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# Powering Innovation

Sustainability Report 2014



# About this Report

**In 2014 Masdar continued to pursue its ambition as a leader in sustainability initiatives in the Middle East and throughout the world. This commitment to sustainability reporting brings forth the third edition of Masdar's annual Sustainability Report under the guidance of the Global reporting Initiative's (GRI) reporting guidelines.**

These guidelines are designed to provide a series of recommended reporting points that have been deemed "of interest" to a wide group of stakeholders. The guidelines are an internationally recognised, voluntary tool that can help maximise the sustainability reporting process. The guidelines are developed through a global multi-stakeholder process involving representatives from business, labour, civil society, and financial markets, as well as auditors and experts in various fields; and in close dialogue with regulators and governmental agencies in several countries.

For more information on GRI, visit [www.globalreporting.org](http://www.globalreporting.org)

Masdar has developed this report 'in accordance' with the GRI G4 guidelines at a 'Core' level, and this report has been externally verified for content and data collected during the reporting period between October 2013 (Q4'13) and September 2014 (Q3'14). Unless specified otherwise, in the report, this reporting period will be referred to as 2014.

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## CONTACT

For feedback and any questions related to this report, or regarding any of Masdar's sustainability initiatives, please contact [Sustainability@Masdar.ae](mailto:Sustainability@Masdar.ae)





## Message from the Chairman

Since the first sustainability report published in 2012, Masdar has evolved and grown as an organization. Nevertheless, Masdar has maintained its commitment to enhancing its level of reporting and to meeting the highest standards of organizational sustainability.

Furthermore, Mubadala's enhanced organizational structure is enabling Masdar to effectively manage its expanding portfolio while also allowing the company to operate successfully and to remain competitive.

By working together as one team and leveraging each other's strengths across Mubadala and Masdar, we will be successful in ensuring the growth across our businesses and managing our performance – financial, social, and environmental.

The utilization of this report for our internal and external stakeholders cannot be underestimated. Through mechanisms such as our annual sustainability report, we are able to provide detailed information to our stakeholders to better enhance dialogue and understanding in support of Masdar's mission.

Looking forward, Masdar will continue to perform at the highest standards, reinforcing Abu Dhabi's commitment to sustainability and its role as a responsible energy player.




**H.E. Dr. Sultan Al Jaber**  
Chairman

## Message from the Chief Executive Officer

Over the past year, Masdar has evolved as an organization and grown as a business. As an organisation, we continue to develop our operating model to advance the deployment and profitability of renewable energy in the domestic and global energy mix. As a business, our growing portfolio of operating assets produced almost 3 million megawatt hours of clean energy in 2014. This was accompanied by additional investments into projects, such as the 402 megawatt Dudgeon Wind project in the United Kingdom, and the breaking ground on Jordan's 117 megawatt wind project. Today, Masdar's portfolio of projects has solidified the company's position as a major player in the global renewable sector.

On other fronts, Masdar City was able to welcome Siemens, General Electric, Lockheed Martin and many other organizations to almost double the number of registered companies benefiting from Masdar City's free zone and technology cluster.

As we continue to grow, so too does the need for transparency and disclosure to our stakeholders. Through our sustainability reports, we are able to provide a comprehensive review of our efforts, and it is my pleasure to introduce Masdar's 2014 Sustainability report.



**Dr. Ahmed Belhouel**  
Chief Executive Officer

# What is Masdar?

**Masdar is a commercially driven renewable energy company based in Abu Dhabi, United Arab Emirates. A strategic government initiative, the company has a mission to invest, incubate and establish a new energy industry in Abu Dhabi and around the world. Masdar acts as a catalyst for the economic diversification of the emirate, The Company is guided by Abu Dhabi Economic Vision 2030, a program driving new sources of income for the emirate and strengthening Abu Dhabi's knowledge-based economic sectors.**

Masdar plays an important role in extending Abu Dhabi's energy leadership beyond hydrocarbons. By adopting an integrated, holistic business model – merging higher education, R&D, investment and sustainable living – Masdar aims to meet the changing needs of multiple evolving industries.

Masdar, itself, is a wholly-owned subsidiary of the Abu Dhabi Government-owned Mubadala Development Company, falling under the newly created Mubadala Energy Division. Under Mubadala, Masdar is Abu Dhabi's answer to the growing environmental, and energy concerns of this century. Through sustainable practices and initiatives, Masdar aims to serve as a leader in the push to create a more sustainable world. This multifaceted approach keeps Masdar at the forefront of the global clean energy industry, while ensuring it remains grounded in the pursuit of pioneering and commercially-viable technologies and systems. With each unit focused on a key component of the value chain, Masdar operates with the broad scope needed to meet the most pressing sustainability challenges of tomorrow.



## Key Facts & Figures:

- Founded in 2006.
- \$15 billion commitment from the Abu Dhabi government.
- Over \$1.7 billion in equity investments across renewable energy projects having a total value of over \$6.4 billion.
- A subsidiary of the Mubadala Development Company.
- Masdar CEO is Dr. Ahmad Belhouli.



A view of the Masdar Institute Campus at Masdar City

# How is Masdar structured?

A wholly-owned subsidiary of the Abu Dhabi Government-owned Mubadala Development Company, a catalyst for the economic diversification of the emirate, Masdar is guided by Abu Dhabi Economic Vision 2030, a program driving new sources of income for the emirate and strengthening Abu Dhabi's knowledge-based economic sectors.

**Masdar** is comprised of four business units--including Masdar Capital, Masdar Clean Energy, Masdar Special Projects and Masdar City--and is complemented by Masdar Institute, an independent, research-driven graduate university. With each unit focused on a key component of the value chain, Masdar operates with the broad scope needed to meet the most pressing sustainability challenges of tomorrow.

**Masdar Institute of Science and Technology** is an independent, graduate-level research university dedicated to advancing renewable energy and sustainable technologies.

**Masdar City** is one of the most sustainable urban developments in the world. Designed as a cleantech cluster with special economic zone incentives, the city attracts companies to commercialise and deploy new energy technologies in the Middle East.

**Masdar Clean Energy** is a commercial-scale, renewable energy developer and investor – building some of the world's most sophisticated clean energy projects.

**Masdar Capital** invests in the world's most promising cleantech companies – maturing the technologies that will power a more sustainable tomorrow.

**Masdar Special Projects** is a provider of complex renewable energy and clean tech applications usually located in remote locations. This Business Unit works with governments and NGO's to help developing countries to grow and alleviate poverty.



**A Leader of International Collaboration** Every year in the month of January, Masdar hosts Abu Dhabi Sustainability Week. This yearly event unites key global leaders in an effort to address the critical needs from policy to finance to technology. The platform includes four signature events:



# Masdar Board of Directors



**H.E. Dr. Sultan Al Jaber**  
Chairman of the Board  
Non Executive Board Member

Dr. Sultan Al Jaber is Chief Executive Officer, Energy, with oversight of Mubadala's oil and gas portfolio as well as its renewable energy interests. In 2006, he spearheaded the launch and establishment of Masdar and continues to drive the company's strategic direction as its Chairman.



**Samer Halawa**  
Non Executive Board Member

Samer is Mubadala's Chief Legal Counsel, responsible for the company's legal, governance and compliance operations worldwide. He is also Secretary to the Board and oversees government relations, regulatory affairs, corporate strategy and corporate tax.



**Carlos Obeid**  
Non Executive Board Member

Carlos is Mubadala's Group Chief Financial Officer, responsible for managing Mubadala's corporate and support functions worldwide: Group Finance; Corporate Finance & Treasury; Construction Management Services; and Group Support Services.



# Masdar Board of Directors



**Homaïd Al Shemmari**  
Non Executive Board Member

Homaïd is Chief Executive Officer, Aerospace & Engineering Services, with oversight of Mubadala's aerospace, communications technology and defense services portfolios.

Before joining Mubadala, Homaïd was a Lieutenant Colonel in the UAE Armed Forces, with involvement in military aviation, maintenance, procurement and logistics.



**Khaled Al Kubaisi**  
Non Executive Board Member

Khaled is the Chief Human Capital Officer for the Mubadala Group, responsible for performance management, learning and development, employee career growth, talent acquisition and Emiratisation.

Before joining Mubadala, he worked as Chief Investment Officer of International Capital and was also the Head of Corporate Finance & Business Development at the National Bank of Abu Dhabi, where he focused on developing the bank's investment banking capabilities.



**Ahmed Yahia Al Idrissi**  
Non Executive Board Member

Ahmed is the Chief Executive Officer of Technology & Industry, with oversight of Mubadala's semiconductor, metals and mining, and utilities portfolios.

Before joining Mubadala, Ahmed was a partner at McKinsey & Company, where he led the Abu Dhabi and Principal Investor practices. He was also a Marketing Manager at Procter & Gamble, where he led several flagship brands.



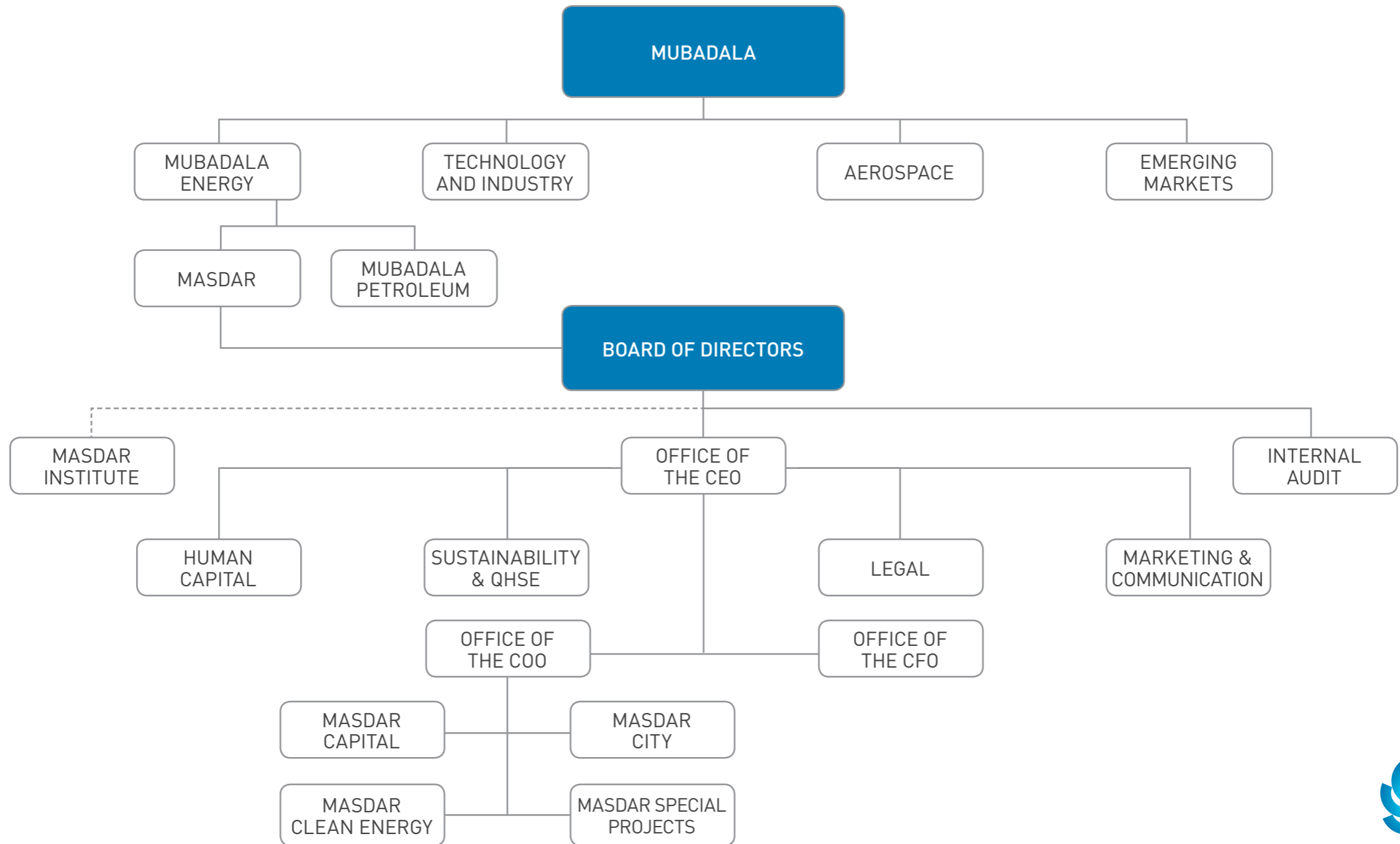
**Waleed Al Mokarrab Al Muhairi**  
Non Executive Board Member

Waleed serves as Mubadala's Deputy Group CEO and Chief Executive Officer of Emerging Sectors, with oversight of Mubadala's operational and business development activities as well as its healthcare, real estate, infrastructure and capital investment portfolios and Enterprise Technology & Services unit.

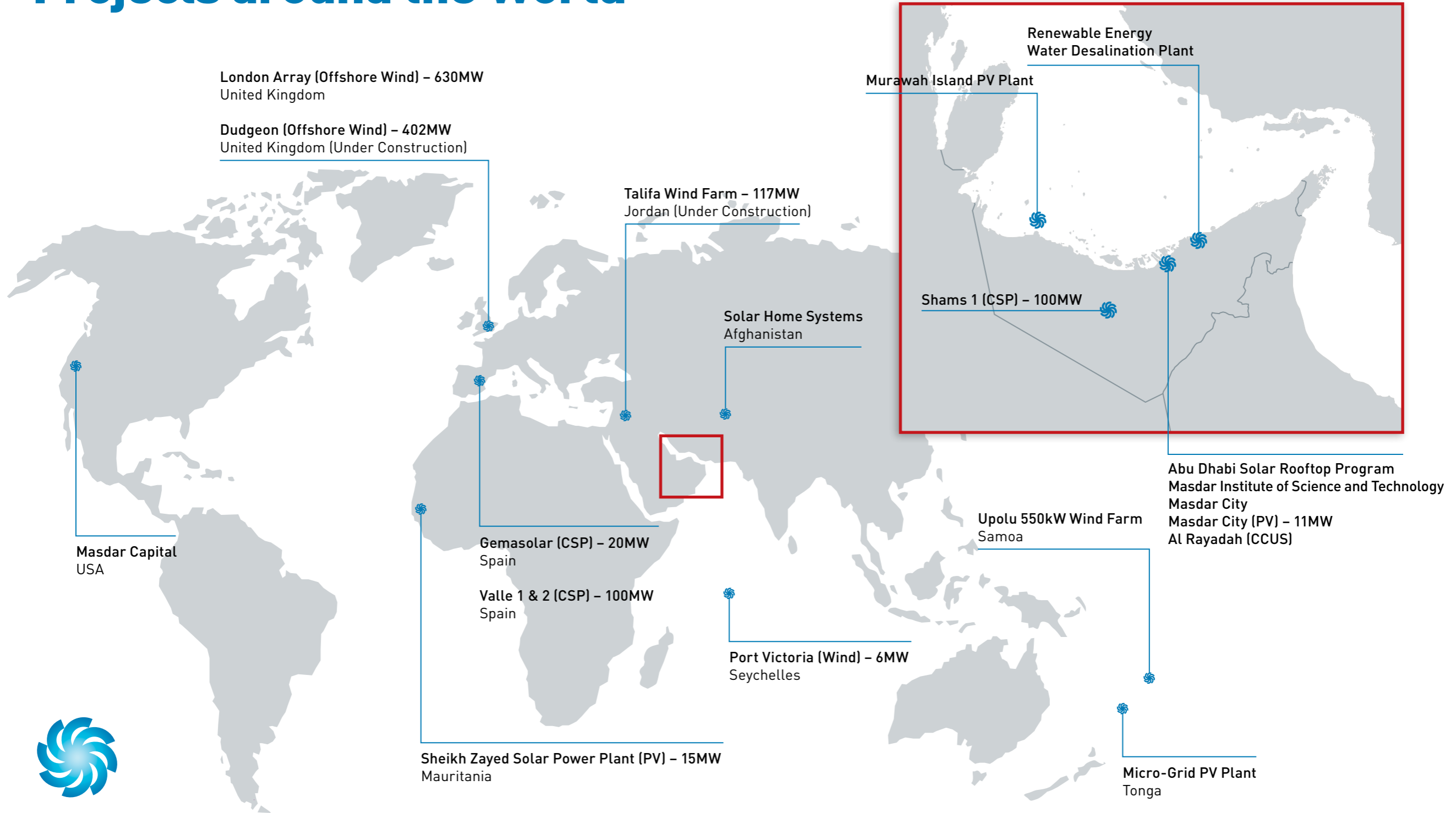




# Masdar Organisational Chart



# Projects around the World

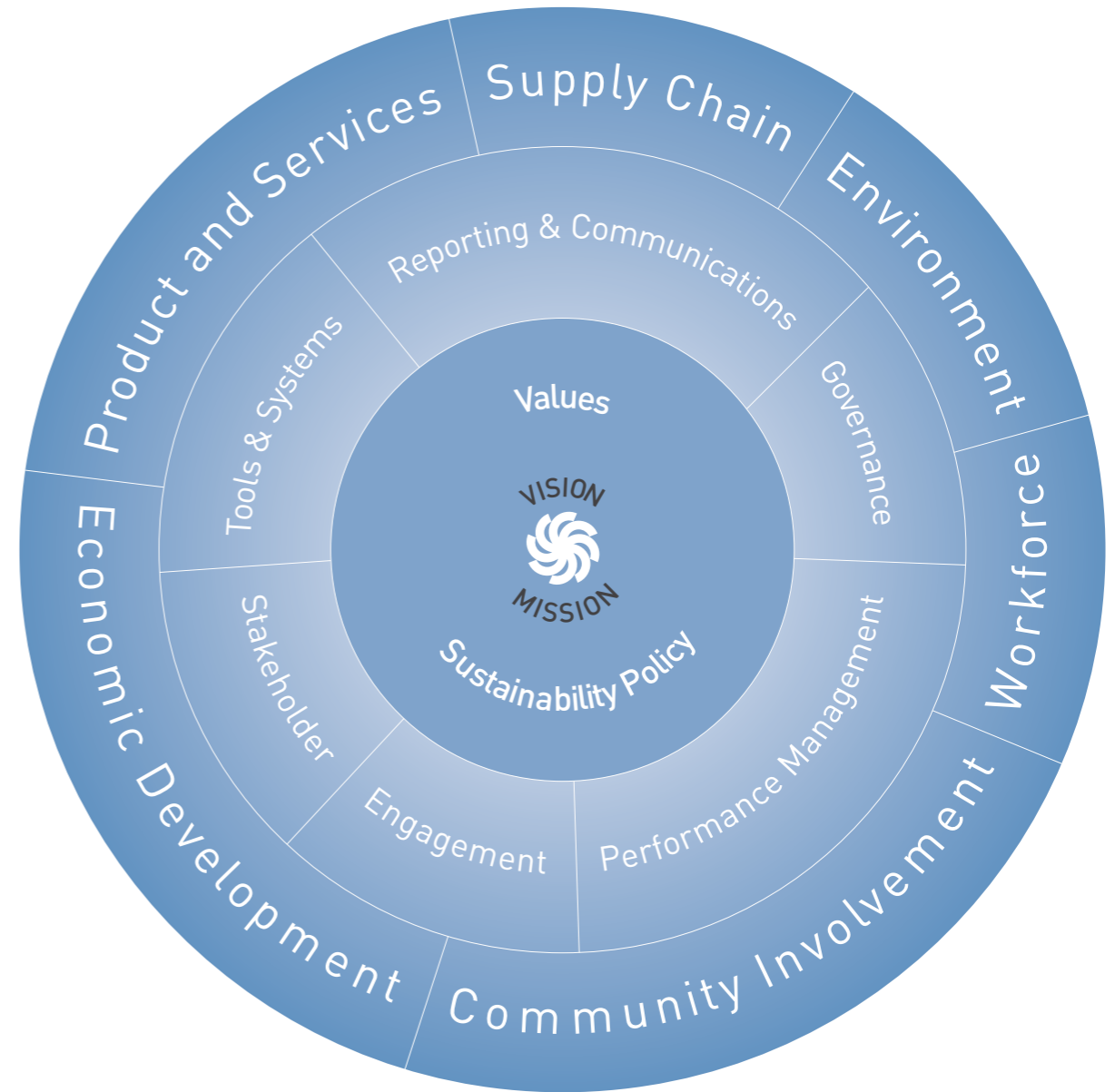


# Our Framework for Sustainability Best Practice

**Our approach to sustainability for this reporting period remains the same, as we seek continuity in our methodology for addressing, monitoring and managing our sustainability performance.**

By maintaining a structured approach, we are able to assess the development of key focus areas outlined through our sustainability reporting framework. To further align Masdar’s sustainability management with that of international best practice in sustainability reporting, the enablers and themes have been assessed and remain consistent with the latest GRI guidelines issued in May 2014, as well as the 2014 CDP questionnaire, to which Masdar has responded for the first time. The themes also stay true to the values and objectives of Masdar’s parent company, Mubadala, for example, in 2014 greater alignment with Mubadala’s policies and procedures were embedded into Masdar’s operations, as shown throughout this report.

Some processes and procedures have not changed, but the materiality analysis undertaken in the development of this report must be included to ensure that our stakeholders fully understand the management of key activities within the organisation.





# Organisational Drivers

Masdar has a core set of corporate values that underlie all of its business activities. The values and the sustainability policy statement are the guiding principles for Masdar's sustainability efforts and outline the ethos of the organisation.

Masdar's values remain the same. However the alignment with Mubadala has given the company another set of values to work by which will help us conduct ourselves as part of a world class business system under Mubadala.

## MUBADALA VALUES

### INSPIRATION

We are motivated by a deep sense of purpose, encouraging ourselves and each other to create an impact for the greater good.

### INTEGRITY

We do what we say, acting in accordance with the highest professional and ethical standards.

### ACCOUNTABILITY

We take responsibility for our actions and strive to be humble, transparent and efficient in everything we do.

### PARTNERSHIP

We work hand-in-hand together in the spirit of inclusion, supporting each other while growing as One Mubadala.

## MASDAR VALUES

### AGILE

We believe that success in today's energy marketplace requires the ability to move swiftly and in sync with changes in technology – that we can make decisions quickly and decisively and with an agility that keeps us at the forefront of the industry.

### COMMERCIAL

We believe that the best way to increase use of clean technologies is to demonstrate that they are commercially viable – to prove that their adoption will not only benefit the health and sustainability of our planet, but will also return profits to shareholder.

### SUSTAINABLE

We believe that sustainability is a key criteria that we must use in making decisions. We think about the degree to which the actions we take can be repeated in the future without any significant loss in quality, resources or efficacy.

### GROUNDING

We believe that because our business is so forward thinking – pioneering new concepts and technologies – it's vital that our decision making process be firmly rooted in reality. Everything we do is grounded in what is feasible, given financial and technical constraints. This will result in better technology, healthier returns



# Masdar's Sustainability Policy

A comprehensive, organisation-wide sustainability policy remains the embodiment of values and serves to articulate our approach to sustainability. The following guiding principles describe how Masdar will act when operating our business to achieve sustainability excellence. These principles therefore underlie all of our efforts to drive sustainability excellence throughout the organisation:

## **Drive innovation and operational efficiency through leading environmental and technology practices:**

Reduce the environmental impact of all aspects of our operations through strategic procurement, improved operational efficiency, minimising raw or non-renewable materials and energy consumption, and reducing waste and emission outputs into water, soil and the atmosphere.

