of Earth, Atmospheric & Planetary Sciences

¹ Air pollution levels rising in many of the world's poorest cities, World Health Organization, 12 May 2016.
² The Cost of Air Pollution: Strengthening the Economic Case for Action, World Bank and Institute for Health Metrics and Evaluation (IHME), September 2016.
³ WHO Global Urban Ambient Air Pollution Database (update 2016), World Health Organization, accessed June 2017.
⁴ Air Pollution Deaths Cost Global Economy US\$225 Billion, World Bank, 8 September 2016.
⁵ Air Pollution Deaths Cost Global Economy US\$225 Billion, World Bank, 8 September 2016.
⁶ A Major Source of Air Pollution: Farms, The Earth Institute, Columbia University, 16 May 2016.
⁷ Air Pollution Deaths Cost Economies in Middle East and North Africa More than \$9 Billion, World Bank, 8 September 2016.
⁸ Air Pollution Deaths Cost Economies in Middle East and North Africa More than \$9 Billion, World Bank, 8 September 2016.
⁹ The Cost of Air Pollution: Strengthening the Economic Case for Action, World Bank and Institute for Health Metrics and Evaluation (IHME), September 2016.
¹⁰ Air Pollution Deaths Cost Economies in Middle East and North Africa More than \$9 Billion, World Bank, 8 September 2016.



With growing concern about air pollution levels and increasing global demand for food, air pollution poses a significant threat to global food security. Together, Heald and Schiferi are using modelling and statistics to better understand the potential effects of particulate matter on future crop yields. They aim to develop a fuller understanding of the uncertainties humans face, and help to shape policy accordingly over the coming decades.

Their initial results suggest a complex balance between the impacts of ozone and particulate matter on global crop yields: in some regions, particulate matter offsets some – but not all – of the ozone damage, though the impact of particulate matter on global crop yields remains uncertain. **“In areas more susceptible to ozone pollution, for example, farmers could be encouraged to plant more ozone-resistant crops,”** says Schiferi.

He also notes that this research suggests how **“it’s important to be aware of the hidden cost” of air pollution policies and**

regulation that decrease the amount of particulate matter in the atmosphere. Given the enhancing effects of particulate matter, any policies which lead to a reduction in particulate matter pollution could have negative impacts on crop production,” he says.

Safer water for all

Air pollution is not the only area of concern that J-WAFS researchers are helping to combat: water pollution is also causing problems around the world. In many countries, agriculture is a key factor in the rise of water pollution, with the use of pesticides, fertilizers and other agrochemicals increasing significantly since the 1950s¹¹.

Supported by a seed grant from J-WAFS at MIT, a team of the world’s leading researchers have developed a novel new method to remove even extremely low levels of unwanted compounds from water¹². Pesticides, chemical waste products and pharmaceuticals can all be dangerous –

even when found in only relatively low concentrations. The new approach, outlined in Energy and Environmental Science, uses an electrochemical process to selectively remove these organic contaminants. It does this by using ‘faradaic’ materials – materials that can be positively or negatively charged – by adding charge, researchers can fine-tune the materials to attract and remove pollutant molecules at the smallest concentrations.

Compared to the two most popular existing solutions, this new method addresses the key limitations of conventional separation methods, such as cost, power and chemical treatment requirements.

The research won the 2016 MIT Water Innovation Prize, and the team behind it has already applied for a patent on this new process. The system was developed by the research of MIT’s Ralph Landau Professor of Chemical Engineering T. Alan Hatton, MIT postdoc in chemical engineering Xiao Su, as well as five others from MIT and the Technical University of Darmstadt in Germany.

MIT postdoctoral researcher Xiao Su, a leading figure in the development of the technology, believes it could make a significant impact on the world’s water supplies. He said: **“Such systems might ultimately be useful for water purification systems for remote areas in the developing world, where pollution from pesticides, dyes, and other chemicals are often an issue in the water supply. The highly efficient, electrically operated system could run on power from solar panels in rural areas.”**

While it still needs to be further tested to validate technical viability under real-world conditions, the prototype system has achieved promising results. A video and more information on the research can be seen [here](#).