Promote cleaner habitats and ecosystems, while building market opportunities through sound science, innovative research and deployment of sustainable technologies, and leading environmental operations, including responsible investing decisions, life-cycle accounting, interoperability infrastructure development, and integrated mobility operations.

## **Foster the growth and well-being of our people:**

Provide safe, secure, and healthy interactions for all our employees, visitors, contractors and customers through adoption of best quality, health, and safety management practices, controls and risk procedures.

Encourage employee development, in particular by creating employment opportunities, facilitating training opportunities, and encouraging a culture of continuous learning and engagement for all of our employees.

## **Engage and respond to stakeholder expectations:**

Respond to the issues, needs and expectations of our internal and external stakeholders through regular consultation, collaboration and on-going dialogue.

Provide transparent information and communications when reporting against our corporate goals and objectives, and where information is not available, we will provide an explanation or alternative information accordingly.

## **Invest in communities and people that support our business:**

Promote a vibrant long-term social fabric through active community involvement, public outreach, and sponsorship of local cultures and heritages via sustainability-related events.

Encourage local capacity building, and economic development through close co-operation with a global community of suppliers, business partners, researchers, governments and citizens that contribute to the development of sustainable technologies and methodologies.

## **Act as a responsible corporate citizen:**

Adopt and implement human rights and labour practices consistent with international obligations and commitments, through best practice training, management reviews, responsible sourcing and compliance assessments including internal and external verification sources as necessary.

Adhere to the laws of all regions and jurisdictions in which we operate and act fairly and equitably in all business practices by encouraging competitive markets, abstaining from any improper involvement in local political activities, and strictly adhering to Masdar's Code of Conduct.

## **OUR GUIDING PRINCIPLES**

The following guiding principles describe how Masdar will act when operating our business to achieve sustainability excellence throughout the organization.

**Accountability:** We will be accountable for our impacts on society and the environment.

**Transparency:** We will be transparent in decisions and activities impacting our stakeholders.

**Ethics:** We will behave ethically at all times.

**Responsiveness:** We will consider and aptly respond to the interests of our stakeholders.

**Lawfulness:** We will adhere to the rule of law and act in accordance with international norms. **Respect:** We will honor and respect the fundamental human rights and cultures of all our stakeholders.

**Stewardship:** We will conserve natural resources and steward global ecosystems.

**Profitability:** We will uphold fiduciary responsibility to ensure economic viability.

**Longevity:** We will consider the short-term and long-term impacts of our business and operations.

**Communication:** We will communicate, clearly, our sustainability achievements to our stakeholders.

# Vision Mission and Objectives

Masdars mission and vision serves as a reminder to all employees, stakeholders and interested parties, that all actions are taken to support the outlined corporate vision and mission. The established statements are as follows:

## MASDAR VISION

To make Abu Dhabi the preeminent source of renewable energy knowledge, development and implementation, and the world's benchmark for sustainable development.

## MASDAR MISSION

To advance renewable energy and sustainable technologies through education, research and development, investment, commercialisation and adoption.

**TO BE PROFITABLE**

**TO CONTRIBUTE**

to the development of a diversified knowledge-based economy in Abu Dhabi

**TO BUILD THE REPUTATION**

of Abu Dhabi and Masdar as global players in sustainability and renewable energy

**TO REDUCE THE CARBON FOOTPRINT**

of Abu Dhabi





# Governance

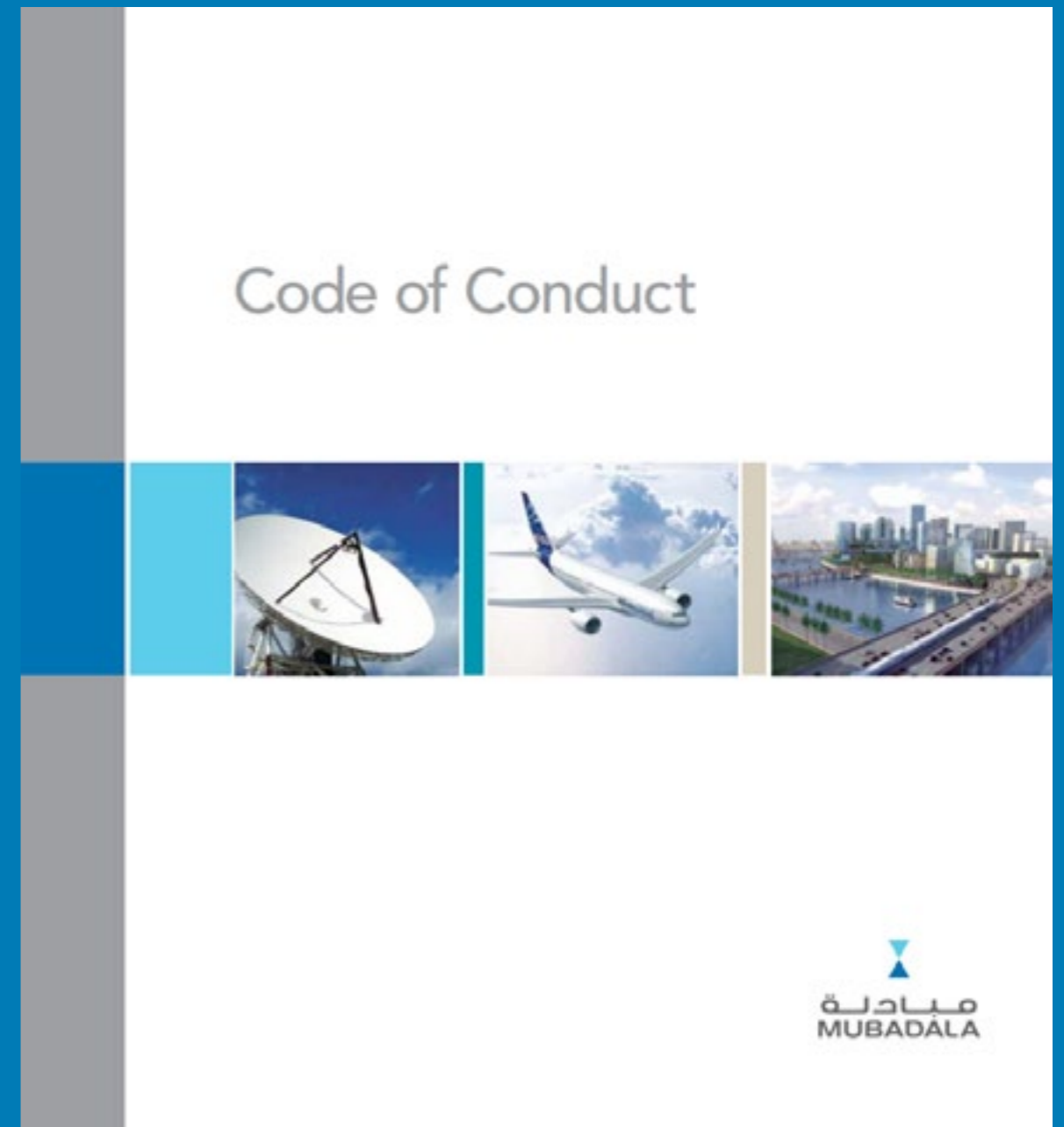
## Contents:

- ▶ Corporate Governance at Masdar

# Corporate Governance at Masdar

**Masdar has continued to ensure that the management of activities and the decision-making process is clearly defined to meet the challenges and opportunities the organisation faces.**

A strong focus on maintaining a robust governance system within Masdar allows the organization to take necessary actions in order to attain our shareholders' strategic objectives while meeting the needs and concerns of our key stakeholders. This section focuses on the specific structure, roles, responsibilities and related procedures that Masdar adopts to ensure that the responsibility for excellence continues to occur from the highest levels of the organisation and throughout our business units.





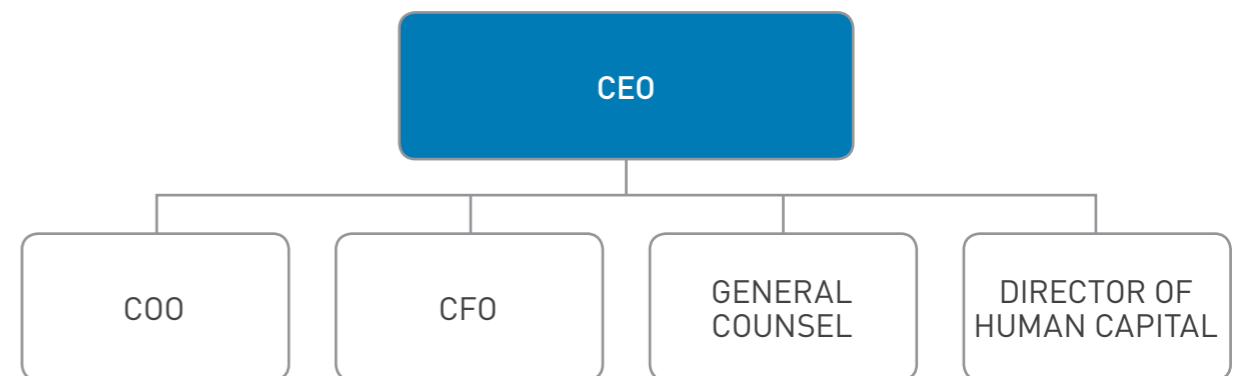
## Masdar Governance Committees

In order to foster proper governance and to meet the expectations of our stakeholders, Masdar relies on a number of committees. Each committee is tasked with addressing specific areas of our business operations, ranging from the company's sustainability efforts to ensuring the integrity of our governance framework.

## Masdar Executive Committee (ExCom)

Masdar's ExCom is the most senior committee within Masdar and is chaired by the Masdar CEO. Meeting once a week, the committee enables the cascading of information through the company from all business units as well as the C-level offices of Masdar. The committee is obliged to meet on a weekly basis and is tasked with highlighting key operational developments and issues related to the company. The committee enables a channel for upward and downward cascading of information, actions and decisions based on the following topics:

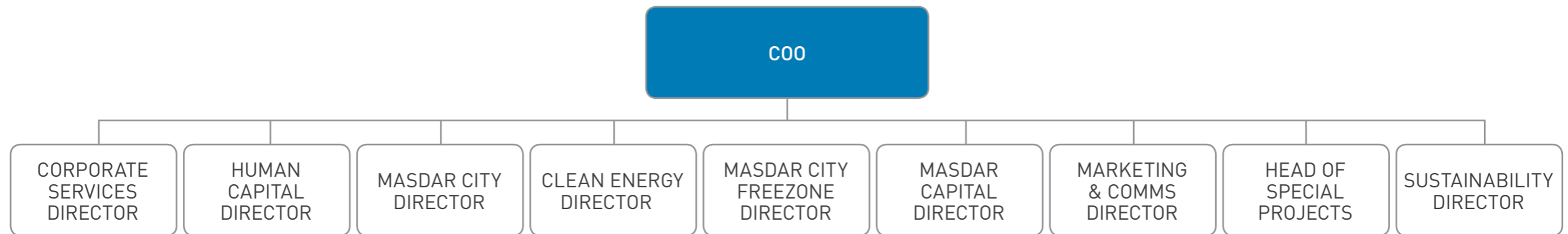
- Business update from OpCom.
- Internal Audit & Compliance update.
- Company Performance Tracking (monthly).
- Legal Update.
- Governance/Process.
- Shareholder & Stakeholder matters.



# Masdar Business Operating Committee (OpCom)

Masdar's OpCom has been established to highlight key operational developments and issues related to projects within the business units. OpCom represents a communication link between the executive management and the business units and departments. The committee members meet once a week and address the following topics:

- Project updates.
- Quality, Health, Safety & Environment issue.
- COO feedback from ExCom.
- Matters going to Investment Committee.
- Special topics including CEO update.
- The assignment and tracking of responsibilities.



# Masdar Investment Committee (IC)

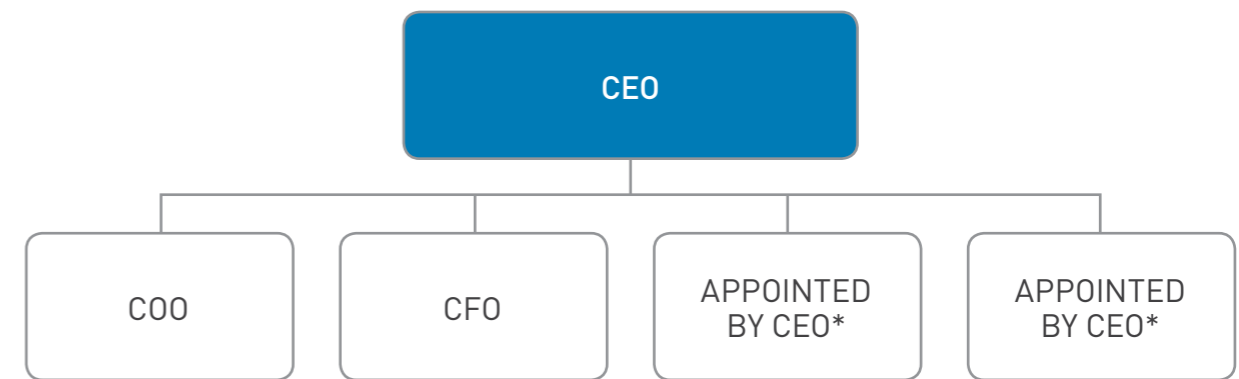
In order to ensure that the overall investment process is dealt with in the best interest of the company, the Investment Committee meets when an opportunity for investment is put forward and in need of review. The committee is tasked with evaluating and agreeing upon potential investments and divestments proposed by different business units of the company, taking into account the social and environmental impacts along with the economic benefits. The investment must address the following criteria:

Fit with Masdar Strategic Objectives	Build the reputations of Abu Dhabi and Masdar as global players in sustainability & renewable energy
	Foster development of local knowledge-based economy
	Critical to a strategic masdar initiative
	Reduce Masdar/Abu Dhabi carbon footprint
Financial Attractiveness	Profitability
	Ease of exit
	Financial exposure
Risk Profile	Risk
	Risk mitigation
Ability to Deliver	Masdar capabilities
	Resource availability

# Masdar Tender Committee (TC)

**The Tender Committee members:** Chairman (CFO), Corporate Services Director (Vice Chairman), Purchasing Manager (Secretary) + eight TC members (subject-matter experts).

TC is in place to ensure that procurements and contractual agreements are dealt with in a professional manner in order to maximise the consistency in the interpretation of the procurement process. The committee meetings are generally attended by one representative from the legal department, as well as the Head of Internal Audit to ensure that anti-corruption policies are rigorously followed and auditable.



\*Board of Director Approval required







# Culture

## Contents:

- ▶ Organizational Culture
- ▶ Awareness Sessions
- ▶ Employee Engagement

## ORGANIZATIONAL CULTURE

# Emphasising the Importance of Organisational Culture at Masdar

Increasingly in the business world, an organisation's culture can become a differentiator against competitors. It can highlight to internal and external stakeholders the work philosophy in delivering on the objectives set out by shareholders.

In 2014, Masdar adopted the Mubadala Group Code of Conduct as our parent company strives to unify the entire Mubadala Group under one cohesive, world class compliance system. The new code embodies Masdar's values, establishes the standards we and the Mubadala Group are committed to uphold, and outlines the business conduct our stakeholders can expect from us. In such circumstances, Masdar must maintain a core set of processes and procedures that support and monitor the management systems, while also boosting a strong sense of cohesion to maximise value, through integration, across all the core business functions.

**CODE OF  
CONDUCT**

**MANAGING  
RISK**

**RAISING  
AWARENESS**



Flag Day, 2014

## ORGANIZATIONAL CULTURE

# Mubadala Code of Conduct

**A robust set of guiding principles of how each employee should behave is clearly communicated through the corporate code of conduct to ensure Masdar operates in a respectful and responsible manner that satisfies all stakeholder requirements.**

**Conducting Business-** We will conduct our business around the world in accordance with all applicable laws and regulations. In our business dealings, Mubadala will compete but will do so fairly, complying with all laws protecting the integrity of the marketplace. We will not engage in unfair business practices and we will be fully compliant with competition, trade, financial and other international laws and accepted standards. We will meet these commitments by:

- Preventing improper payments in cash or in kind.
- Avoiding market misconduct.
- Complying with international trade laws.
- Preventing money laundering.
- Following competition laws.

**Working With Stakeholders-** We will treat our customers, partners, suppliers, employees and government representatives with respect and will always conduct our business activities with them professionally and in an ethical and compliant manner. We will offer hospitality that is measured and appropriate under the circumstances, protect their confidential information and avoid even the appearance of a conflict of interest that might harm our relationships. We will meet these commitments by:

- Offering and receiving gifts and entertainment appropriately.
- Avoiding conflicts of interest.
- Handling competitive information correctly.
- Working closely with suppliers.



- Working compliantly with governments.

**Protecting Our Company-** We will be responsible guardians of Mubadala's resources. We will protect the Mubadala Group reputation and assets, and utilize our time, equipment and information judiciously. We will meet these commitments by:

- Maintaining good controllership.
- Being good stewards of assets.
- Using our information technology resources appropriately.
- Protecting intellectual property and confidential information.
- Managing our documents.
- Ensuring our people, assets and information are secure.
- Communicating externally effectively.

**Working Together-** We will create a healthy and safe working environment in which we treat each other with the utmost respect. Our values are important to us and are reinforced as we uphold our Code. We are committed to achieving a clarity of purpose and maintaining a sense of pride in and a passion for what we do. We will meet these commitments by:

- Treating each other with respect.
- Maintaining a healthy and safe workplace.
- Protecting our privacy.

**Supporting Our Communities-** We will be good corporate citizens in the communities where we live and work. We will be guardians of the environment and will enhance our communities through our service. We will meet these commitments by these commitments by protecting the environment and serving in our communities.

**\*\*All employees are encouraged to report any concerns or malpractices they may come across to Human Capital or their assigned compliance reps.**

## ORGANIZATIONAL CULTURE

# Risk Management

Masdar promotes a focus on risk management across the company to help identify and mitigate risks in all business decisions.

**The Internal Audit assists the company in accomplishing its objectives by bringing a systematic, disciplined approach to evaluate risks to ensure:**

- Risks are appropriately identified and managed.
- Interaction with the various governance groups occurs as needed.
- Significant financial, managerial and operating information is accurate, reliable and timely.
- Employees' actions are in compliance with policies, standards, procedures, code of ethics and applicable laws and regulations.
- Resources are acquired economically, used efficiently and adequately protected.
- Programmes, plans and objectives are achieved.
- Quality and continuous improvement are fostered in Masdar's control process.
- Significant legislative or regulatory issues impacting Masdar are complied with and addressed appropriately.
- Opportunities for improving management control, output and Masdar's image may be identified during audits. They will be communicated to the appropriate level of management.

As part of its mandate, Internal Audit undertakes an annual risk assessment exercise across Masdar to identify and prioritize its risk universe.

Masdar's Internal Audit process is developed to be in line with the mandatory requirements set out through our parent company (Mubadala Development Company) and in accordance with Abu Dhabi Accountability Authority (ADAA) and the International Institute of Auditors (IIA). The ADAA was established in 2008 as an independent body, primarily responsible for enhancing and promoting transparency and accountability across Abu Dhabi government and public entities. The ADAA ensures that these subject entities are managing and utilising their resources and funds efficiently, effectively, economically, ethically and in alignment with achieving the overall vision of Abu Dhabi.

**CONTINUOUS  
QUALITY  
CONTROL**

**APPROPRIATE  
IDENTIFICATION AND  
MANAGEMENT  
OF RISKS**

**RESOURCES  
ARE ACQUIRED  
ECONOMICALLY, USED  
EFFICIENTLY  
AND ADEQUATELY  
PROTECTED**



## AWARENESS SESSIONS

# Masdar Health Sessions

## Education and awareness are crucial to enhancing the health of the Masdar workforce.

In order to ensure the maximum understanding of key health issues prevalent in the region, Masdar undertook a number of initiatives and activities to provide employees with access to information related to health and wellbeing.

APRIL, 2014

### HEALTH SCREENING

All Masdar employees were invited to the annual health screening. The purpose of this initiative is to detect and prevent possible chronic diseases. The following tests were performed:

- **InBody Technology:** A quick analysis of body weight, fat, water and muscle composition.
- Blood sugar & blood pressure.
- **FINDRisk** Questionnaire: Helps calculate a patient's risk of developing type 2 diabetes in the coming years.
- **Ezscan:** A device that accurately measures a patient's diabetes risk and instantly displays results.

### BREAST CANCER AWARENESS

At the session, employees received brochures and information about network hospitals that provide breast cancer screening. A one-hour lecture on breast cancer, preventative measures, treatments and myths was shared with employees.

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Breast Cancer Awareness Day

OCTOBER, 2013





AWARENESS SESSIONS

# Knowledge Sharing – Masdar Institute Lecture Series

As a research institute, Masdar Institute welcomes subject matter experts to address not only MI students but also all Masdar employees and other key stakeholders. These guest lectures are designed to provide a detailed and highly technical account of a range of topics from technologies to policy implementation. The objective is to enhance knowledge sharing throughout Masdar.

All Masdar staff and stakeholders are encouraged to attend these lectures to expand their understanding of sustainability challenges and how to overcome them.



President of MIT Dr. Rafael Reif delivers a lecture at the Masdar Institute



H.E. Sheikha Lubna Al Qasimi, UAE Minister for International Cooperation and Development delivers a Speech at the Masdar Institute

## SEP-2014

**GUEST SPEAKER**  
HE Shaikha Lubna Al Qassimi

**GUEST SPEAKER POSITION**  
Minister for Foreign Trade

**ORGANISATION**  
The United Arab Emirates

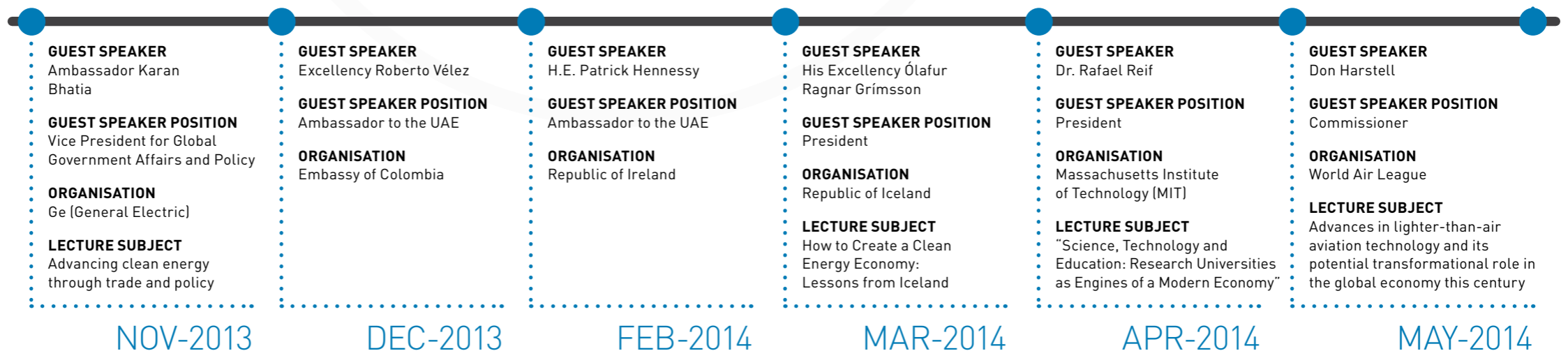
**LECTURE SUBJECT**  
‘Towards Sustainability: The Role of the UAE as a key player in Global Human Development’

**GUEST SPEAKER**  
H.E. Razan Al Mubarak

**GUEST SPEAKER POSITION**  
Secretary General

**ORGANISATION**  
Abu Dhabi Environment Agency

**LECTURE SUBJECT**  
Sustainable Growth – achieving the vision



AWARENESS SESSIONS

# Masdar Social Committee

The Social Committee is comprised of employees who, aside from their day-to-day work activities, are dedicated to providing all Masdar staff with team-building activities and social events that are designed to bring everyone closer together to enhance collaboration and teamwork. To the right is a list of all the activities that the social committee managed during the reporting year.

The Social Committee also provides Masdar employees with a number of special offers and gifts throughout the reporting year. Employees received presents for Mothers and Fathers day as well as on the two Islamic holidays of Eid ul-Fitr and Eid ul-Adha. Discounted coupon booklets for use at various locations throughout Abu Dhabi were available at special rates for employees in addition to discounted tickets for performances and attractions in the UAE.



National Day at Masdar Institute



Celebrations at Masdar Institute



## EMPLOYEE ENGAGEMENT

## Employee Recognition

Employee Engagement functions at Masdar help to motivate, inspire and retain Masdar's employees in order to maintain the long-term stability of the company.

### The Recognition Program's goals are to:

- Celebrate and reward our employees who contribute to Masdar in exceptional ways.
- Empower our employees to actively engage and recognize high-performing people who live the values.
- Connect employees to the values in their day-to-day role by showcasing real examples of how values are applied.
- Reinforce the idea that our desired culture is about delivering significant contribution to the goals AND doing so with the right behaviors – Masdar Strives for a high performance culture.



Masdar Employee Engagement Day

## Talent Development and Employee Performance

### Nurturing our Talent

The Talent Team's goal is to provide tools, resources and guidance to enhance performance and professional growth through competency development.

### The team manages:

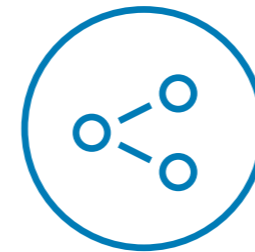
- Employee Performance Appraisal Management.
- Training Management.
- Career Development.
- Succession Planning.
- Mobility programs (secondment, rotation, and internships).
- Mentoring Program.



Masdar Employee Engagement Day







# Stakeholder Engagement

## Contents:

- ▶ Our Approach to Stakeholder Engagement
- ▶ Stakeholder Mapping
- ▶ Masdar Engagement Activities
- ▶ Stakeholder Materiality Analysis
- ▶ Masdar GRI G4 Materiality Analysis

## OUR APPROACH TO STAKEHOLDER ENGAGEMENT

# Our Approach to Stakeholder Engagement

For Masdar, a stakeholder is a person, group or organisation that has a direct or indirect stake in an organisation because of how they can affect or be affected by the organisation's actions, objectives and policies. These include but are not limited to employees, partners, local community members and customers. It is the role of an organisation to ensure that adequate data is made available to inform each stakeholder group.

In 2014, Masdar conducted a comprehensive review of our stakeholder management. As a part of this review, an updated stakeholder mapping was developed to Masdar's various types of interactions. A new feature within this report highlights type and frequency of engagement at every level of the organization.

The revised stakeholder engagement exercise of 2014 is a major advancement in how we interact with key stakeholders, and address their wants, needs and concerns regarding Masdar's business functions.



H.E. Dr Sultan Al Jaber speaks at Abu Dhabi Ascent climate summit 2014



## STAKEHOLDER MAPPING

# Process of Mapping Stakeholders

Masdar uses Stakeholder Engagement mapping for knowledge exchange, to guide, shape, and influence meaningful stakeholder engagement practices to attain long term commercial development.

## ANALYZE STAKEHOLDERS

## GAIN STRATEGIC INSIGHTS

## INCREASE RETURN ON INVESTMENT

## INCREASE VALUE OPPORTUNITY

- Enables management to **broaden the vision beyond commercial contract** obligations to assess expectations, interests and claims.
- Agility to **address changing stakeholder needs**, interests, power and influence
- Provides **valuable insights** on how to progress in the relationship
- Identify **hidden interests**
- Provide analytical mechanisms to **address troublesome** or inert relationships
- **Identify risks** that may occur due to changing circumstances
- **Collaborative** knowledge management to keep all team members informed
- Negotiation / **coalition building tactics** are enhanced
- Increased percentage of commercial considerations
- Increased number of positive referrals for project opportunities
- Time spend on opportunity discussions
- Time spent on issue discussion
- Measure number of stakeholder touch points
- Stakeholder feedback satisfaction values
- Aligning and mapping stakeholder to our strategy and business plans **reduces risks**
- A different viewpoint increases knowledge creation to **second value** commercial activity.
- Enables **long-term thinking** and structure to manage current and future relationships
- **Identifies gaps** in our relationships and seek ideal/**target stakeholders**

STAKEHOLDER MAPPING

# Stakeholder Groups

Masdar has redefined its Stakeholders into 3 groups: Commercial Stakeholders, Relational Stakeholders and Internal Stakeholders. Below showcases the revised stakeholder groups and descriptions:

Masdar Rating Scale		
PARTNER	STRATEGIC	Entity with a commercial contract attached to a project / project finance alignment.
	KEY	Entity with an MOU agreement to develop key relationships, resources or project development.
TENANT	STRATEGIC	Anchor tenant that advances the Masdar City technology, cluster, or incubator agendas.
	BASIC	Entity with a lease agreement.
INTEREST PARTY / INDIVIDUAL	STRATEGIC	Entity or individual of interest that falls within the strategy or business plan scope or advances brand or footprint.
	BASIC	Entity or individual with an undefined scope for business alignment.



## MASDAR ENGAGEMENT ACTIVITIES

# Masdar's Stakeholder Engagement

By segmenting our stakeholders, Masdar is able to provide a structure to ensure the appropriate participants to balance out our business needs alongside the corporate development and relational stakeholder needs.

The focus is to streamline stakeholder meetings with the right people for the right purpose.

STAKEHOLDER ENGAGEMENT MATRIX									
STAKEHOLDER CATEGORIES		C LEVEL	HEAD	MANAGER	BU DIRECTOR	HEAD	MCC/CR	ADSW	
COMMERCIAL	PARTNER	Strategic	Bi Annual Key Meetings Travel to host 1 X year	ME Tour Working groups Monthly meetings	CRM tracking Progress Reports Annual Survey	Bi Annual	ME Tour Bi Annual Working Group		YES
		Key	Bi Annual Meeting	Monthly meeting Progress reports	CRM tracking / campaigns Sttend meetings Annual Survey		Progress Reports	ME Tour	YES
	TENANT	Strategic	When required	Business Development monthly MOU progress reports	Attend meetings	Bi Annual	CRM Monthly meeting		YES
		Core					Audits / Surveys Tenant Activities		NO
	Service Provider / Vendor						Bi Annual Meeting Audit / Surveys		YES
	Customer						Audits Surveys		YES
RELATIONAL	Financial Institution		CFO - Quarterly						YES
	Academic Institution						Social Media Newsletters	ME Tour	NO
	Regulatory Government			Enabling Meetings Service / budget reviews	Progress Meetings CRM Activities			ME Tour	YES
	NGO							ME Tour	NO
	Local Community						Social Media Newsletters	ME Tour	NO
	INTEREST PARTY	Strategic	Corporate Overview (20 min)	Presentation / Masdar Experience Tours Conferences / panels	Progress Meetings CRM Activities	Meetings	Presentation / Masdar Experience Tours	ME Tour	YES
Employees				CRM Activities			Corporate PPT / ME Tour	NO	



## MASDAR ENGAGEMENT ACTIVITIES

### ENGAGEMENT ACTIVITIES

Engaging both internal and external stakeholders is an important part of our organisational process as stakeholder interests, expectations and needs allow for Masdar to ensure that there is a focus on the applicable social, economic and environmental impacts. Masdar continued, during the reporting period, to maximise stakeholder engagement to obtain the best possible understanding of the key factors that affect the perception and decision-making process of our stakeholders.

#### BUSINESS UNIT ENGAGEMENT WORKSHOP (SEPTEMBER 2014)

An internal workshop was conducted in September with members of all Masdar business units to review the previous years sustainability report and to understand how the report can be used as a tool to identify improve and monitor their respective units.

#### MASDAR CITY TENANTS ENGAGEMENT WORKSHOP (SEPTEMBER 2014)

A workshop was held for occupants of Masdar city as a first step toward more transparency and communication between the Masdar and its tenants. The workshop covered sustainability initiatives being undertaken by Masdar

#### 'FORUM CORUÑA FUTURA' JULY 2014

This Forum served as an arena to discuss the various initiatives for sustainable development in the cities of Curitiba, Masdar City and Pamplona. The Director of Masdar City, Anthony Mallows spoke at the third Forum for the Future in Cruna Spain. His speech highlighted these urban projects in the city of Masdar and the longterm vision to build the first sustainable city in the world.

#### ALL ENERGY EXHIBITION AND CONFERENCE – MAY 2014 ABERDEEN, UNITED KINGDOM

The All Energy Conference is the UK's largest renewable energy event showcasing the complete range of renewable and sustainable technologies and attracting visitors from 48 countries. Bader Al Lamki, the Director of Masdar Clean Energy, was invited to speak at the conference about Masdar activities, opportunities for inward investment and areas where the company seeks to invest.

### MUBADALA ENGAGEMENT FORUM (MAY 2013)

Mubadala hosted its annual employee engagement forum to highlight and update key activities across the group. The results of the employee survey were detailed in a series of breakout sessions took place to encourage cross collaboration among the Mubadala business units.

The Masdar Institute iCenters serve as key interfaces with industry, government and academic partners. The institute engages with external stakeholders through various methods including hosting conferences, workshops and through digital and traditional communication to spread news. Some examples of iCenter stakeholder engagement can be seen below.

### I ENERGY

Student presentations at local and international conferences;

- Materials Research Society, Gordon Research Conference, conferences **ASHRAE (Seattle 2014),**
- 11th IEA Heat Pump Conference **(Montreal 2014),**
- Pacific Rim Summit, December 8-11 December, 2013 San Diego, USA,
- 36th Symposium on Biotechnology for Fuels and Chemicals. April 28-May 1, 2014. **Clearwater Beach, USA,**
- 10th European Symposium on Biochemical Engineering Sciences and 6th International Forum on Industrial Bioprocesses. **Lille, September 7-10, 2014, France**

### I INNOVATION

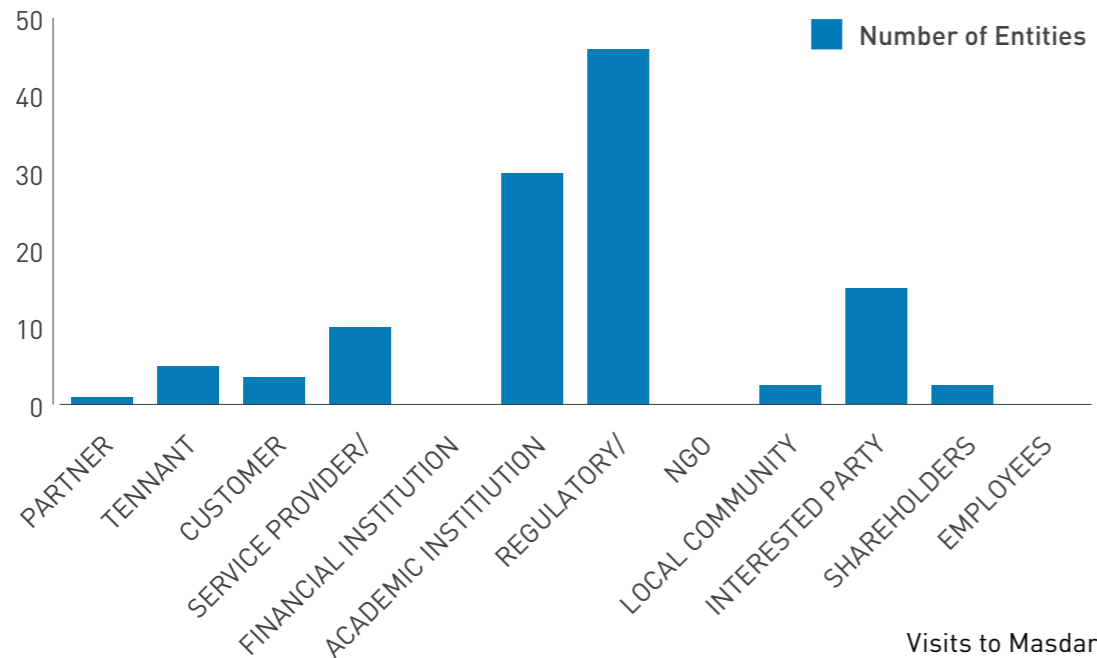
- In summer 2014, convened three round table meetings of UAE innovation stakeholders to discuss the creation of an 'Innovation Zone' at Masdar City – modeled on existing free zones that would facilitate creation and success of technology startups. It is expected to encourage dialog and collaboration among a broad range of UAE inventors, investors, entrepreneurs, corporations and policymakers.



MASDAR ENGAGEMENT ACTIVITIES

MASDAR CONNECT

Over the past few years, Masdar City has become, not only a destination to inspire experts and the general public, but also the platform to engage with our stakeholder groups. A dedicated team handles all visits from school trips to VIP delegations.



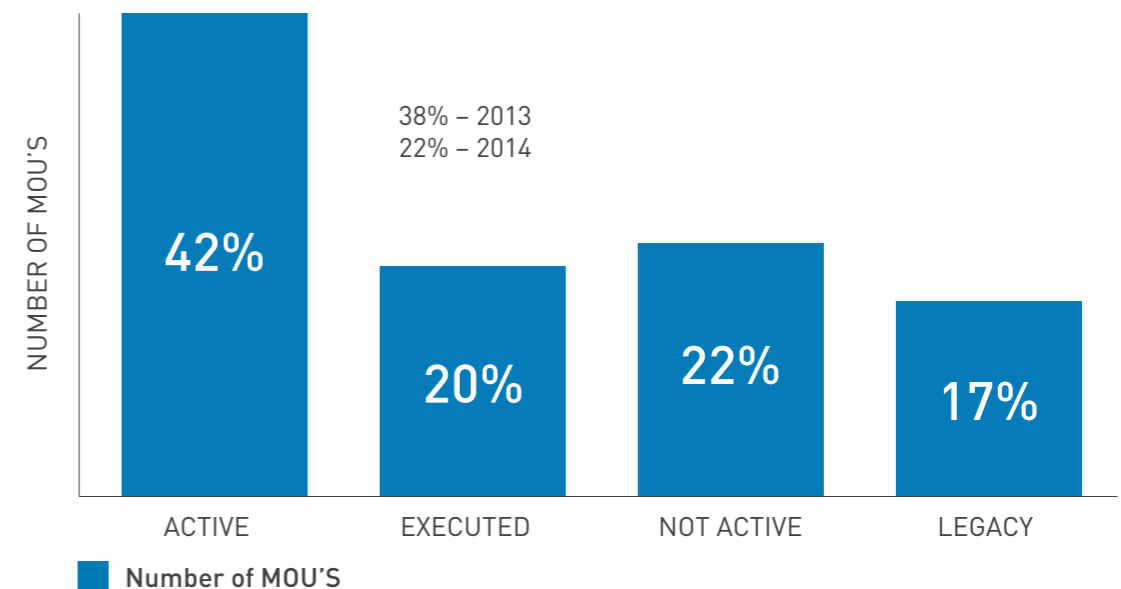
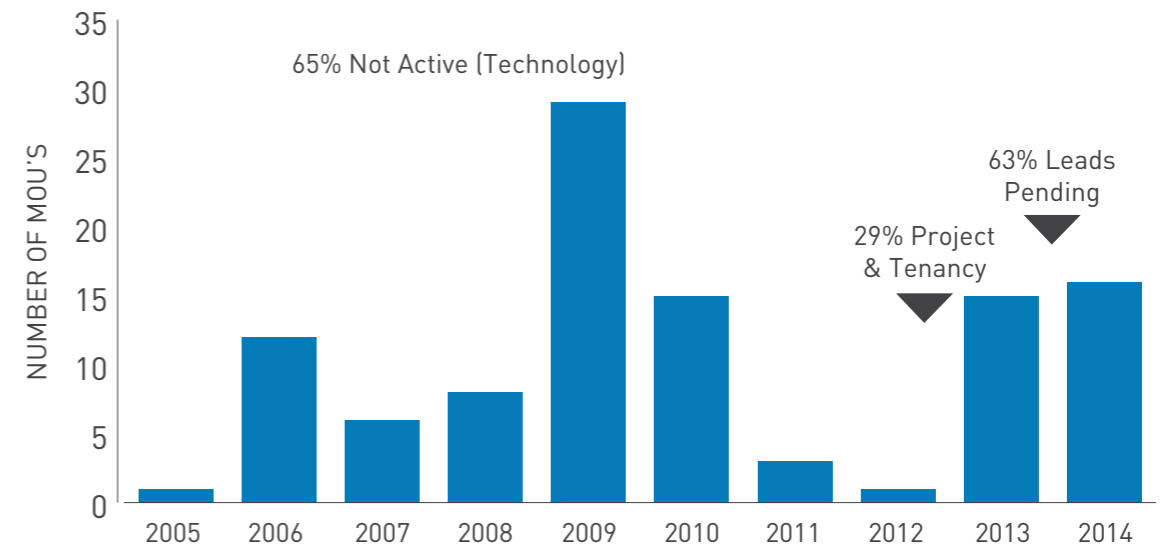
MASDAR MOU'S

The Development of a Memorandum of Understanding (MOU) is one of a number of ways in which Masdar engages with its stakeholders. As of September 2014, there were 106 MOUs that fall into four different categories:

- **Active** MOU: Considered MOUs that have an ongoing relationship with a manager assigned to the relationship.
- **Executed** MOU: When a binding agreement is executed and signed.
- **Not Active** MOU: Categorized when the relationship is no longer active and **Legacy** MOU: A Mubadala signed contract.



During 2013/14, MOUs became more focused on commercial activities multinationals and government agreements rather than relational type or technology focused MOUs, and this has led to commercial projects and/or tenancy agreements.



MAIN	CATEGORY	STAKEHOLDER ENGAGEMENT AND IMPACT MATRIX			
MASDAR STAKEHOLDER		HOW MASDAR ENGAGES	MATERIAL ISSUES RAISED DURING ENGAGEMENT	RESPONSE TO MATERIAL ISSUES	
COMMERCIAL STAKEHOLDER	Partner	Working groups Monthly progress reports Conferences/panels MOUs	C Level meetings Assigned Bu Focal Point Stakeholder Engagement activities CRM activities	Adherence to International Standards Demonstration of Ethical Policies Showcase Best Practices	Governance Economic development Performance
	Tenant	Helpline Engagement events Audits Surveys	Email campaigns (CRM) Newsletters Social Media Tenant Forums / Meetings	Access to business State of the art facilities Networking opportunities Performance data	Economic development Products and Services Reporting and Communication
	Customer	Social Media Newsletters Local activities	Business development activities Conferences / panels Website / Press releases	Policies Showcase best practices Supply chain practices Performance	Products and services Community involvement Economic Development
	Service Provider/Vendor	Progress meetings Service / budget reviews	Customer service feedback surveys Audits	Supply Chain Management Policies Recognition of performance	Performance management Supply Chain
RELATIONAL STAKEHOLDER	Financial Institution	Progress meetings Service / budget reviews	Customer service feedback surveys Audits	Policies Portfolio Progression	Tools and Systems Culture
	Academic Institution	MOUs Conference / panels	Social media CRM activities	Advancement of industry issues Best Practices Performance data	Products and Services Community Involvement
	Regulatory / Government Body	MOUs Conferences / panels Progress reports	C Level meetings Business development Working groups	Compliance efforts Continuous disclosure Lessons learned Credibility of performance data	Reporting and Communications Economic development Product and Services
	Non Government Organization (NGO)	Congferences / panels Social media	Newsletter Reports	Targets and commitments Follow up on past commitments Community programs	Environment Stakeholder engagement
	Local Community	Social media Engagement events	Masdar City tours Newsletters	Environmental and Social Impacts Benefits of amenities Performance data	Community involvement Reporting and Communications
	Interest Party / Individual	Social media Engagement events	Social media Website	Practices Performance data Best Practices	Environment awareness Stakeholder engagement
INTERNAL STAKEHOLDER	Shareholder(s)	Progress meetings C Level and BoD meetings Annual reports	Engagement events Working groups Talent mobility	Portfolio Progress Social impacts Emiratization Demonstrating best practices	Economic Development Governance Performance
	Employees	Progress meetings Engagement events	Surveys Intranet / Emails	Job Security Career development Recognition of work Portfolio Progress	Performance management Stakeholder engagement



MASDAR GRI G4 MATERIALITY ANALYSIS

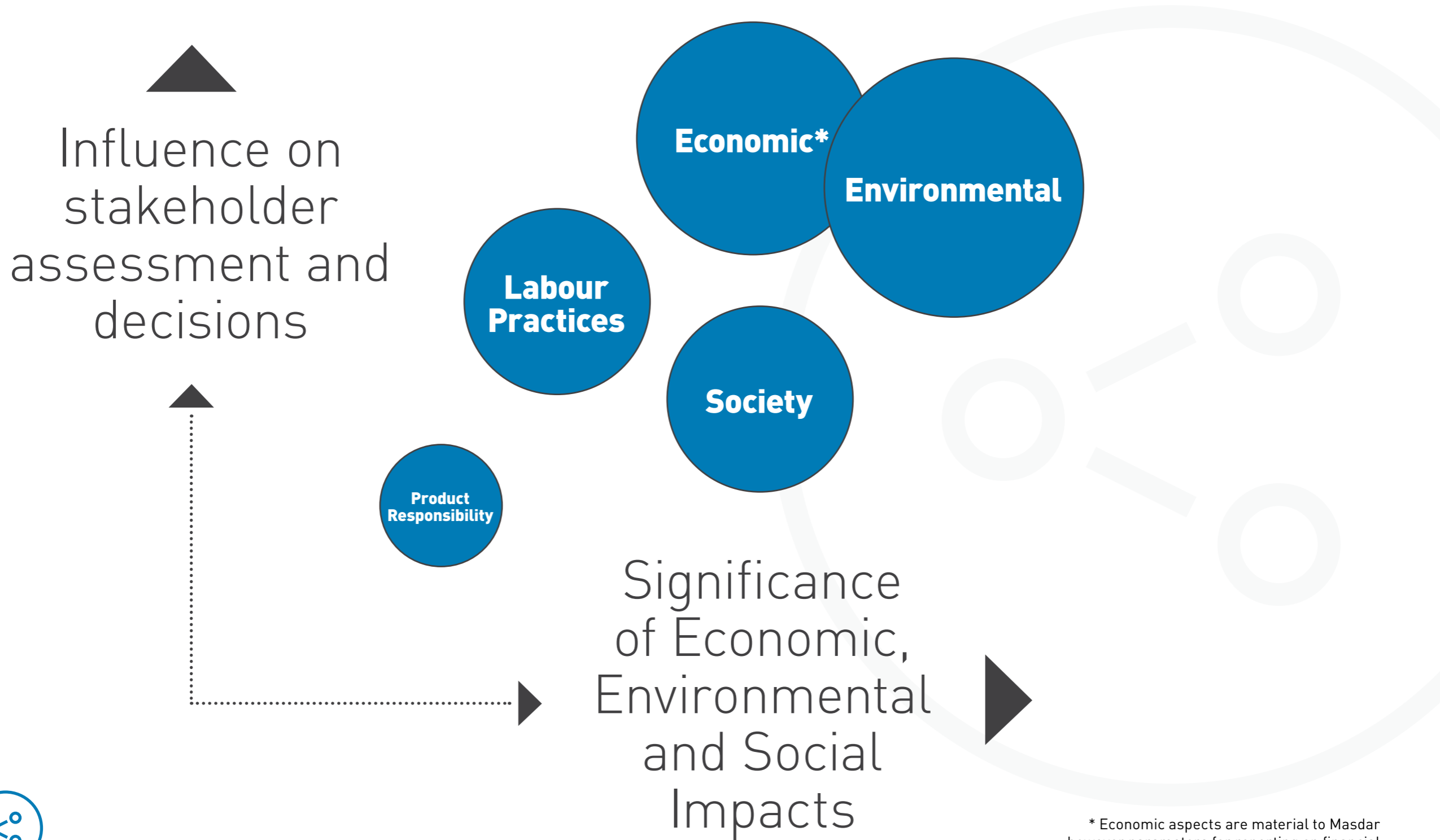
# Masdar GRI G4 Materiality Analysis

As part of the GRI G4 guidelines, Masdar has developed a table to indicate the general and specific standard disclosure indicators that have particular relevance to Masdar’s defined stakeholders. It gives the reader of this report an indication of the boundaries set for each material indicator.