Investing in our future communities

Finding sustainable and effective ways to tackle air and water pollution is a major challenge around the world, but it is clear that some regions are affected more than

others: just 6% of all deaths linked to air pollution do not occur in low- and middle-income countries¹³.

Hassan Jameel, President of Community Jameel in Saudi Arabia, said: **“Developing technology like this is key to addressing water and food security, and clearing a common problem facing the world today. That is why J-WAFS is continuing to explore the power of science and technology to positively impact millions of lives.”**

Through its continued investment in J-WAFS, Abdul Latif Jameel is empowering the world’s sharpest minds to work towards solving some of mankind’s biggest problems. Only by working together and investing in world-leading research can we hope to build a brighter, more sustainable future for all our citizens and communities.

¹¹ Farming: Pollution, WWF, accessed June 2017.

¹² MIT researchers develop new way to clear pollutants from water, Massachusetts Institute of Technology, 10 May 2017

¹³ 7 shocking facts about air pollution, World Economic Forum, 27 October 2016.



Abdul Latif Jameel Electronics continues to widen tech choices for Saudi Arabian consumers

The high standards of customer service and excellent reputation of Abdul Latif Jameel Electronics has been recognized by two of the world's leading technology firms.

In April 2017, Abdul Latif Jameel was appointed 'Authorized Reseller' for Apple Inc. in Saudi Arabia. It will now distribute all of Apple's market-leading products, including iMac, Apple TV, iPad, iPhone, iPhone accessories, iPod, and all Beats products.

Founded in 1976, Apple is currently the largest public corporation in the world by market capitalization. It employs 116,000 full-time employees and was the first U.S. company to be valued at more than US\$ 700 billion.

Abdul Latif Jameel has also signed a non-exclusive agreement as an official reseller for Lenovo in Saudi Arabia.

Founded in 1984 in a guard shack in Beijing, Lenovo grew to become China's leading PC company, and then acquired IBM's Personal Computing Division, (creators of the first PC). Today, it is a US\$ 46 billion multinational company with 55,000 employees serving customers in over 160 countries, and the world's largest PC vendor. The portfolio now includes workstations, servers, storage solutions, IT management software, smart TVs, tablets, smartphones, and even apps.

These two new brands further expand the best choice of the world's latest tech. available from Abdul Latif Jameel Electronics and their recently launched Redsea.com brand to the highly connected and tech-savvy Saudi Arabian consumer.



Abdul Latif Jameel Energy takes the lead at MIREC WEEK



Roberto de Diego Arozamena, CEO Abdul Latif Jameel Energy leading the panel discussion at MIREC 2017

Abdul Latif Jameel Energy further enhanced its position as one of the world's leading producers of renewable energy when Chief Executive Roberto de Diego Arozamena took a prominent role at MIREC WEEK, Mexico's leading clean energy congress and exhibition.

Mr Arozamena joined 1,500 attendees and 197 speakers over the five-day event in Mexico City. He was part of an expert panel which concluded that Mexico's established and continuous renewable energy program will be an increasingly attractive investment market as some environmental policies elsewhere in the region may give rise to uncertainty.

"MIREC is an excellent forum with high level participants that share experience and views on how to best address the significant renewable energy opportunities that Mexico's program offers. Mexico is an important market for us and it was a pleasure to

participate and share international experiences with Government officials and colleagues in the industry." Roberto commented at the event.

MIREC WEEK remains the largest marketplace and networking platform for Mexico's clean energy sector. Executives, thought leaders and decision-makers gathered alongside representatives from the financial sector; industry experts; government representatives; leading developers, technology and service providers; and electric vehicle experts.

Attendees at this year's event included Felipe Calderón, former President of Mexico; Dr Jeremy Leggett, Founder of Solarcentury and Solaraid; and Danny Kennedy, Managing Director of California Clean Energy Fund (CALCEF). Through Fotowatio Renewable Ventures (FRV), a leading global developer of utility-scale solar power plants, Abdul Latif Jameel Energy is

already making significant progress in delivering clean energy across Mexico. In November 2016, it was awarded a 300 MW solar project in the country's second electricity market auction conducted by the National Energy Control Center (CENACE) of Mexico.