MASDAR SUSTAINABILITY REPORTING FRAMEWORK	KEY STAKEHOLDERS	RELEVANT GRI G4 ASPECTS
Governance	Partners - Regulatory /Government bodies	Investment
Culture	Customers - Service Provider/Vendor - Employees - Academic Institutions	Environmental Grievance Mechanisms Labour Practices Grievance Mechanisms Human Rights Grievance Mechanisms Grievance Mechanisms for Impacts on Society Ethics and Integrity
Stakeholder Engagement	n/a	General Standard Disclosure
Performance Management	Partners - Regulatory/Government bodies - Shareholders - Non-governmental Organisations (NGO’s) - Academic Institutions	Compliance
Tool and Systems	- Non-governmental organisations (NGO’s)	Labour/Management Relations
Reporting and Communication	- Tenants - Local community	General Standard Disclosure
Environment	- Partners - Regulatory/Government bodies - Customers - Employees - Service Provider/Vendor - Non-governmental organizations (NGO’s) - Local community - Academic Institutions	Energy Water Emissions Effluents and Waste Transport Local Communities
Workforce	Employees - Shareholders - Local community	Employment Occupational Health and Safety Training and Education Diversity and Equal Opportunity
Community Involvement	Shareholders - Employees - Tenants - Local community	General Standard Disclosure
Economic Development	Tenants - Local community - Shareholders - Service Provider/Vendor	Economic Performance Market Presence Indirect Economic Impacts
Product & Services	- Partners - Tenants - Customers - Employees	General Standard Disclosure
Supply Chain	- Partners - Customers - Service Provider/Vendor - Shareholders - Non-governmental organisations (NGO’s) - Academic Institutions	Procurement Practices Materials Supplier Environmental Assessment Supplier Assessment for Labour Practices Child Labour Forced or Compulsory Labour Assessment Supplier Assessment for Human Rights



MASDAR GRI G4 MATERIALITY ANALYSIS



\* Economic aspects are material to Masdar however parameters for reporting on financial performance are limited by the Shareholder



2014 GRI G4 Materiality Map and Boundary Overview

High Materiality	MASDAR CORPORATE				MASDAR BUSINESS UNITS AND AFFILIATES							
Low Materiality												
Outside of Reporting Boundary for 2014 report												
MATERIAL ASPECTS	PROCUREMENT & FINANCE	HUMAN CAPITAL	FACILITIES MANAGEMENT	SUSTAINABILITY & QHSE	MASDAR INSTITUTE	MASDAR CITY	SPECIAL PROJECTS	MASDAR CAPITAL	AL REYADAH	SHAMS POWER CO.	TORRESOL	LONDON ARRAY
Masdar Ownership Percentage									49%	60%	40%	20%
<b>Economic</b>												
Economic Performance	High											
Market Presence		High			High						High	
Indirect Economic Impacts				High	High	High	High				High	High
Procurement Practices	High											
<b>Environmental</b>												
Materials				High		High						
Energy			High	High		High						
Water			High	High		High						
Biodiversity						High						
Emissions				High		High						
Effluents and Waste			High	High		High						
Compliance				High		High						
Transport			High	High		High						
Supplier	High			High								
Environmental Grievance Mechanisms				High								
<b>Social</b>												
<b>Labor Practices and Decent Work</b>												
Employment		High									High	
Labor / Management Relations		High										
Occupational Health and Safety				High	High	High	High				High	High
Training and Education		High			High						High	
Diversity and Equal Opportunity		High			High						High	
Supplied Assessment for Labor Practices	High			High								
Labor Practices Grievance Mechanisms		High										
<b>Human Rights</b>												
Investment	High											
Non-discrimination	High											
Child Labor				High								
Forced or Compulsory Labor				High								
Assessment	High											
Supplier Human Rights Assessment				High								
Human Rights Grievance Mechanisms		High										
<b>Society</b>												
Local Communities						High	High				High	
Anti-corruption	High											
Anti-competitive Behavior	High											
Supplier Assessment for Impacts on Society	High											





# Performance Management

## Contents:

- ▶ The Value of Performance Management
- ▶ Organisational Performance Management
- ▶ QHSE Performance Management
- ▶ Construction Environmental Management Performance

## THE VALUE OF PERFORMANCE MANAGEMENT

# Performance Management at Masdar

For Masdar, performance management is the process of measuring the organisation's sustainability performance against its stated objectives.

**Performance management is comprised of:**

- Objectives.
- Key Performance Indicators (KPIs).
- Targets.
- The process by which these objectives and KPIs are tracked and measured (assessment process).

## Objectives

Masdar sets operational objectives as a vehicle to define the expected corporate, business unit and individual outcomes to achieve the overall business plan. Incorporating sustainability into the development of annual objectives is a critical step in the integration of sustainability into how Masdar is run.

- Workforce - Deploy leading employee programmes and standards for all workers directly associated with Masdar operations.
- Economic Development - Accelerate the advancement of local economies where Masdar operates.
- Products and Services - Responsibly deliver products and services that promote the transition to low-carbon economies and sustainable living.
- Environment - Manage all operations in such a way as to minimise environmental impact while demonstrating environmental stewardship.
- Supply Chain - Maximise our sphere of influence through ethical business practices and responsible sourcing.
- Community Involvement - Collaborate with and support external stakeholders (e.g., local communities, government, NGOs) to build lasting relationships while tackling relevant sustainability concerns.

## Key Performance Indicators (KPIs)

Masdar acknowledges that sustainability performance leadership begins with a selection of strategic KPIs that enables the organisation to focus on important issues. The defined KPIs are the measureable pieces of information or data used to track performance against Masdar's high-level sustainability goals and desired outcomes communicated to our stakeholders.





## ORGANISATIONAL PERFORMANCE MANAGEMENT

# Organisational Performance Management Reporting (PMR)

**The PMR provides an update on Masdar's monthly operational and financial performance when compared with the operational and financial position taken by each unit in the Masdar Business Plan.**

All units' key financial and operational updates are compiled for the Masdar Senior Management. These updates are in the form of a scorecard. The scorecard system allows Masdar to address each milestone line item with sufficient detail, which gives the opportunity to capture and explain deviations, and flag them for the executive leadership's attention, when necessary.

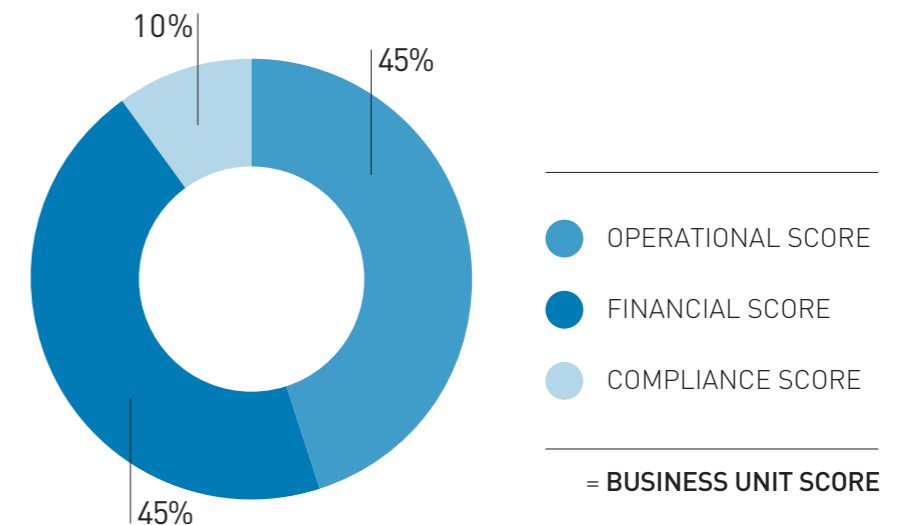
An annual Masdar score is a weighted sum of all unit and department scorecards that is then issued to senior management for distribution to the board of directors and Masdar's shareholder.

Unit scores represent a snapshot of Masdar's actual performance against its planned annual targets. A 'compliance' score signifies the achievement of major / strategic objectives, as well as compliance with reporting guidelines.

**At the year end, the individual employee's performance assessment is a reflection of:**

- 1) the employee's delivery against his/her individual KPIs,
- 2) the performance of the employee's business unit, and
- 3) Masdar's overall performance score. The employee performance evaluation is utilised using Talent Management software to track, monitor and report an individual's KPI accomplishments.

## Masdar Business Unit Scoring



ORGANISATIONAL PERFORMANCE MANAGEMENT

# Employee Performance Management at Masdar

**The employee performance management system is the basis of Masdar’s results-orientated performance-driven culture. The purpose of performance management is to:**

- Align employee goals with Masdar’s business objectives and strategic plans.
- Use objective and quantifiable measurements when planning or evaluating employee performance.
- Monitor and provide feedback to employees on their performance during the performance cycle.
- Improve employee performance through structured development activities.
- Sustain the link between employee performance, career progression and reward.

**The employee performance management system is comprised of two main functions:**

- Setting organisational and employee objectives on a bi-annual basis.
- Setting a competency framework to be used for defining acceptable corporate behaviour.



Masdar’s Employee Performance Cycle



Executive and Sr Mgt Competencies		Mgt Competencies	
BEHAVIOR	1. Leadership and Team Development	BEHAVIOR	1. Leadership and Team Development
	2. Relationship Management		2. Relationship Management
BUSINESS	3. Operational Effectiveness	BUSINESS	3. Operational Effectiveness
	4. Strategic Planning and Innovation		4. Project Planning and Innovation
TECHNICAL	5. Decision Making and Execution	TECHNICAL	5. Decision Making and Execution
	6. Business Acumen		6. Commercial and Revenue Focus
	7. Quality Management		7. Quality Management

Support Competencies		Prof. Competencies	
BEHAVIOR	1. Teamwork and Flexibility	BEHAVIOR	1. Leadership Practices
	2. Customer Service		2. Relationship Management
BUSINESS	3. Operational Effectiveness	BUSINESS	3. Operational Effectiveness
	4. Planning and Organizing		4. Managing Projects
TECHNICAL	5. Decision Making and Execution	TECHNICAL	5. Decision Making and Execution
	6. Professionalism and Ethics		6. Financial Analysis
	7. Quality Management		7. Quality Management

Masdar Rating Scale	
5.0 Demonstrated Exceptional	value by significantly and consistently exceeding expected performance expectations, requirements and integrating of all competencies.
4.0 Exceeded	the performance objective expectations, and requirements with Integration of all competencies
3.0 Fully Satisfied	100% of performance objective, expectations, and requirement with Integration of relevant competencies.
2.0 Partially Completed	the performance objective, expectations, and requirements with integration of relevant competencies.
1.0 Needs Improvement	to achieve the performance objective expectations and requirements in a consistent manner, lacking Integration of relevant competencies.

## QHSE PERFORMANCE MANAGEMENT

# Quality, Health, Safety and Environment (QHSE) Performance Management at Masdar

Masdar's QHSE team does its utmost to meet the company's established strategic goals and attain optimal, sustainable and safe operations by supporting Masdar in the implementation of QHSE policies. In line with Masdar's commitment for continuous improvement of its QHSE performance, the department is tasked with:

- Initiating, developing and reviewing the required QHSE codes of practice and guidelines for implementation by Masdar.
- Analysing and monitoring QHSE performance of all departments and reporting findings to management and other concerned parties.
- Organising and conducting audits to ensure all departments comply with QHSE legislation, requirements and corporate expectations.
- Keeping abreast of the latest relevant QHSE developments and advising departments and contractors on QHSE issues.
- Providing Health, Safety and Environment (HSE) advice and assistance to ensure HSE requirements are being considered in all company projects.
- Maintaining professional relationships on behalf of Masdar's business units with federal and Abu Dhabi authorities to ensure relevant QHSE legislation is applied by the company's business units.



Heat Stress Campaign, June 2014



## CONSTRUCTION ENVIRONMENTAL MANAGEMENT PERFORMANCE

# Construction Environmental Management Plan Procedure (CEMP) at Masdar City

The CEMP is a compliance document that is issued under every construction contract with companies working within Masdar City. CEMP compliance is verified through a set of regular internal and third-party audits and inspections. In addition, the Environment Agency-Abu Dhabi (EAD) carries out random visits to the construction site.

**The following criteria are used to assess the performance of projects within Masdar City against the CEMP:**

## TRAINING AND INDUCTION

Environmental training is essential for executing work in an environmentally sound fashion during the construction of Masdar City Phase 1. This procedure covers all aspects of training involving those personnel and activities likely to have an effect on the environment.



## ENVIRONMENTAL COMPLAINTS

Complaints are the primary indicator of nuisance and other community dissatisfaction with site activities. It is important that all complaints are properly and systematically recorded, and acted upon.

## ENVIRONMENTAL AUDITING AND INSPECTION

This procedure is to set out how the environmental compliance of the construction activities, as documented within CEMP, will be periodically inspected and audited.

## AIR-QUALITY CONTROL

This procedure sets out the practices that contractors will adopt to minimise the air-quality impacts arising from their construction activities.

## NOISE CONTROL PROCEEDURE

This procedure sets out the practices that contractors will adopt to minimise noise generated from their construction works and to protect sensitive receptors.

## WATER MANAGEMENT

This procedure sets out the practices that contractors will adopt to ensure that water resources are managed sustainably.

## MATERIALS MANAGEMENT

This procedure aims to minimise environmental impacts through the responsible use of materials during construction.

## WASTE MANAGEMENT

This procedure aims to minimise environmental impacts through the appropriate management of materials and waste generated during construction.

## ENERGY MANAGEMENT

This procedure aims to minimise environmental impacts from energy use associated with construction activities.

## ENVIRONMENTAL INCIDENT

This procedure seeks to provide details of the response to any environmental incidents that occur during construction.

## ENVIRONMENTAL MONITORING

This procedure seeks to provide details of the environmental monitoring requirements during the construction phase.





# Management Tools & Systems

## Contents:

- ▶ Management System
- ▶ Green Building Rating Systems
- ▶ Utilised softwares



## MANAGEMENT SYSTEMS

# Tools and Systems

In 2014, Masdar updated the QHSE Integrated Management Systems in accordance with the organizational and operational adjustments.

**The purpose of the update is to provide a framework to ensure that:**

- Masdar's products and services are designed, delivered and operated to the highest quality standards, thereby meeting the expectations of customers, stakeholders and regulatory bodies.
- Masdar's activities are carried out in an environmentally responsible and protective manner, and continually meet the underlying environmental performance expectations of the Masdar initiative.
- Safe and healthy working conditions are assured to employees, contractors associated with Masdar's activities and visitors.
- QHSE requirements are considered throughout the project life cycle and during operations.
- Masdar's products, services, facilities and activities continue to meet regulatory requirements.
- The system provides dynamism for continuous improvement in all the aspects of QHSE with the flexibility to adapt to changing requirements.

The external audit was carried out on a random sampling basis to fall in line with the Scope of Certification as per the audit criteria of ISO 9001:2008, ISO 14001:2004 & OHSAS 18001:2007. The processes were found well controlled, being handled by the competent personnel.

Masdar has implemented these systems as part of an Integrated Management System for Quality, Health, Safety and Environment. The system is approved by the Abu Dhabi Environmental, Health & Safety Centre (AD EHSC) and certified by an accredited certification body to respective international standards.

**In 2014 Masdar completed an ISO certification audit which resulted in no major nonconformities.**



The electrically powered Superbus

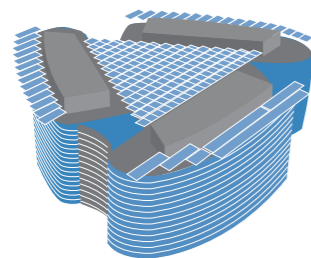


GREEN BUILDING RATING SYSTEMS

# Green Building Rating Systems

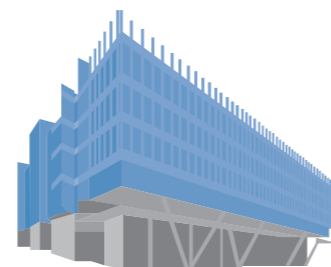
**Masdar City uses a number of green building rating systems to determine and verify the sustainability attributes of selected buildings. The Estidama Pearl rating system is a mandatory requirement for all new buildings designed and constructed in Abu Dhabi and is the green building rating system used in Masdar City.**

In addition to the mandatory Estidama Pearl rating system, Masdar has used more internationally known green building rating systems such as LEED in some cases such as the Siemens Building, which was officially certified LEED Platinum for core and shell.



**IRENA HQ**

**ESTIDAMA  
4 PEARL**



**SIEMENS BUILDING**

**LEED PLATINUM**

**ESTIDAMA  
3 PEARL**



No.	Design Criteria	Mandatory Design Requirement	Reference Baseline / Remarks
1	Energy Consumption	<ul style="list-style-type: none"> <li>40% reduction from ASHRAE 90.1: 2007.</li> <li>Compliance with Masdar Energy Design Guidelines 3.0.</li> </ul>	<ul style="list-style-type: none"> <li>Estidama Pearl Building Rating System – Improved Energy Performance.</li> </ul>
2	Renewable Energy Provision	<ul style="list-style-type: none"> <li>75% of hot water heated by solar energy.</li> </ul>	<ul style="list-style-type: none"> <li>Estidama Pearl Building Rating System – Renewable Energy.</li> </ul>
3	Interior Water Use	<ul style="list-style-type: none"> <li>40% reduction of interior water demand.</li> </ul>	<ul style="list-style-type: none"> <li>Estidama Pearl Building Rating System Water Calculator.</li> </ul>
4	Exterior Water Use For Landscaping	<ul style="list-style-type: none"> <li>Average landscape irrigation demand to be less than 2 litres/m<sup>2</sup>/day.</li> </ul>	<ul style="list-style-type: none"> <li>Estidama Pearl Building Rating System Water Calculator.</li> </ul>
5	Construction Waste Management	<ul style="list-style-type: none"> <li>Not less than 70% of demolition and construction waste (by weight or volume) to be recycled or salvaged.</li> </ul>	<ul style="list-style-type: none"> <li>Estidama Pearl Building Rating System – Improved Construction Waste Management.</li> </ul>
6	Operation Waste Management	<ul style="list-style-type: none"> <li>Not less than 60% of total operational waste (by weight or volume) to be diverted from landfills and incineration. This is reduced to 50% for Multi-Residential Buildings.</li> </ul>	<ul style="list-style-type: none"> <li>Estidama Pearl Building Rating System – Improved Operational Waste Management.</li> </ul>
7	Embodied Carbon in Materials	<ul style="list-style-type: none"> <li>0% reduction in the overall construction for steel structured buildings.</li> <li>15% reduction in the overall construction for concrete structure buildings.</li> </ul>	<ul style="list-style-type: none"> <li>650Kg of CO<sub>2</sub>/m<sup>2</sup></li> </ul>
8	Sustainability Rating System	<ul style="list-style-type: none"> <li>Minimum 3 Pearl under Estidama Pearl Building Rating System.</li> <li>Minimum LEED Gold.</li> </ul>	<ul style="list-style-type: none"> <li>Estidama Pearl Building Rating System.</li> <li>LEED Rating System.</li> </ul>
9	Building Performance Monitoring	<ul style="list-style-type: none"> <li>Design and implement monitoring strategy for major energy and water uses at building level and tenant level.</li> <li>All meters to be connected with Masdar's Central Monitoring System.</li> </ul>	<ul style="list-style-type: none"> <li>Estidama Pearl Building Rating System – Energy Monitoring and Reporting + Water Monitoring and Leak Detection.</li> <li>MEDG V3.0.</li> </ul>

In addition to recognized rating systems



## UTILISED SOFTWARES

# Data Management Softwares

**Masdar has partnered with a number of providers of data collection and management tools that support the on-going capture, collection, tracking and analytics for the reporting of sustainability performance data.**

## SoFi – Sustainability Management Tool

In the previous years Masdar had relied on SoFi solely as a carbon tracking tool. Now Masdar is working closely with PE International (SoFi developers) to develop and implement a company wide sustainability management solution consisting of 4 modules: Energy Management, HSE, Carbon Management and Sustainability Reporting.

## SafeQ – Print Management Tool

SafeQ delivers comprehensive management and administrative control of all printing, copying and scanning operations. It provides high levels of security for all documents, cost savings, conservation of environmental resources, and greater convenience for Masdar users.

## CAFM – Computer Aided Facilities Management Tool

This tool offers a single, holistic view of all facilities and maintenance activities, and tracks every location, asset and person. It can analyse the processes, costs and efforts required for optimal operations, and can help understand the impact of acquisitions, utilisation, maintenance, improvements, service provision and expenditures.



## EDMS – Enterprise-Wide Document Management System

EDMS is critical to helping any organisation manage its key asset by enabling knowledge and document management. This is central to sustaining growth and also to protecting the organisation by facilitating document retrieval and referencing.

## Oracle Fusion – Talent Management Tool

Oracle Fusion Talent Management Base's graphical organizational chart provides an integrated view of all information related to an employee with an extremely user-friendly interface.

## PDMS – Masdar Program Development Management System

The MASDAR Program Development Management System (PDMS) is our enterprise standard platform of processes, guidance and tools to be used to effectively – and consistently – manage development.

## Tejari

The Masdar e-Procurement Portal provides a suite of collaborative, web-based tools that enable Masdar's procurement professionals and suppliers to conduct sourcing and contract management activities.

## ESRI ArcGIS – Geographic Information System

Masdar uses ArcGIS for: creating and using maps; compiling geographic data, analyzing mapped information, sharing and discovering geographic information and managing geographic information in a database.



# Reporting & Communications

## Contents:

- ▶ Our Approach to Reporting
- ▶ Social Media



## OUR APPROACH TO REPORTING

# Our Approach to Reporting & Communications

Masdar's reporting and communications are essential in ensuring that adequate information is made available to its stakeholders. This information is important in helping them to assess whether their material issues and concerns are being addressed and also to understand the progress that Masdar and its affiliates are making in the many activities relevant to them. During the reporting year, Masdar continued to act as a change agent across its various communication platforms, not only by discussing its activities and operations, but also by raising awareness to its stakeholders of the importance of sustainability. These included various platforms for both internal and external communications:

## Internal

- **The Masdar Times** – Published quarterly and distributed to key stakeholders, this printed newsletter is designed to deliver key updates and reflect the progress of company activities.
- **The Source** – This intranet platform for Masdar employees is designed to provide them with access to all Masdar policy and procedure documents, as well as a location to find information about upcoming events hosted by Masdar and the wider sustainability community in Abu Dhabi. It also is the location for Masdar's START microsite, which provides information, tips and recommendations to employees about sustainability and living in a more sustainable manner.

## External

Masdar uses several methods to deliver significant messages to its external stakeholders. Masdar recognises its communication objective is not only to provide insights into its activities but also to help people understand why sustainability is important in Abu Dhabi and the region. The following methods of communication are used to engage with Masdar's external stakeholders:

- Press releases
- Press conferences
- Forums and meetings
- Op-eds
- Features
- Q&As
- Interviews

During 2014, Masdar increased its share of voice in international, regional and UAE media. Coverage in top tier global news outlets, including Bloomberg, Financial Times and New York Times helped ensure the company's views, on a variety of clean energy and sustainability issues, and company announcements, reached a broad international audience. In the UAE, and across the MENA region, Masdar, featured regularly in a spectrum of influential media outlets including Sharq Al-Awsat, the National, Al Ittihad, Gulf News, Dubai Eye and Sky News Arabia. The story of Masdar City continued to be of keen interest for media, with filming undertaken by BBC, France 2 and CNN.

In this reporting period, Dr Sultan Ahmed Al Jaber, Masdar Chairman, provided an article to THE HUFFINGTON POST, a global internet news aggregator, titled "The Decade of Climate Action".

## External Reporting:

### Carbon Disclosure Project – CDP

This reporting period Masdar submitted its first CDP report focused on disclosing the organizations green house gas emissions. The addition of CDP to Masdar's reporting credentials show another way Masdar is leading of sustainability initiatives in the region.

### Statistics Center Abu Dhabi – SCAD

Masdar reports all its Health, Safety and Environment data on an annual basis as required by the Center for Statistics in Abu Dhabi.

### Environmental Health and Safety Management System Reporting– EHSMS

Masdar has a certified HSE Management System under the Abu Dhabi Environment, Health and Safety Center (OSHAD) and reports all HSE data on a quarterly basis as per the requirements of OSHAD.





OUR APPROACH TO REPORTING

# Masdar's Social Media Initiatives

Recognising the power of social media as a platform to communicate to its stakeholders around the world, Masdar has rigorously expanded its communications reach through leveraging of key social media outlets. Masdar continues to focus on the most widely used forms of social media.



- Masdar: 33,349 followers (growth of 21,020).
- 2,098 tweets posted.
- 937 user mentions.
- Average of 1,027 new followers per month.
- 1,597k tweets retweeted a total of 7,860 times.

**MASDAR INSTITUTE**  
+46,000  
FOLLOWERS  
(GROWTH OF +60,000)

**ZAYED FUTURE ENERGY PRIZE**  
141,315  
FOLLOWERS  
(GROWTH OF +60,000)



- Masdar: 3,330 Followers (growth of 2,107).
- 3,330 followers (growth of +2007).
- 394 posts (double growth, compared to 200 last year).
- +150 Average Likes per Post.

**MASDAR INSTITUTE**  
1,643  
FOLLOWERS

**MASDAR**  
3,330  
FOLLOWERS



**f MASDAR**  
20,399  
LIKES (GROWTH OF 12,018)

**MASDAR INSTITUTE**  
13,888  
LIKES

**ZAYED FUTURE ENERGY PRIZE**  
52,658  
LIKES

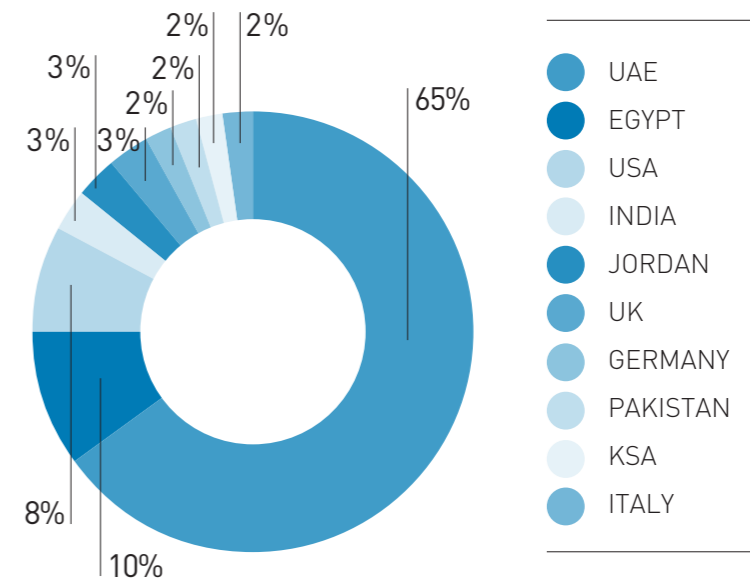
**YouTube MASDAR**  
453  
SUBSCRIBERS

**MASDAR INSTITUTE**  
415  
SUBSCRIBERS

**ZAYED FUTURE ENERGY PRIZE**  
189  
SUBSCRIBERS

**in MASDAR**  
27,985  
FOLLOWERS

**ZAYED FUTURE ENERGY PRIZE**  
308  
FOLLOWERS



# Sustainability Performance Themes



**Workforce**



**Economic  
Development**



**Products  
and Services**



**Environmental  
Performance  
Data**



**Supply Chain  
Management**



**Community  
Involvement**



# Workforce

## Contents:

- ▶ Overview of Workforce
- ▶ Training and Educational Programmes
- ▶ Occupational Health and Safety
- ▶ Proactive Health and Safety Initiatives

OVERVIEW OF WORKFORCE

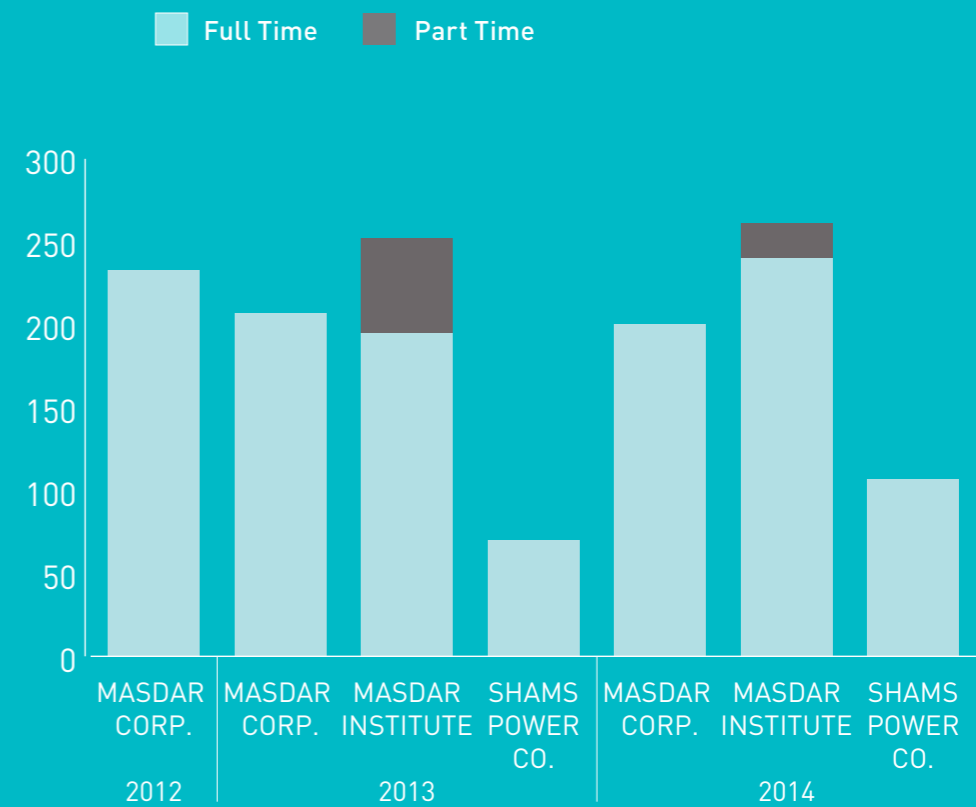
# Workforce

The following directives have been deemed material to the organisation and will be addressed in greater detail throughout this section:

- Ensure a safe, secure, healthy and rewarding workplace.
- Recognise the abilities and diversity of all employees.
- Promote continuous learning and development for all employees.
- Train and develop employee core competencies, skills, knowledge and abilities to meet present and future job requirements.
- Create opportunities for personal and professional growth while encouraging teamwork.

Masdar remains committed to creating and maintaining a workforce that is well equipped to not only meet but exceed the expectations set out in the organisations objectives and business plans. Diversity is a key component to delivering innovation and excellence whilst upholding the commitment to continuously develop local talent.

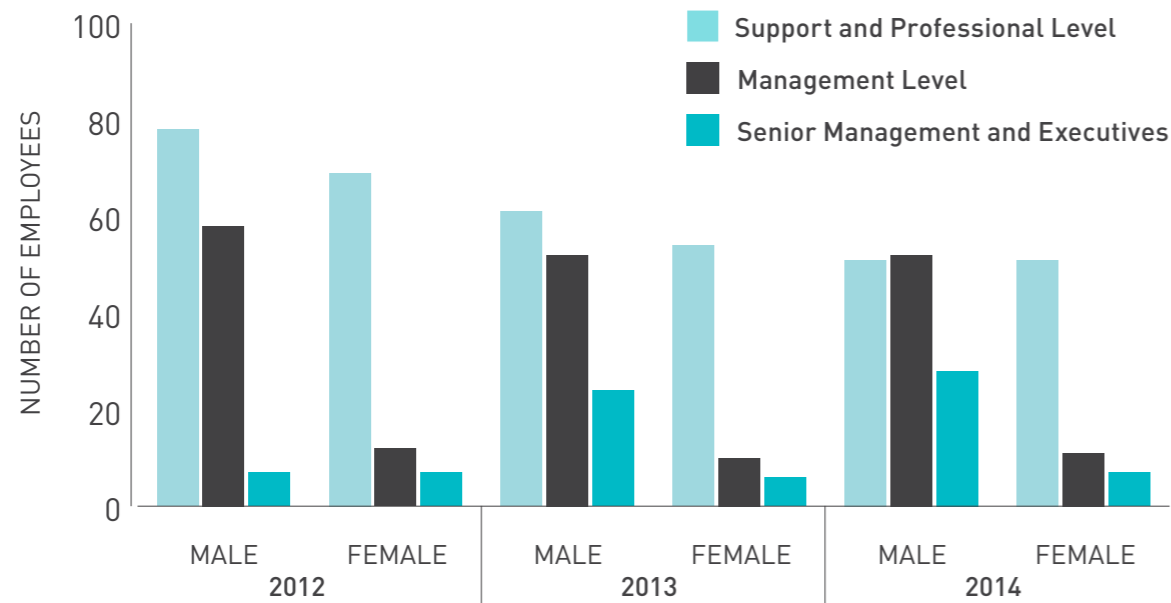
Similar to previous sustainability report the workforce section will continue to include key affiliates such as Masdar Institute and Shams Power Company to provide a more thorough overview of the workforce for the benefit of Masdar’s stakeholders.



OVERVIEW OF WORKFORCE

**TOTAL MASDAR EMPLOYEES BY GENDER (%)**

For Masdar, a balanced gender ratio is seen as a key indicator of the progress of providing opportunities and significant roles and responsibilities to women within the organisation. During the reporting period, Masdar successfully increased the number of management and senior management positions held by women. During the reporting period, 20% management positions were held by women.



	MASDAR		MASDAR INSTITUTE		SHAMS	
	Male	Female	Male	Female	Male	Female
Support and Professional Level	26%	26%	28%	49%	83%	5%
Management level	26%	6%	12%	8%	9%	0%
Senior Management and Executives	14%	4%	3%	1%	3%	0%



**TOTAL MASDAR EMPLOYEES BY AGE GROUP (%)**

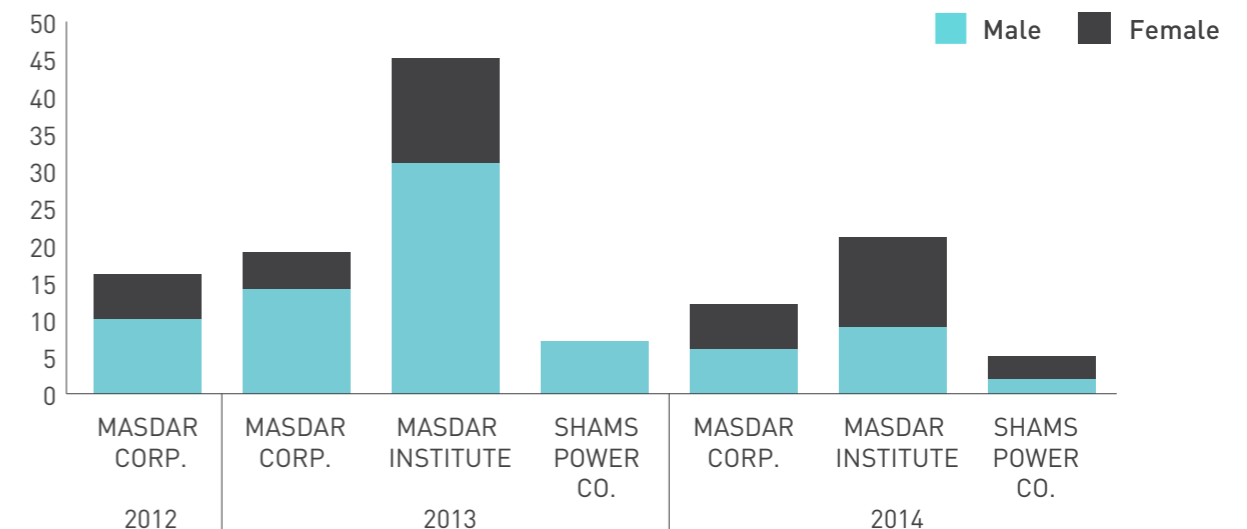
Within the renewable energy sector, it is important for the workforce to include a blend of seasoned staff with extensive experience and younger team members eager to learn and able to bring new ideas to projects. The need to develop talent, whilst remaining grounded through an experienced set of core personnel, is a key mandate within Masdar and the Mubadala Group. The UAE has a highly skilled, ambitious young workforce for whom Masdar will continue to utilise and provide opportunities.

	MASDAR			MASDAR INSTITUTE			SHAMS		
	Under 30	30-50	51 and above	Under 30	30-50	51 and above	Under 30	30-50	51 and above
Support and Professional Level	19.0%	30.5%	1.5%	30.5%	41.9%	3.6%	15.3%	51.8%	21.9%
Management level	0.5%	27.0%	4.0%	0.6%	14.4%	4.8%	0.7%	8.0%	0.0%
Senior Management and Executives	0.5%	15.5%	1.5%	0.0%	1.8%	2.4%	0.0%	1.5%	0.7%

**TOTAL PARENTAL LEAVE AT MASDAR (BY GENDER)**

In keeping with the commitment to provide considerate support to the Masdar workforce, Masdar continues to offers all full time employees' parental leave and the option to balance work and family through a flexible work hour's scheme. Masdar offers assurance that all employees who take parental leave are able to benefit the organisation and meet family commitments upon their return to work.

During the reporting period, of all the parental leave taken, 100% of both male and female employees returned to work following their leave and continued their employment with Masdar and the affiliates reported in the above graph.

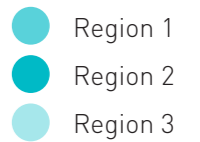
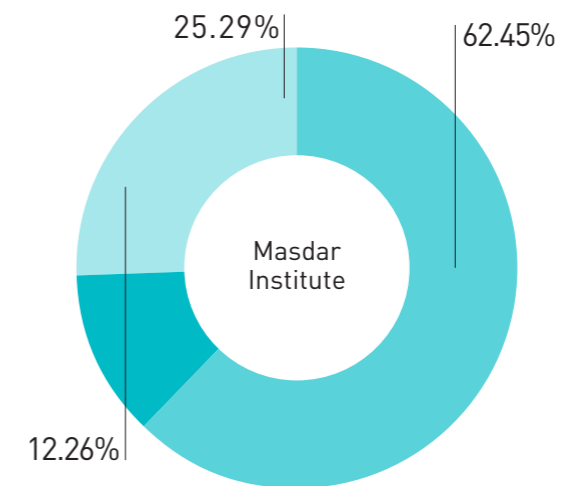
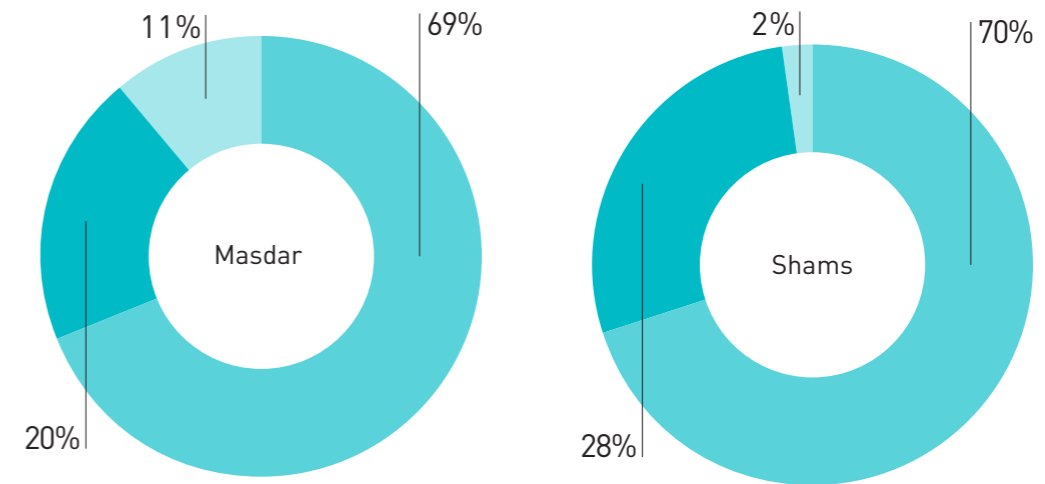
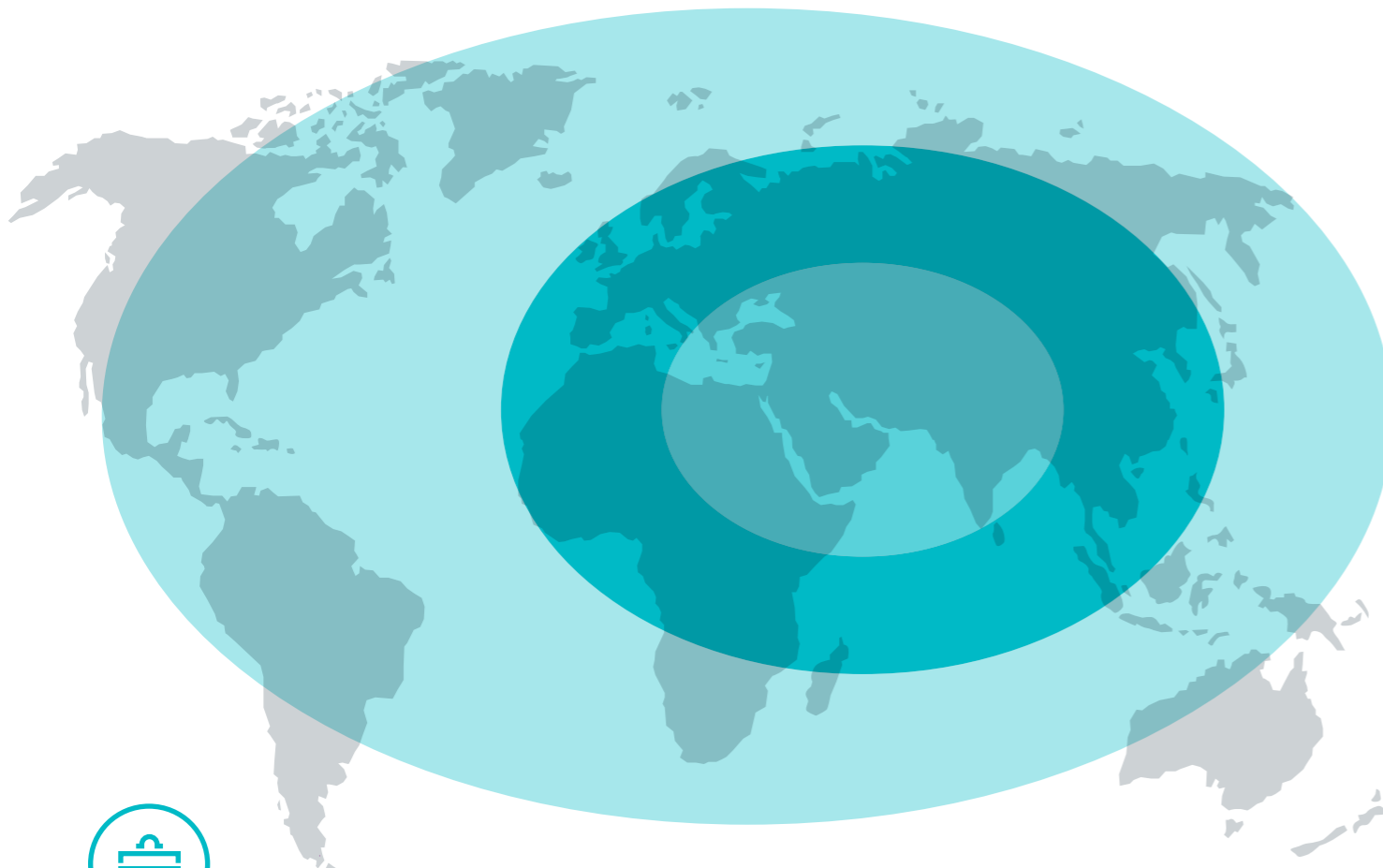


OVERVIEW OF WORKFORCE

# Total Masdar Employees by Origin (%)

In an ongoing effort to meet the demands of an ever-widening portfolio of projects and activities, Masdar recognises the need to assemble an expert workforce from all parts of the global in order to address and tackle today's energy and climate change challenges.