The photovoltaic plant – called Potosí Solar, after its location in San Luis de Potosí – will be operational in 2019. It will supply approximately 76,000 homes and eliminate almost 98 million tons of CO2 emissions.

Abdul Latif Jameel Energy's FRV continues to be actively investing in the Middle East. In May 2017, it started construction on two of the largest solar PV projects in Jordan. Between them, the Mafrq I and Mafrq II plants will provide clean energy for 80,000 homes.





Abdul Latif Jameel wins four major prizes

Abdul Latif Jameel is celebrating after receiving four prestigious awards, including three at the PR Arabia National Auto Awards Ceremony in Jeddah, Saudi Arabia.

In awarding the Best Traffic Safety Programme Award, judges recognised Community Jameel's ongoing commitment to enhancing communities and environments across the country.

Abdul Latif Jameel Motors also won the prize for Best Marketing Campaign, while the Lexus RCF was voted top in the Sports Car category after receiving 69,800 votes (36%).

In addition, the Abdul Latif Jameel group recently picked up a fourth award, with Toyota Turkey being ranked third in the 'Best Employers in Turkey' list in June, by the Great Place to Work Institute.



Naif Abdulaziz, of Community Jameel, receives the Best Safety Traffic program Award



Prince Abdullah bin Saud, Head of Jeddah Chamber of Commerce and Industry's Tourism Committee, presented the prizes to Mazen Ghazi Jameel, Executive Director of Marketing at Abdul Latif Jameel Motors Lexus



Here's a brief round-up of some of the main business events in the region recently.

Automechanika Middle East 2017 Dubai, UAE

May 7-9, 2017

www.automechanikadubai.com

Almost 29,000 visitors attended the 15th edition of the Middle East's premier auto aftermarket trade event at the Dubai International Convention and Exhibition Centre. A total of 1,955 exhibitors mingled with guests from 134 countries worldwide.

Abdul Latif Jameel Machinery will also occupy a booth in a prime location near the main entrance.

Saudi ELENEX – Riyadh, Saudi Arabia

May 14-16, 2017

www.recepo.com

Established in 1997, Saudi ELENEX attracts more than 5,000 visitors each year from the power, solar and lighting sectors in Saudi Arabia. The event is held under the high patronage of the Ministry of Water and Electricity, Kingdom of Saudi Arabia.

World Economic Forum on the Middle East and North Africa 2017 Dead Sea, Jordan

May 19-21, 2017

www.weforum.org/events/world-economic-forum-on-the-middle-east-and-north-africa-2017

More than 1,000 government, business and civil society leaders gathered in Jordan to discuss key issues facing the MENA region, including economic reforms, investment and trade priorities, geopolitical shifts and humanitarian challenges.

MIREC WEEK Mexico City, Mexico,

May 8-12, 2017

www.mirecweek.com

Abdul Latif Jameel Energy Chief Executive Roberto de Diego Arozamena was among the attendees and speakers at Mexico's leading clean energy congress and exhibition. See [page 28](#) for a full report of Mr. Arozamena's visit.

Financial Times/International Finance Corporation: Energy Transitions in the Middle East and Turkey, Dubai, UAE

May 10, 2017

<https://live.ft.com/Events/2017/Energy-Transitions-in-the-Middle-East-and-Turkey>

This invitation-only event saw senior executives and decision-makers from across the MENAT region discuss advances in renewable energy, as well as opportunities in the area's traditional oil and gas sector.

Oman Energy and Water Exhibition and Conference, Muscat, Oman Mexico City, Mexico,

May 1-2, 2017

<http://www.energyandwateroman.com>

Representatives from Almar Water Solutions were among those to gather in Muscat, Oman, for the second Oman Energy and Water Exhibition and Conference. Industry leaders, researchers, engineers and government agencies were also present.

Abdul Latif Jameel 