REGIONS	
Region 1	Middle East, Egypt, Libya, Sudan, Somalia and Indian sub-continent
Region 2	Europe, Far East, Algeria, Morocco, Tunisia, Africa (East, West and Central)
Region 3	Americas, South Africa, Australia, New Zealand

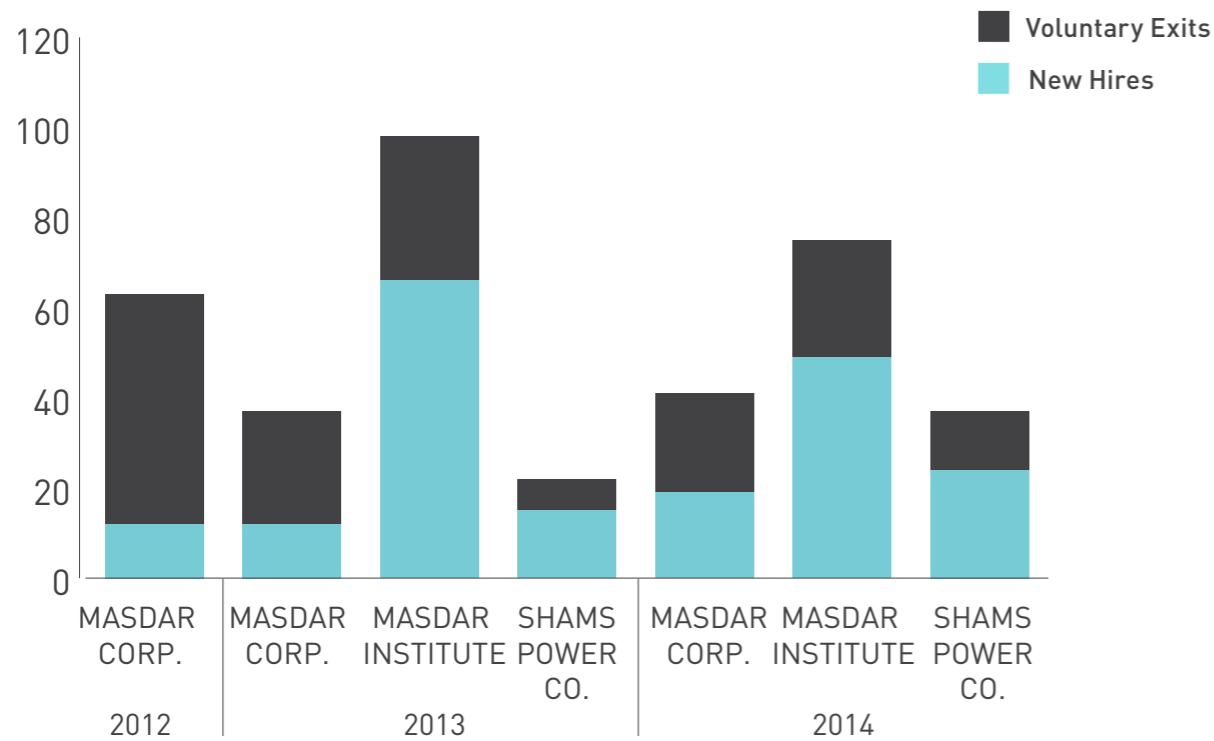




OVERVIEW OF WORKFORCE

# Masdar Employee Turnover

In recent years, Masdar has maintained a consistent head count as a result of empowering an efficient workforce and a steady flow of projects. Masdar Institute and Shams Power Company continue to expand and therefore new and different skill sets are required which reflects the degree of new hires and voluntary exits.



# Masdar Benefits Plan per Employee type

The compensation and benefits structure at Masdar is designed to attract, motivate and retain employees who will help Masdar implement its strategies and achieve its objectives. Its policy is to pay fair, equitable and competitive salaries to employees as well as offer attractive benefit packages to support employees in the UAE. The below graphics outline the variations between Masdar and Masdar Institute. The highlighted elements are those benefits that are specific to Masdar Institute only.

Full Time Employee Benefits	Temporary Employee Benefits	Internship Benefits
Salary	Salary	Internship Salary for UAE Nationals only
Annual Leave	Annual Leave	
Health Insurance	Health Insurance	
Life Insurance	<b>Repatriation ticket</b> (MI only)	
Child Education Assistance	Visa/medical expenses for employee only	
Housing Allowance		
Furniture Allowance		
Vacation Travel Allowance		
Repatriation tickets for expats		
Visa/medical expenses for employee, spouse and children		
<b>Tuition Fees</b> (MI only)		

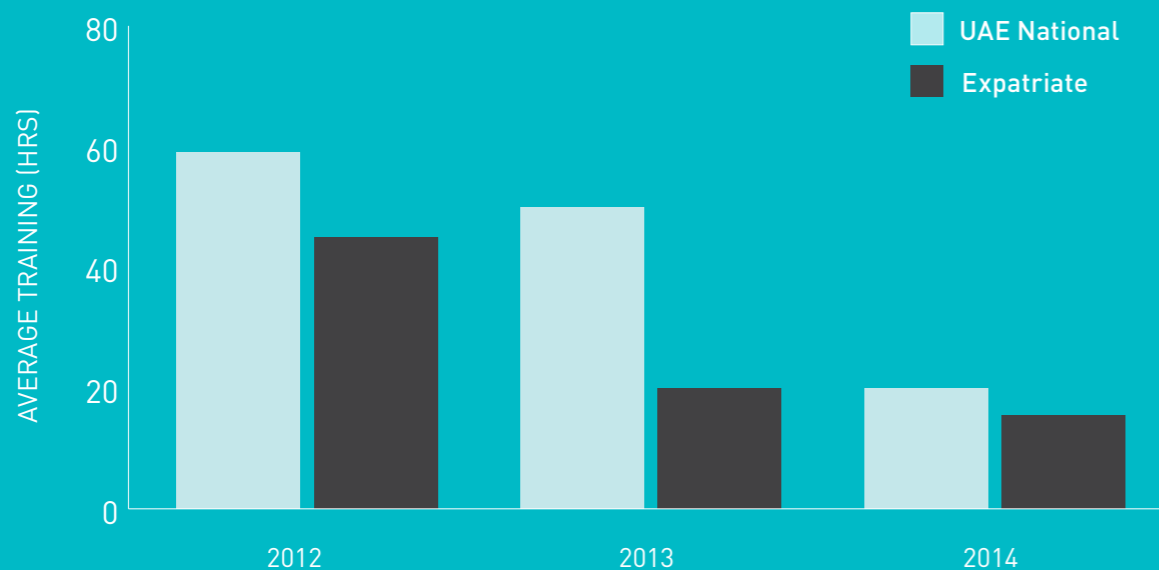


TRAINING AND EDUCATIONAL PROGRAMS

# Training and Educational Programmes

A key strategy for delivering Masdar’s strategic objectives is to ensure that all personnel are readily prepared for their roles. This is done through training and education that further enhances their abilities to carry out the specific tasks related to their business function and job requirements as well as strengthening their value to the organisation.

Many initiatives have been put in place to ensure that the training needs are met for all Masdar staff and mentioned affiliates through both in-house and external training programmes and workshops.



MASDAR TRAINING PROGRAMMES – OVERVIEW			
	In-House	Online	External
Masdar Corporate	1. Project Management 2. Finance 3. Leadership 4. Decision Making	1. Project Management (8 Modules) 2. Finance for Non-Finance Professionals (6 Modules) 3. Business English Writing (3 Modules) 4. Mentoring (2 Modules)	All areas of technical training: 1. ICT 2. Energy 3. Project Management 4. Human Resources 5. Marketing, Strategy 6. Academic Training 7. Executive Training
Masdar Institute	1. Emotional Intelligence 2. PMP Preparation 3. Highly Productive and Effective Administrator	5. Green Business Strategies (3 Modules) 6. Introduction to Sustainability (1 Module)	1. Effective Brand Management 2. Management Development Course 3. Certified Brand Manager 4. CIPD HR Practice 5. Foundations of Leadership 6. Category Management and Sourcing 7. Problem Solving and Communication 8. Building a University Brand
Shams Power Co.	Specific Technical Training	–	Specific Technical Training

TOTAL AVERAGE HOURS TRAINING PER EMPLOYEE		
2012	2013	2014
<b>50 Hrs.</b>	<b>34 Hrs.</b>	<b>16.4 Hrs.</b>

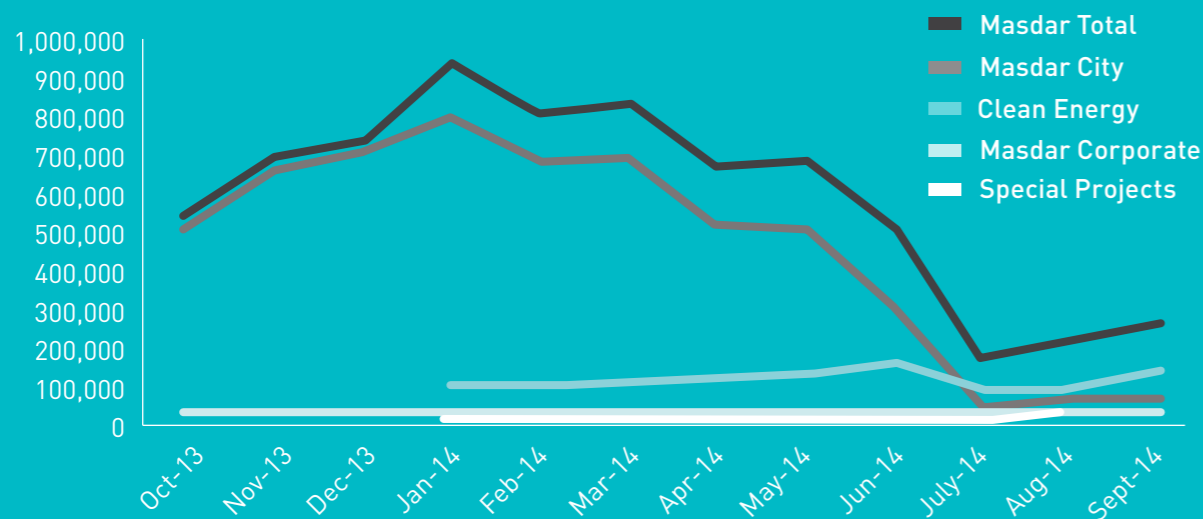


OCCUPATIONAL HEALTH AND SAFETY

# Occupational Health and Safety Management

Masdar acknowledges its responsibility to provide a safe working environment, not only in the corporate setting but also across all of its projects. It is paramount that employees are well educated in the procedures for issues related to health and safety, with fire drills, employee first aid and fire warden training conducted throughout the organisation. During the reporting period, no first aid incidents or lost-time injuries were recorded in Masdar’s corporate offices however a minor incident involving an electrical fire occurred in August 2014. The incident was dealt with in a smooth and efficient manner ensuring no injuries and minimizing damage to the company property. During the reporting period, Masdar project activities incurred a total of 1 Lost Time Injury lasting less than 3 days in July 2014. A total of 53 first aid incidences were reported across all Masdar associated projects during the reporting period.

Masdar Associated Projects – Total Man-Hours



\*Data for Clean Energy and Special projects were unavailable from October to December 2013

The decrease in man hours above was caused by the completion of projects in Masdar City notably the IRENA Headquarters which was completed in July 2014.

## MASDAR AND KEY AFFILIATES – HEALTH AND SAFETY PERFORMANCE DATA OVERVIEW

As reflected in the below data, health and safety performance across Masdar portfolio projects has fallen. As a result, significant measures have been put in place to ensure better performance over the 2014 reporting period. In 2013, Masdar set a series of targets related to lost time injuries which has been met however no future target setting.

NUMBER OF LOST TIME INJURIES		
2012 (Actual)	2013 (Actual)	2014 (Actual)
<b>1</b>	<b>3</b>	<b>1</b>

AVERAGE MONTHLY FIRST AID INCIDENCES (per 1,000 workers)		
2012 (Actual)	2013 (Actual)	2014 (Actual)
<b>3.82</b>	<b>13.4</b>	<b>13.5</b>

MAN HOURS WORKED WITHOUT AN LTI					
2012	2013	2014			
TOTAL	TOTAL	MASDAR	CLEAN ENERGY	SPECIAL PROJECTS	MASDAR CORPORATE
<b>12,927,422</b>	<b>6,028,826</b>	<b>11,145,942</b>	<b>347,025</b>	<b>17,034</b>	<b>374,504</b>



PROACTIVE HEALTH AND SAFETY INITIATIVES

# Proactive Health and Safety Initiatives at Masdar City

In an effort to maintain the successful management of Masdar City’s health and safety risks associated with construction activities, a dedicated team carefully monitors and analyses the numbers of incidents and uses proactive measures to maximise the safety of the Masdar City construction workforce at all times.

**These proactive measures include:**

**HEALTH AND SAFETY INSPECTIONS**

Inspections are designed to ensure that contractors continue to operate within the guidelines outline by Masdar, and to ensure the safety of all staff at all times.

**HEALTH AND SAFETY TRAINING**

Specialised training for site construction teams and the construction workforce include topics such as working with hazardous materials and waste, materials handling and incident response training.

**TOOL-BOX TALKS**

Task-specific health and safety trainings are expected to be provided on a daily basis (on average) to the members of the construction workforce and contract staff in order to ensure their specific activities are done with health and safety procedures in mind.



2012  
29,856  
MAN HOURS

2013  
16,850  
MAN HOURS  
Health & Safety Training

2012  
910  
Health & Safety  
Inspections

2013  
1,145  
Health & Safety  
Inspections

2014  
5,513  
MAN HOURS  
Health & Safety Training

2014  
973  
Health & Safety  
Inspections

2013  
2,310  
ToolBox Talks

2014  
1,627  
ToolBox Talks

2014  
113,515  
Total ToolBox  
Talk Attendees

2014  
30  
H&S Awareness  
Campaigns

2014  
95  
Emergency Drills  
Conducted

2014  
2,178  
Near Misses  
Reported





# Economic Development

## Contents:

- ▶ Masdar's Impact on Economic Development
- ▶ Financial Summary
- ▶ Supporting the Advancement of Local Economies
- ▶ Contributing to the Global Renewable Energy Mix
- ▶ Enhancing Opportunities for the Local Workforce
- ▶ Providing Opportunities for New Business in Abu Dhabi
- ▶ Stimulating and Promoting New Markets



MASDAR'S IMPACT ON ECONOMIC DEVELOPMENT

# Masdar's Impact on Economic Development

As a clear mandate of Mubadala Development Company, Masdar has maintained a leading position in strengthening the local Abu Dhabi economy and workforce in line with the Abu Dhabi 2030 Vision. The impacts highlighted in the coming section include Masdar's work on:

- Contributing to the global renewable energy mix.
- Supporting and strengthening local businesses.
- Supporting and strengthening the local labour force.
- Providing opportunities for new businesses in Abu Dhabi.
- Stimulating and promoting new markets.

Masdar's goals, in regard to these material aspects, are to sustain a long-term, economically viable business and to contribute to the economic development of the communities around the world where Masdar operates.



Building the Mauritania solar plant



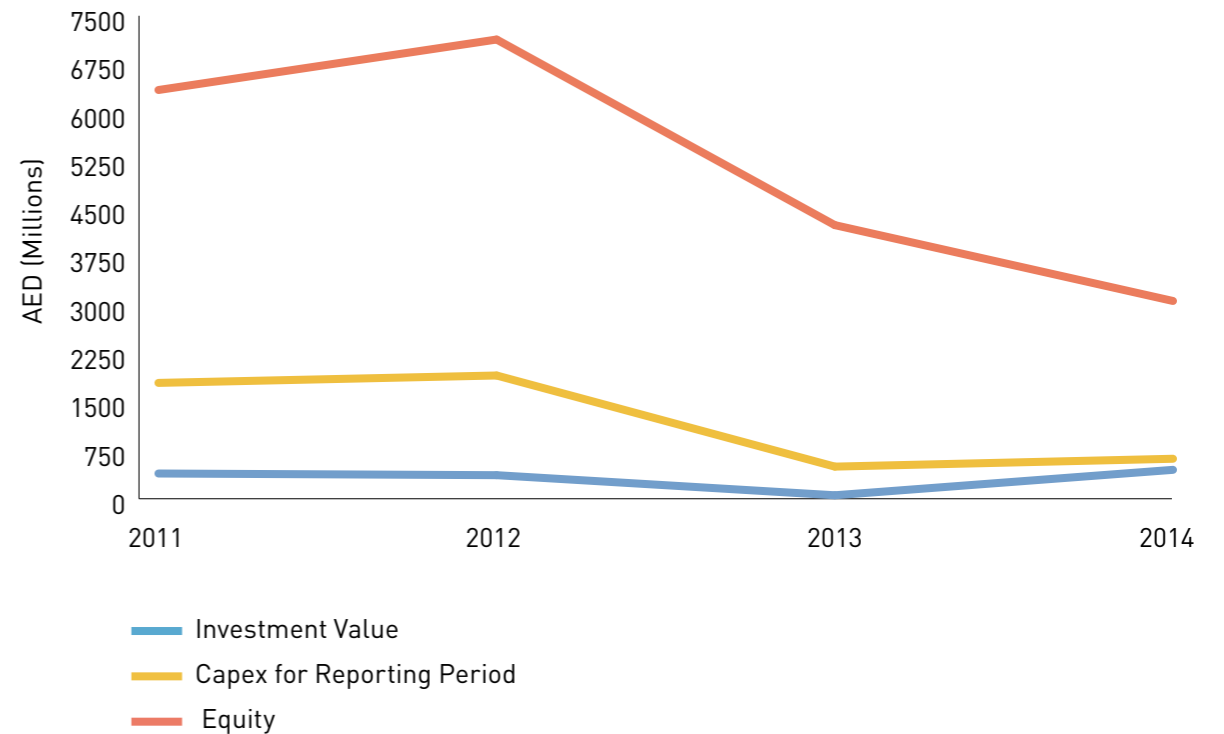
## FINANCIAL SUMMARY

# Masdar's Financial Summary

**As a subsidiary of Mubadala Development Company, the organization's financial performance has been consolidated in Mubadala's annual reporting.**

However in an effort to offer transparency to our stakeholders, Masdar is able to continue to report on key financial parameters for the reporting period.

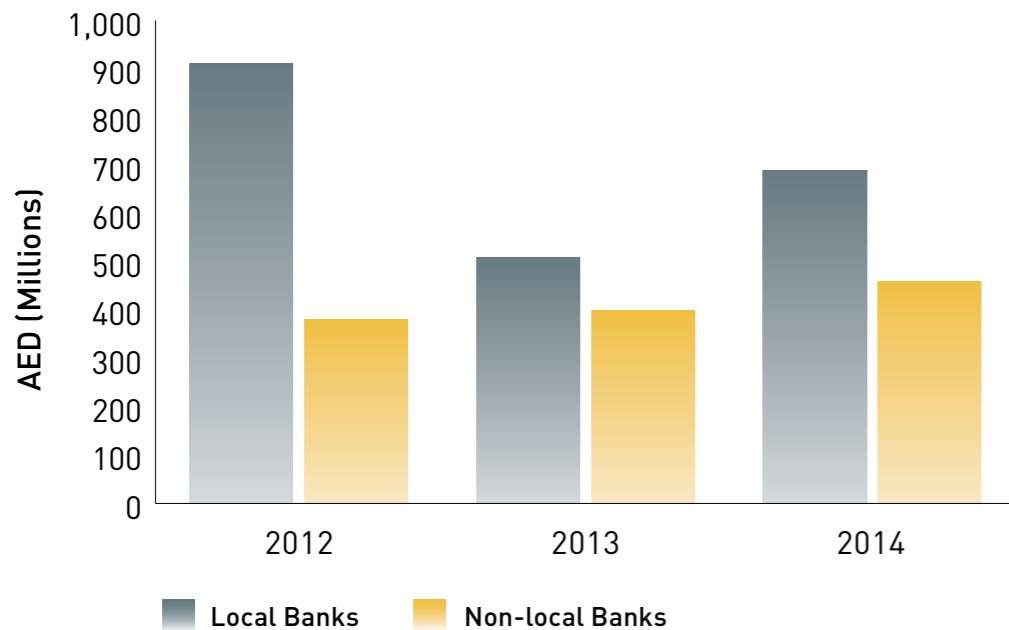
Masdar's completion of a number of on-going projects during the last reporting period had seen a reduction in capital expenditure and investment value. However Masdar has managed to increase its value in both these aspects with the announcement of new projects this past year.



SUPPORTING THE ADVANCEMENT OF LOCAL ECONOMIES

# Supporting the Advancement of Local Economies

In an effort to support the growth of Abu Dhabi and the UAE, Masdar remains committed to supporting local businesses and enterprises to develop their products and services at a global level, in addition to the Emirates economic diversity.



▲  
27%  
FROM  
2013

2014  
56%  
PAYMENTS TO LOCAL BANKS  
DURING REPORTING PERIOD

During the reporting period, Masdar committed AED 685 Million to the local economy which equates to a 27% increase from 2013 and totalling 56% of all payments issued during the reporting period.



CONTRIBUTING TO THE GLOBAL RENEWABLE ENERGY MIX

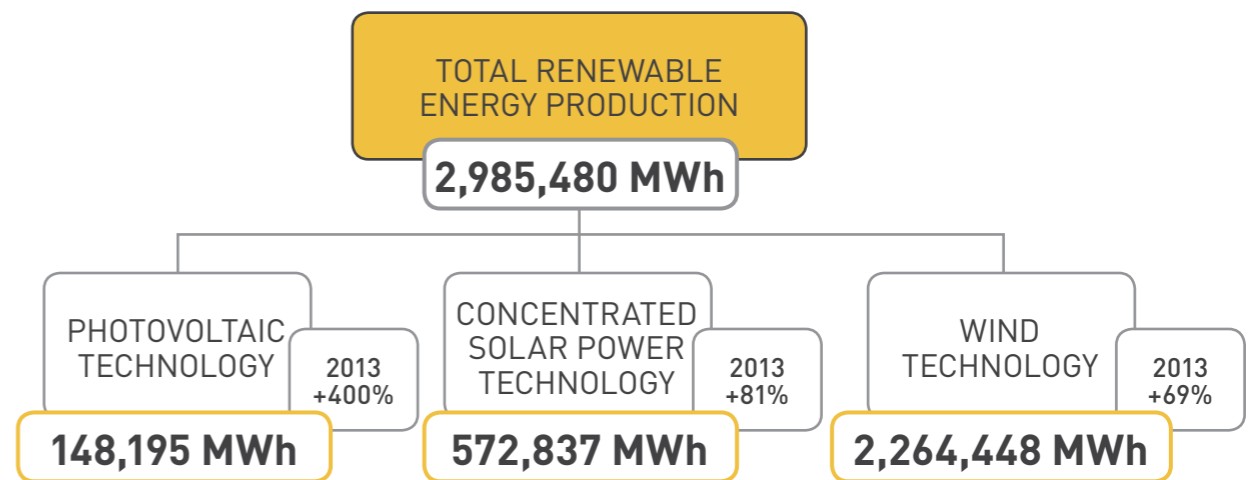
# Contributing to the Global Renewable Energy Mix

**A main driver of Masdar’s activities is to deliver 1GW of installed renewable energy capacity by 2018. On the back of the completion of Flagship projects such as SHAMS 1 and the London Array in 2013 a number of new projects and commitments were made in 2014, to meet the challenging goals set for 2018.**

In working towards the renewable energy target of 7%, set out as part of the Abu Dhabi Economic Vision 2030, Masdar has the objective of establishing Abu Dhabi and the UAE as global leaders in the deployment of renewable energy capacity. In 2014, Masdar announced new projects in Jordan, Samoa, and another large windfarm off the shores of the costal United Kingdom. Masdar welcomes the continued success of various renewable energy plants operating throughout the year and the large increasing of clean energy being supplied to citizens all around the world.

During the reporting period, Masdar was proud to have contributed significantly to the global renewable energy unit through the successful operation of all its new and old assets.

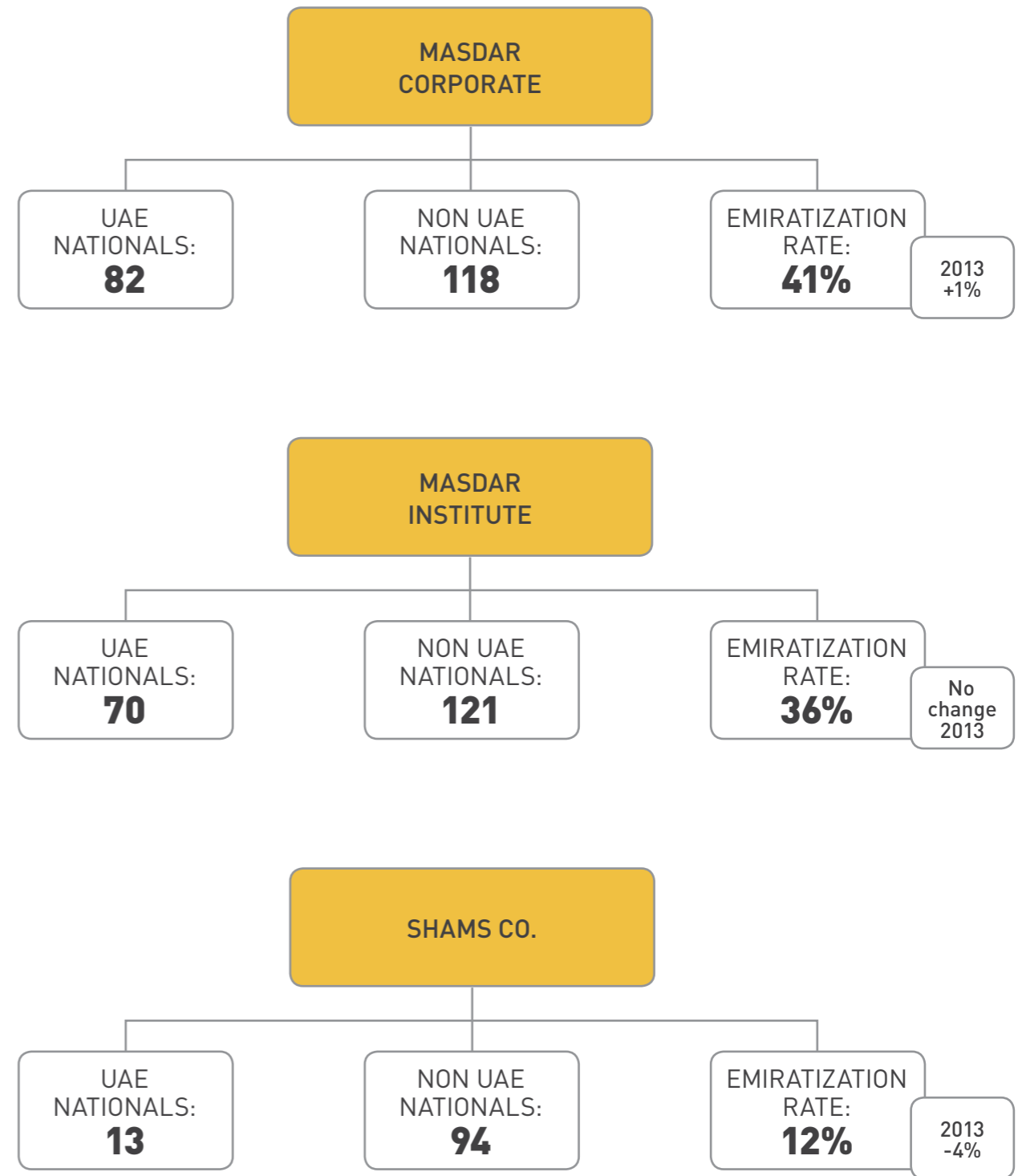
The diagram to the right provides an overview of the total renewable energy generation of Masdar’s assets locally and abroad during the reporting period.



ENHANCING OPPORTUNITIES FOR THE LOCAL WORKFORCE

# Enhancing Opportunities for the Local Workforce

The importance of a talented local workforce cannot be overstated and is a major focus of the UAE leadership. Masdar acknowledges this and is proud to have in place a comprehensive emiratization program actively in place. This initiative is designed to enhance opportunities for the local labour force and assure that the correct tools are made available for talented Emiratis to excel in the field of Renewable Energy and Sustainability.





PROVIDING OPPORTUNITIES FOR NEW BUSINESSES IN ABU DHABI

# Providing Opportunities for New Businesses in Abu Dhabi

While Masdar City is widely recognised as one of the world's most progressive eco-developments, it is also a free zone located in close proximity to Abu Dhabi International Airport and 17km from downtown Abu Dhabi. Masdar City offers clients an exceptional value proposition:

## 100% FOREIGN OWNERSHIP

## 100% EXEMPTION

from corporate and personal income taxes

## 0% IMPORT TARIFFS

## Quick and easy set-up with a 'ONE-STOP SHOP'

for registration, government relations and visa processing

## FREEDOM OF REPATRIATION

of both capital and profits

## One of the world's MOST BEAUTIFUL AND SUSTAINABLE

living and working business clusters

## A LAUNCHING POINT

into local, regional and international markets

## A critical mass of SECTOR KNOWLEDGE

and talent

## R&D hub partnering with MASDAR INSTITUTE

## Highly COST-EFFECTIVE licensing and office space

## Proximity to ABU DHABI INTERNATIONAL AIRPORT, KHALIFA CITY, YAS ISLAND; just 40 MINUTES FROM DUBAI



PROVIDING OPPORTUNITIES FOR NEW BUSINESSES IN ABU DHABI

**Potential clients, developers and investors have a number of lease options:**

- **Land:** Developers have the option to lease land (Musataha) for a period of 30 years and develop projects suited for commercial, residential and community living (schools, shopping malls, hotels, etc.).
- **Design-Construct-Lease (DCL):** Firms can sign a long-term lease with Masdar to design, develop and deliver a superior building – thus catering to the firm’s specific requirements whilst showcasing its commitment to both the Masdar initiative and its own green credentials – all at market competitive rates.
- **Business Centre:** Clients can lease a ready-to-go office.
- **Office / Retail Space (Core & Shell):** Clients can lease office and retail space and develop a fit-out works that suit their operational requirements.

Masdar City Freezone has witnessed rapid expansion during the reporting period by doubling the number of registered companies from 98 in 2013 to 188 by September 2014, highlighting the increasing value companies are placing on Abu Dhabi and Masdar City.

The below table and diagram highlight the types of organisations setting up in Masdar City and their origins, emphasising the global attractiveness of Masdar City free zone and the region as a whole for new business opportunities.

COMPANIES LEGAL FRAMEWORK	TOTAL COMPANY TYPEBREAKDOWN		
	2012	2013	2014
Limited Liability Framework (LLC)	47	65	142
Branch (Foreign Company)	20	20	27
Branch (UAE Company)	1	2	8
Branch ( Retail )	9	11	11
Total	77	98	188

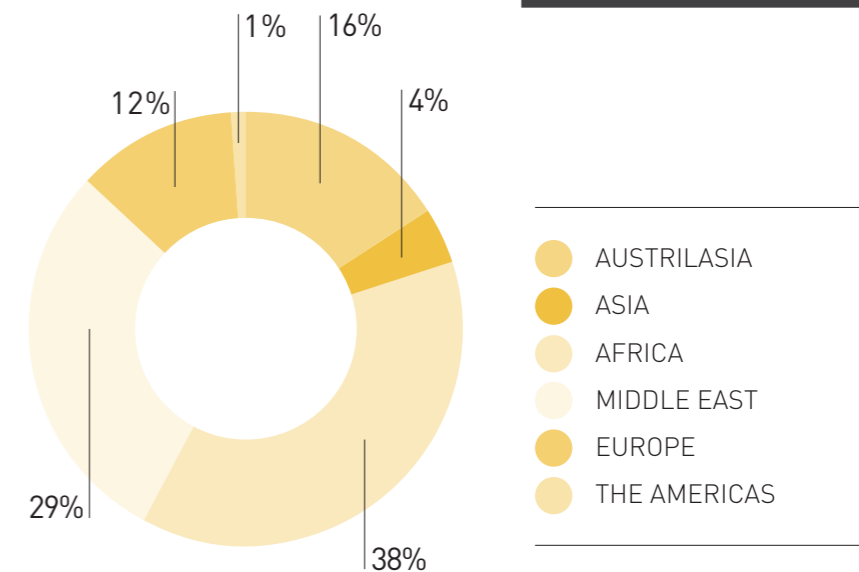


OVER **5** TIMES  
THE NUMBER  
OF **VISAS**  
PROCESSED  
COMPARED  
TO 2013

**VISAS**  
PROCESSED IN  
THE REPORTING PERIOD  
**367**  
(72 in 2013)

**TOTAL VISAS**  
PROCESSED (SEPT 2013)  
**631**

THE NUMBER OF  
**COMPANIES** IN  
THE **MASDAR**  
**FREEZONE**  
HAVE ALMOST  
DOUBLED



Origin of Registered Freezone Companies

PROVIDING OPPORTUNITIES FOR NEW BUSINESSES IN ABU DHABI

## Masdar City's One-Stop Shop

The 'One-Stop Shop' handles all registration, licensing and leasing issues related to Masdar City, as well as all government services, such as visas and customs. With one central location, the 'One-Stop Shop' handles services associated with:

- Leasing of Commercial Space.
- Incorporation of New Business Entities.
- Issuance and Renewal of Commercial Licenses.
- Government Relations Services (Entry Visa and Residency, Stamping, Emirates Post, Customs, Department of Economic Development).
- Fit-out and Facilities Management Services.



**“The support received from Masdar City Services has been invaluable in quickly setting up the branch and in administering the employees’ visas. Their web-based One-Stop Shop is a great added value for an international company like Abengoa to streamline the company’s business administration.”**

**Allison Lenthall**

Director of Communications and CSR  
Abengoa Solar Power, S.A.



STIMULATING AND PROMOTING NEW MARKETS

# Stimulating and Promoting New Markets – Green Building Materials

The first portal of its kind to originate in the Arab world, The Future Build assists architects, engineers and contractors in identifying and sourcing building products and materials that have been independently assessed to ensure they deliver the environmental benefits claimed. The Future Build offers an unrivalled platform for suppliers of green building products to bring their products and materials to the attention of all elements of the construction industry, particularly in the United Arab Emirates and wider Arab world.

The portal reflects the vital need of Masdar City – as with any project that seeks to accurately manage its environmental footprint – to understand and manage the embodied carbon and other environmental implications of products and materials used to construct and operate the city.

In this reporting period, The Future Build unveiled a brand new website with easy to use features, increasing the ease of use and accessibility by both suppliers and users of the website. The Future Build is now also fully operated by Masdar which makes supplier screenings and web updates easier to conduct.

Listings include a brief product description, supplier contact information and then an assessment of the product using The Future Build Sustainability Matrix<sup>®</sup>

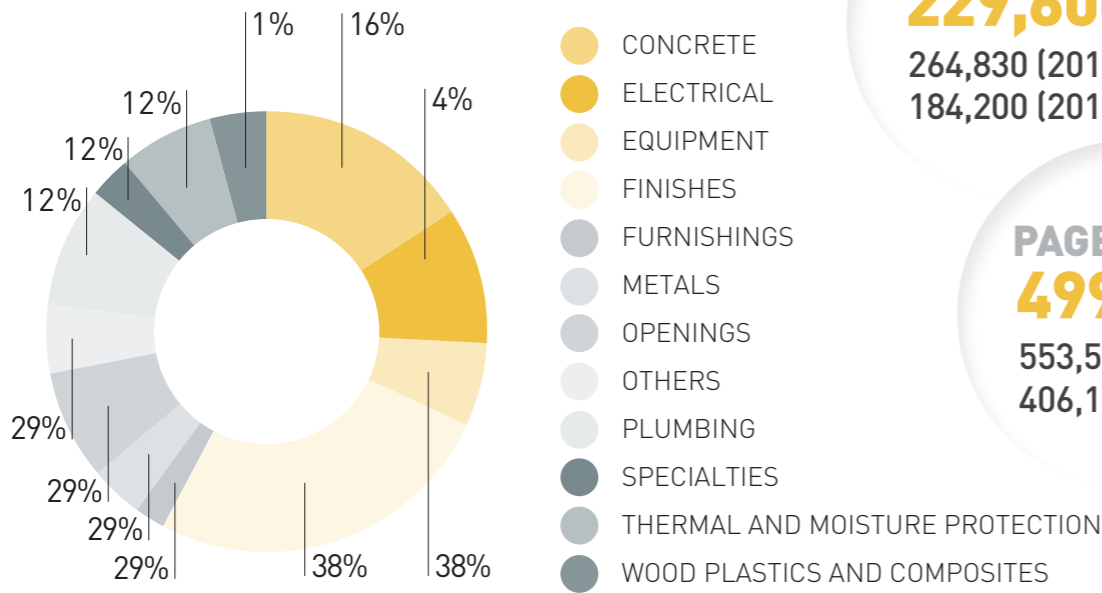


STIMULATING AND PROMOTING NEW MARKETS

# The Future Build Facts and Figures

While The Future Build has been developed to serve specifiers and contractors in the UAE and wider region, the strength of its assessments and user-focused design make it a valuable tool for industry professionals worldwide. The below charts are intended to highlight the location and type of The Future Build audience, based on the data collected from the Request for Information system.

## Types of Suppliers on The Future Build Portal



**VISITORS**  
**229,600**  
 264,830 (2013)  
 184,200 (2012)

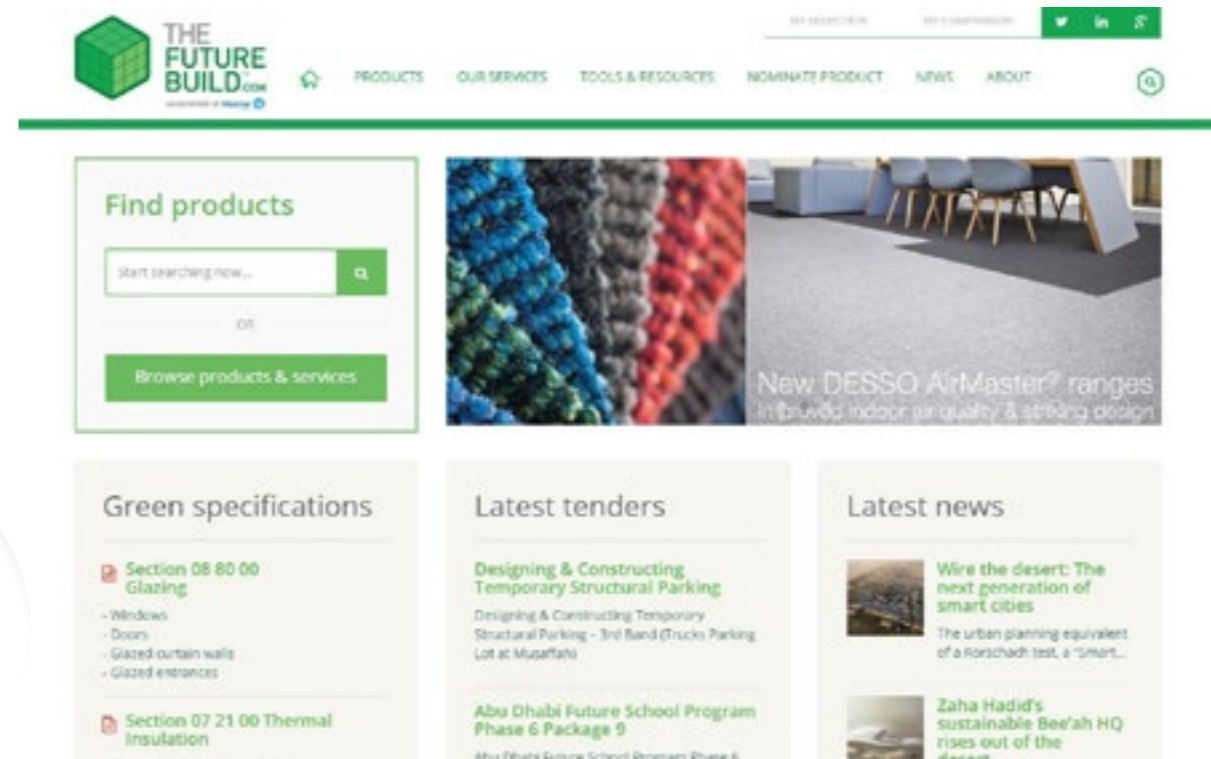
**PAGE VIEWS**  
**499,900**  
 553,500 (2013)  
 406,175 (2012)



## The Future Build Portal Testimonials

“The vast amount of technical information provided on the Future Build Website has assisted Brookfield Multiplex with rapidly identifying materials that adhere to a project’s sustainability requirements. This easy-to-use database promotes the procurement of materials manufactured sustainably and will only further enhance sustainable construction practices in the Middle East region.”

Steve Smith  
 Environmental and Sustainability Manager  
 Brookfield Multiplex







# Products & Services

## Contents:

- ▶ Advancing a Knowledge Based Economy
- ▶ Investing in Future Technologies
- ▶ Low Carbon Projects
- ▶ Progressing Urban Sustainable Development

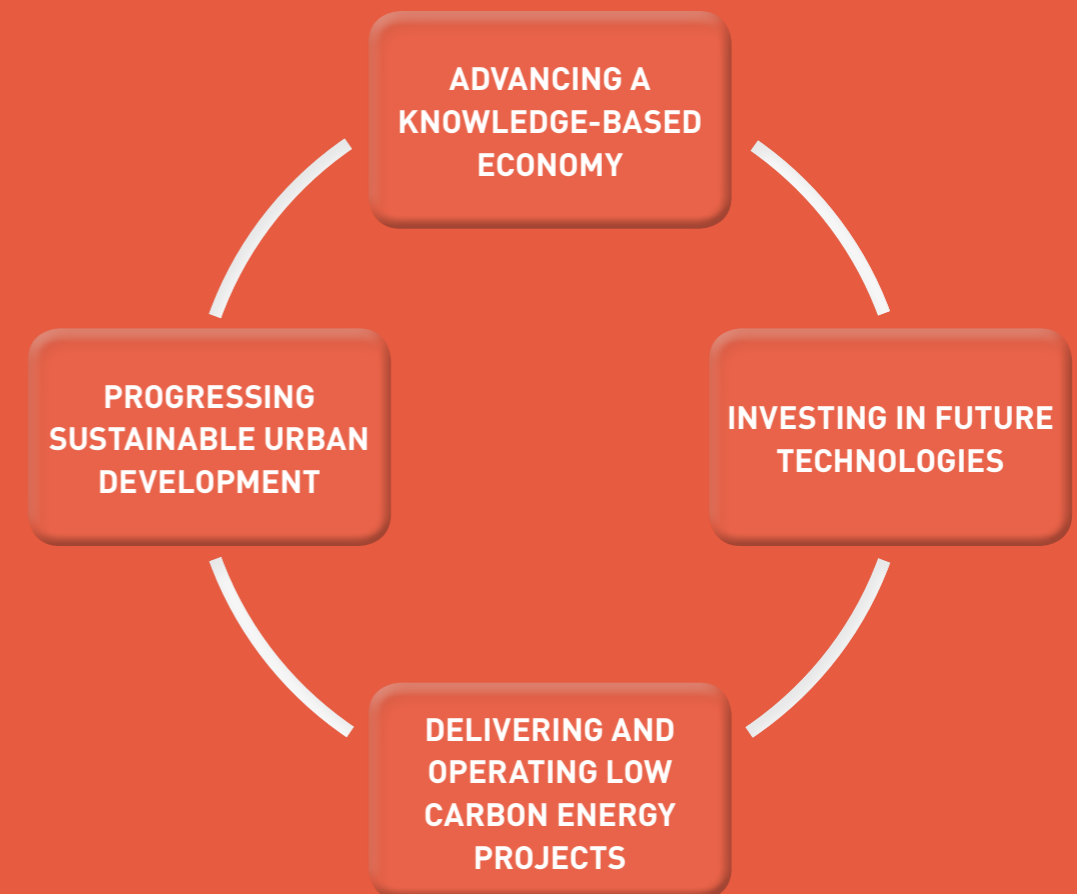
## MASDAR OVERVIEW

# Masdar's Products and Services

In order to truly understand Masdar's social, economic and environmental impact on its stakeholders, a brief overview of the key activities conducted by Masdar over the last year is given in this section.

In 2013 Masdar completed the developments of various projects internationally and in the UAE and transitioned to the operational phases of these developments. In 2014 the maintenance and operation of these assets was a main priority however many new projects, both large and smaller scale, have been planned and are in the development process. The products and services section of this report is designed to put into context the material social, economic and environmental aspects outlined in other parts of this sustainability report.

In line with its Vision and Mission, Masdar and its key affiliates remain focused on addressing the following core areas.



# Advancing a Knowledge-Based Economy in the UAE

Masdar understands the importance of nurturing highly skilled human and intellectual capital in the Emirate of Abu Dhabi. For this reason Masdar Institute of Science and Technology was established by the government of Abu Dhabi as an independent, non-profit, research-driven graduate university dedicated to higher education and research in advanced energy and sustainable technologies. Masdar Institute aims to support the Emirate's economic diversification through human capital to help the Emirate transform to a knowledge-based economy as per the Abu Dhabi Economic Vision 2030.

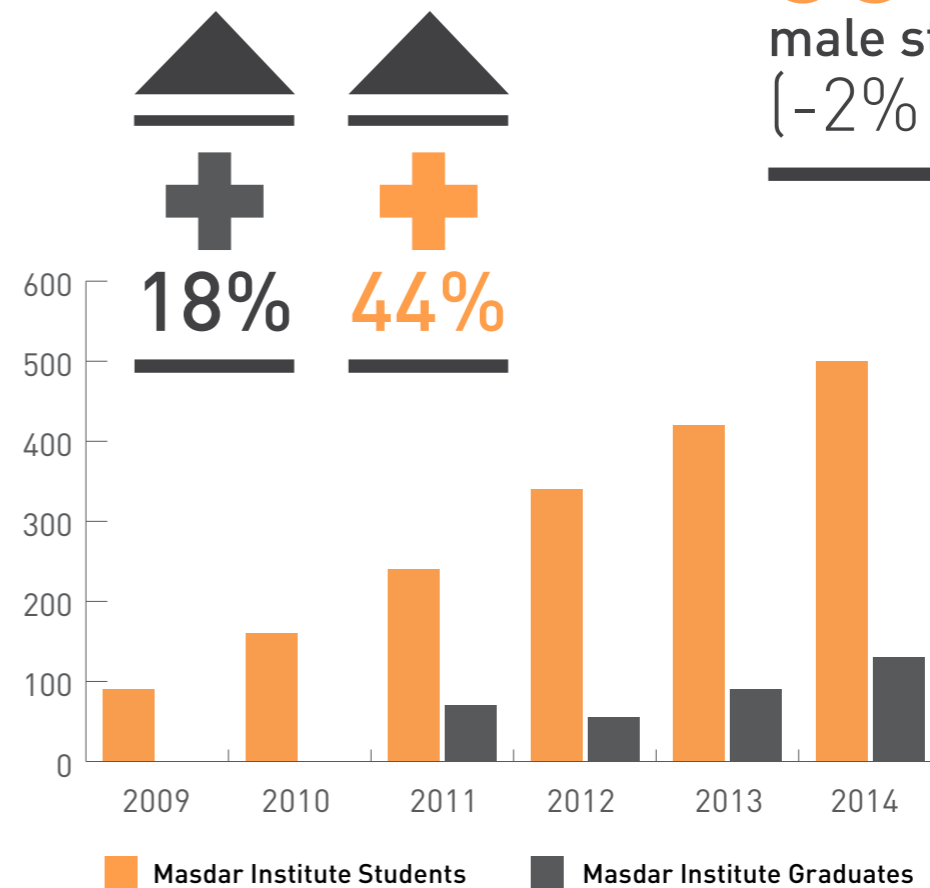
The Masdar Institute maintains a very close relationship with its sister school the Massachusetts Institute of Technology (MIT). This relationship serves as a valuable source of innovation and human capital for the region, allowing qualified students to pursue graduate studies and research in critical areas including renewable energy, sustainability, environment, water resources, engineering systems, management and advanced materials.

Masdar Institute currently has 91 faculty members from over 30 countries.

UAE NATIONAL STUDENTS  
**43%**  
+4% (2013)

**35%**  
female students  
(+2% 2013)

**65%**  
male students  
(-2% 2013)



## ADVANCING A KNOWLEDGE BASED ECONOMY

**In the fall of 2013, Masdar Institute created five Research Centers (iCenters) to explore new solutions to sustainability challenges.**

The iCenters collectively support Masdar Institute's continued evolution into a regionally-focused but globally-recognized university that produces knowledge and technologies across the sustainability spectrum. They consolidate research activities to support the Institute's next phase of growth as a research-intensive university. Additional goals include increasing the institution's contribution to developing new technologies and building human capital for the direct benefit of the UAE and the region.

The iCenters are intended to be permanent entities that collectively encompass Masdar Institute's core research focus areas.

**Masdar Institute**

## ADVANCING A KNOWLEDGE BASED ECONOMY



**iEnergy** contributes to Abu Dhabi reaching its goals of 7% of electricity production capacity from renewable sources by 2020 and seeks to provide impact across the power generation, industry, transportation and buildings sectors.

**Contributions:**

- Attracting more UAE nationals to energy research as well as growing multidisciplinary research activities such as sustainable energy technology for a variety of potential applications in industry, infrastructure, and environment.
- Expanding the volume of externally-funded research by establishing strategic partnerships between iEnergy and local and international stakeholders including ADNOC Total, Siemens, GGGI King Abdullah City for Atomic and Renewable Energy (K.A. CARE), IRENA, RTI, Sonkyo Energy, Lockheed Martin, Boeing, Safran, UOP (Honeywell) and Etihad Airways.

**Achievements:**

- Fabian Bonk first place winner, Postgraduate Student's poster at the Renewable Energy Competition during the 3rd International Conference on Renewable Energy Generation and Applications, ICREGA 2014, March 2014 UAE University, Al Ain, UAE.
- Rashid K. Abu Al-Rub, Professor at Masdar Institute, selected among the Scholar Google 100 Most Cited Authors in Civil Engineering; also has the most cited paper in International Journal of Solids and Structures between years 2009-2013 by Elsevier publisher.



**iInnovation** has worked actively to strengthen the Institute's technology translation programs and the UAE's innovation ecosystem. It supports the transition of technology research into innovative commercial products, services and processes.

**Contributions & Achievements:**

- In the fall of 2013, iInnovation inaugurated the Technology Innovation Program (TIP) grants, designed to help move faculty research from the laboratory into the marketplace.
- Signed an agreement with BP in 2014 to invest US\$7 million in a new Technology Accelerator based at Masdar City to support technology-based companies as they become ready for commercialization.



## ADVANCING A KNOWLEDGE BASED ECONOMY



**iMicro** serves Masdar Institute's faculty, students and stakeholders by supporting a collaborative environment for cutting edge microsystems research aligned with Abu Dhabi's economic diversification plans into the semiconductor industry.

**Contributions:**

- iMicro is one of the main UAE academic contributors to the emergence and growth of the nascent UAE semiconductor sector.
- Supports the growth of multidisciplinary research activities such as MEMS and sensor technologies for a variety of potential applications in industry, infrastructure, and environment.

**Achievements:**

- First 28nm fabricated chip in MENA, June 2014.
- First photonic chip submitted to fabrication, March 2014.
- Best journal paper award from the IEEE Council on Design Automation, June 2014, New Jersey, US.



**iSmart** contributes to turning the UAE into a global leader in engineering systems methods and applications by providing strategic and operational direction to research in these areas. It covers topics under energy & water policy, transportation and logistics, smart cities planning operations and building design, as well as industrial management, supply chains, and sustainability assessments.

**Contributions & Achievements:**

- iSmart and its affiliated faculty engaged with the Abu Dhabi Ports Company (ADPC) in research talks, specific to the optimization of Mina Zayed and Port Khalifa operations, resulting in US\$1 million sponsored research activity.
- Local and international companies engaged with iSmart include UAE MoFA (DECC), Emirates Wildlife Society (WWF-EWS), EMAL, Abu Dhabi Ports Company, Abu Dhabi DOT, Mubadala Aerospace (ADAT, STRATA), Tawazun (Nimer), Borouge, MHI and QNRF.



**iWater** is consolidating its research activities in existing areas such as desalination processes; water management, use of wastewater; environmental monitoring and assessment; remote sensing; hydrologic analysis; hydro- climate modelling; climate change assessment; and food security.

**Contributions:**

- Focuses on capacity-building and helping to position Abu Dhabi as a knowledge hub for membrane-based water technologies.
- iWater is attracting an increased number of UAE national students and researchers.

# Investing in Future Technologies

**Masdar Capital is building a portfolio of the world's most promising renewable energy and clean technology companies. This business unit also has achieved a "first" in the UAE of attracting third-party capital into the UAE from abroad then manages the funds from Masdar City.**

The unit helps its portfolio companies grow and scale up by providing capital and management expertise. Masdar Capital targets investments which have the greatest potential globally as well as to the UAE, and is particularly focused on the following sectors:

**Clean energy:** power generation and storage technologies, transportation technologies, cleantech/clean energy innovation, and sustainable biofuels.

**Environmental resources:** water and waste management, and sustainable agriculture technologies.

**Energy and material efficiency:** developments in advanced materials, building and power-grid efficiency, and the enabling technologies.

**Environmental services:** environmental protection and business services.

Masdar Capital invests in the commercialisation of tomorrow's most promising technologies through two cleantech funds with approximately \$540m under management.

Through these funds, Masdar Capital promotes and commercialises renewable technologies in the UAE, and identifies synergies between its investments and other Masdar activities, in line with the UAE's long-term energy and development programme. Masdar Capital has been an active investor in the cleantech marketplace since 2006 and will continue to raise new funds to take advantage of profitable sectors, whilst growing its assets under management.

Both funds also follow an active management investment strategy. The targeted investment amount is between US\$15-35 million and seeks to realise strong, risk-adjusted returns.



Solargenix Project 1, Nevada. Masdar Capital is invested in Solargenix

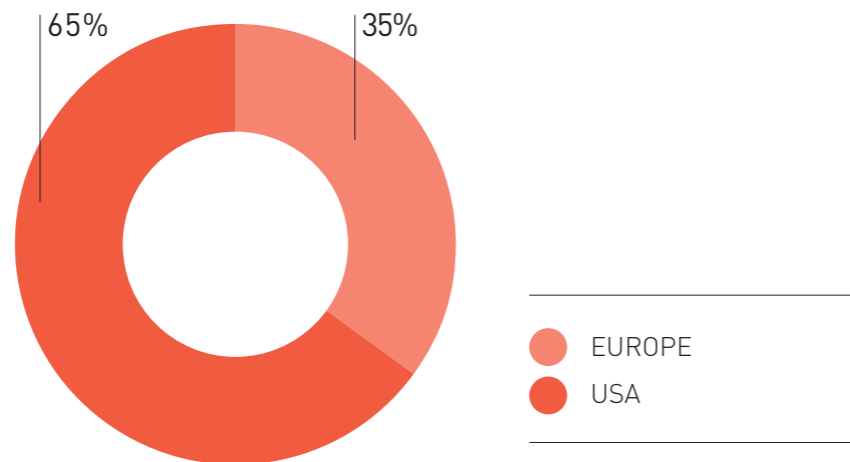


## INVESTING IN FUTURE TECHNOLOGIES

## Masdar Clean Tech Fund USD \$250m

This fully deployed \$250 million fund has invested \$45 million in three cleantech funds and the remaining \$205 million in nine direct investments in companies, as lead or co-lead investor.

- Launched in 2006.
- Launched in conjunction with partners Credit Suisse and Siemens AG.
- Masdar Clean Tech Fund Investments.
- 65% in USA.
- 35% in Europe.



## DB Masdar Clean Tech Fund USD \$290m

- Launched in 2009.
- Co-managed with Deutsche Bank Climate Change Advisors (DBCCA).
- Its investor group includes Siemens, Japan Bank for International Cooperation (JBIC), Inpex Corp. / Japan Oil Development Co. Ltd., JX Nippon Oil & Energy Corporation, Development Bank of Japan (DBJ), Mitsubishi Heavy Industries (MHI) and GE.

Through these funds, Masdar Capital also seeks to demonstrate, commercialise, and promote renewable technologies in the UAE, and to identify synergies between its investments and other Masdar activities, as well as the long-term energy and development programme of the UAE.

# Delivering and Operating Low-Carbon Energy Projects

Masdar understands the tremendous challenges posed by climate change, environmental degradation and the need to find sustainable energy sources. Therefore we believe concerted efforts must be made to reduce the volume of greenhouse gases released into the atmosphere. This principally means finding ways to reduce energy consumption and develop clean sources of energy.

By pursuing investments, partnerships, activities and operations across the entire renewable energy and clean technology value chain, Masdar supports the development, commercialisation and adoption of these technologies, both locally and internationally. As a result, Masdar is contributing to global efforts to combat climate change and find a more sustainable future for both the Emirate and the global community as a whole.

To diversify Abu Dhabi's energy mix and expand the Emirate's range of commercial energy expertise, Masdar invests in the development of large-scale clean-energy projects, ranging from utility-scale wind and solar to energy efficiency and carbon capture utilisation and storage (CCUS).



**CONCENTRATED  
SOLAR POWER  
PROJECTS**



**PHOTO-VOLTAIC  
(PV) POWER  
PROJECTS**



**WIND POWER  
PROJECTS**



**LOW CARBON  
INDUSTRIAL  
SOLUTIONS**

## Infographics:

- Masdar has committed over US \$1.7 Billion of equity to renewable energy projects worldwide.
- Masdar has delivered almost 1 GW of renewable energy globally.



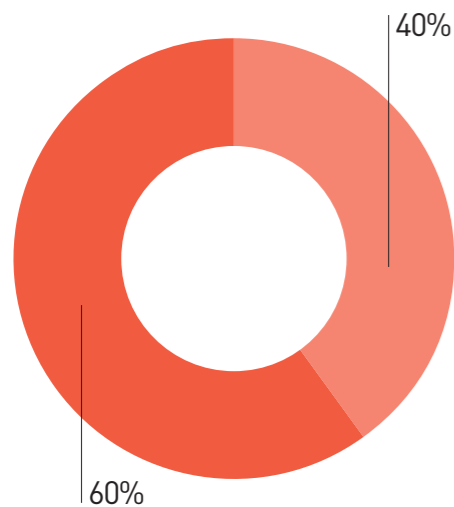


LOW CARBON PROJECTS

# Concentrated Solar Power Generation

In 2008 Masdar along with Spanish Engineering group SENER established Torresol Energy to increase the deployment of Renewable Energy around the world.

The goal of this joint Venture was to become a leader in the CSP sector through developing and operating large-scale utilities focusing both on conventional and new innovative concepts diversifying the global energy mix.



The company has three CSP plants operational in Spain:

**GEMASOLAR** – The world’s first commercial largescale CSP plant of its kind. This energy utility was the first to apply a central tower receiver and molten-salt heat storage technology.

**19.9MW**  
INSTALLED CAPACITY

**SOLAR FIELD:**  
**2,650**  
**HELIOSTATS**  
on **185 HECTARES**

Heat storage system:  
**15hrs**  
Up to independent electricity generation without any solar feed.



Gemasolar 19.9MW CSP Plant in Seville, Spain

**VALLE 1 & 2** – These two adjacent solar plants generate consistent amounts of clean energy in Southern Spain by means of cylindrical-parabolic collectors.

EACH **50MW**  
INSTALLED CAPACITY

**SOLAR FIELD:**  
**510,000m<sup>2</sup>**  
of **SENERtrough<sup>®</sup>**  
cylindrical-parabolic collectors.

Heat storage system:  
**7hrs**  
Up to independent electricity generation without any solar feed.



Aerial view of Valle 1 and Valle 2, adjacent solar plants that generate electricity by means of cylindrical-parabolic collectors



## LOW CARBON PROJECTS

# Concentrated Solar Power

## UNITED ARAB EMIRATES

### SHAMS 1 – ABU DHABI

Shams 1 is a joint venture between Masdar, Total and Abengoa. The Shams 1 plant was developed, owned and operated by Shams Power Company and boasts the title of the largest Concentrated Solar Power Facility in the Region and one of the largest in the world. Shams 1 extends over an area of 2.5 km<sup>2</sup>, with a capacity of 100MW and a solar field consisting of 768 parabolic trough collectors.

#### SHAMS Power Company : Masdar 60%, Total 20%, Abengoa 20%

- 192 parallel loops with four series-connected collectors.
- Power supplied is enough to power 20,000 UAE homes.
- Displaces approx. 175,000 tons of CO<sub>2</sub> annually.

**“The inauguration of Shams 1 is a major milestone in our country’s economic diversification and a step toward long-term energy security... Expanding our leadership into renewable sources of power demonstrates the United Arab Emirates’ commitment to maintaining its position as a major provider of energy.”**

**His Highness Sheikh Khalifa bin Zayed Al Nahyan**  
President of the United Arab Emirates and Ruler of Abu Dhabi



Shams 1 CSP Plant - Abu Dhabi, UAE

LOW CARBON PROJECTS

# Photovoltaic Power Generation

UNITED ARAB EMIRATES

**10MW SOLAR PV PLANT – MASDAR CITY, ABU DHABI**

The 10 MW PhotoVoltaic facility was constructed by Abu Dhabi-based Enviromena Power Systems, a leading developer of solar projects in the region. The project was inaugurated in June of 2009 and has been supplying power to The Masdar Insitute since its completion. The plant is one of the methods by which Masdar can prove its ambitions of integrating low carbon projects in urban settings.

LAND AREA:  
**210,000m<sup>2</sup>**

**10MW  
INSTALLED  
CAPACITY**

Displaces approx.  
**15,000**  
tons of CO<sub>2</sub> annually

**87,780**  
MODULES

18,228  
**SUNTECH**

69,552  
  
**First Solar.**

**ABU DHABI SOLAR ROOFTOP PROGRAM**

- 11 rooftop PV systems installed on government buildings in Abu Dhabi City.
- Total installed capacity of 2.3 MWp.
- Reduces annual diesel fuel consumption by 1.22 million liters.
- Reduces annual CO<sub>2</sub> Emmisions by 3,220 tonnes.

**MURAWAH ISLAND PV PLANT**

- 500kWp grid-connected solar PV Plant on Murawah Island.
- Reduces annual diesel fuel consumption by 260,000 liters.
- 80% solar energy penetration into the grid.



Abu Dhabi Solar Rooftop Program



10MW PV Plant at Masdar City



## LOW CARBON PROJECTS

# Photovoltaic Power Generation

## INTERNATIONAL

## SHEIKH ZAYED SOLAR POWER PLANT – NOUAKCHOTT, MAURITANIA

The first utility-scale Renewable Energy Plant in the Islamic Republic of Mauritania, delivered by Masdar, was connected to the grid in March of 2013. The Sheikh Zayed Solar Power Plant, is one of the largest solar power installations in Africa and accounts for a large percentage of Mauritania's grid capacity.

- The 15 MW solar plant accounts for 10 percent of Mauritania's grid capacity.
- Consists of 29,826 micromorph thin film panels.
- Land area: 300,000 square meters.
- Displaces approximately 21,225 tons of carbon dioxide annually.
- Supplies the demand of nearly 10,000 homes.

**+15MW**  
INSTALLED  
CAPACITY

OVER  
**22,000 TONS**  
OF CO<sub>2</sub> DISPLACED  
ANNUALLY



## MICRO-GRID PV PLANT – VAVA'U, TONGA

In 2013, Masdar delivered the first large-scale renewable energy project in the kingdom of Tonga. The project provided state-of-the-art technology allowing the plant to utilise 67% of solar energy during peak sun hours and transfer it into the grid. This project was funded by the Abu Dhabi Fund for Development (ADFD) which focuses on providing assistance to developing countries.

- 512KW Installed Capacity.
- Feeding approx. 866MWh of clean energy each year into the grid of Vava'u.
- Replaces 280,000 litres of diesel fuel annually.
- Displaces approx. 724 tons of CO<sub>2</sub> annually.
- Meets 17% of Vava'u Island's annual electricity demand.
- Powers 850 houses on the island of Vava'u.

## AFGHANISTAN SOLAR HOME SYSTEMS

This initiative supplied and installed 600 solar home systems in 27 villages within the Helmand Province in the south of Afghanistan. The project enhances the lives of more than 3,000 people who are completely deprived of any other form of electricity. The project is a significant step in generating a positive impact on enhancing social and humanitarian development.

- Powers 545 houses and 55 public facilities, including schools, mosques and clinics.
- Installed systems include solar PV panels, energy-efficient lighting, two fans, a TV and a refrigerator.
- Batteries can store enough energy to provide power for two days.
- Cost: AED 15.4m (\$4.22m) grant provided by Abu Dhabi Government.



## LOW CARBON PROJECTS

# Wind Power Generation Projects

## TAFILA WIND FARM – AMMAN, JORDAN

Scheduled for full commercial operation in 2015, the Tafila Wind Farm will be the first utility-scale wind-power project in the Middle East. Located in the Hashemite Kingdom of Jordan, the 117-megawatt wind farm will increase the country's total power capacity by 3 percent.

The Tafila wind farm is being developed by Jordan Wind Project Company, a co-development partnership between InfraMed (50 percent), Masdar (31 percent) and EP Global Energy (19 percent).

- The 117-megawatt wind farm is located in the Tafila region, 180 km south of Amman – Jordan's capital and largest city (map).
- Project Cost: \$290 Million.
- Consists of 38, 3-megawatt V112 wind turbines provided by Vestas.
- Project will increase Jordan's power capacity by 3 percent.
- Talifa Wind Farm will produce approximately 400 GWh of electricity annually.
- Will displace 235,000 tons of CO<sub>2</sub> emissions per year.

## 550 KW WIND FARM – UPOLU, SAMOA

This 550 kWe project, developed by Masdar, is the second completed under the \$50 million Pacific Partnership Fund, which is managed by Abu Dhabi Fund for Development (ADFD).

- located on the Samoan island of Upolu.
- the wind farm will supply 1,500 MWh of power per year, delivering US\$475,000 in annual fuel cost savings.
- project will also reduce the island's carbon footprint by more than 1,000 tons of carbon dioxide (CO<sub>2</sub>) each year.
- The pioneering collapsible turbine design helps to avoid damage from the region's numerous cyclones.

## DUDGEON WIND FARM – UNITED KINGDOM

In September 2014 Masdar announced a partnership to deliver the 402 Megawatt offshore wind farm project, off the Norfolk coast in Eastern England. In conjunction with the London Array the Dudgeon Wind Farm puts Masdar at the forefront of offshore wind development in the United Kingdom. Offshore construction is scheduled to start in 2016 and the project is expected to be fully operational in late 2017.

Masdar acquired a 35 percent stake in the 402 megawatt project, from Statoil, valued at £525 million (AED 3.13 bn). Statoil retains a 35 percent stake and remains as operator of the project, with the remaining 30 percent owned by Statkraft.

- When completed, Dudgeon will provide clean, reliable energy to approximately 410,000 households in the UK.



## LOW CARBON PROJECTS

### LONDON ARRAY – UNITED KINGDOM

Located in the outer Thames Estuary in the United Kingdom, the project was undertaken as a joint venture between DONG Energy (50%), E.ON (30%) and Masdar (20%) in an effort to provide renewable energy to thousands of households.

- 175 wind turbines (Siemens 3.6MW turbines).
- 630MW Installed Capacity.
- Covers an area of 100km<sup>2</sup>.
- Powers over half a million homes.
- Displaces approx. 925,000 ton of CO<sub>2</sub> annually.

### PORT VICTORIA WIND POWER PROJECT – SEYCHELLES

In a partnership with the Abu Dhabi Fund for Development and in conjunction with the government of Seychelles, Masdar developed and delivered the first large-scale renewable Energy Project in the Republic of Seychelles. The Port Victoria Wind Power Project is located on the archipelago's main island of Mahe, where 90% of the country's residents live. The plant consists of eight wind turbines across two small islands off the coast of Mahe.

- 6MW Installed Capacity.
- 750kW wind turbines are supplied by Unison Company.
- Supplies more than 8% of Mahe Island's grid capacity.
- Displaces approx. 5,500 ton of CO<sub>2</sub> annually.
- Powers approx. 2,100 homes annually.
- Cost: AED 102.8m (\$28m) grant provided by Abu Dhabi Fund for Development (ADFD).



The London Array, UK



Port Victoria Wind Farm, Seychelles





LOW CARBON PROJECTS

# Low-Carbon Industrial Solutions

## Masdar Carbon Capture Usage and Storage (CCUS) Programme

Masdar is pioneering large-scale CCUS in the UAE by focusing on clean hydrocarbon power and industrial energy efficiency whilst also creating additional value through carbon monetisation. The Emirates Steel Industries (ESI) CCUS project falls under the joint venture established by Masdar and ADNOC. It is the first CO<sub>2</sub> capture, usage and storage project in the Middle East and the only such project outside North America. The project comprises the industrial capture of CO<sub>2</sub> and the use of injected CO<sub>2</sub> for enhanced oil recovery. The project will liberate precious natural methane gas (traditionally used to pressurise oil wells and aid oil recovery) for use in traditional power generation and water desalination.

ESI CCUS will sequester  
**800,000**  
tons of CO<sub>2</sub> annually

Project will include a compression facility and a

**50km**  
**PIPELINE**

Completion set for

Early **2016**



## DESALINATION PLANT – ABU DHABI, UAE

In May of 2014 Masdar selected four companies to each start the construction of a desalination plant as part of a pilot project in Abu Dhabi. The project aims to develop and demonstrate energy-efficient seawater desalination technologies efficient enough to be powered by renewable energy. The new technologies are expected to allow the implementation of cost-competitive large-scale seawater desalination plants powered by renewable energy in the UAE and abroad.

SELECTED COMPANIES INCLUDE

**ABENGOA**



SIDEM **VEOLIA**



**1,500m<sup>3</sup>**  
to **2,000m<sup>3</sup>**  
a day

WATER PRODUCTION

**4-5**

PILOT PLANTS

Cost:  
**AED**

**102.8m**

(\$28m) grant provided by Abu Dhabi Fund for Development (ADFD)

Testing innovative desalination technologies that can be powered by

**RENEWABLE ENERGY**

Powers approx.

**2,100**

homes annually



# Progressing Sustainable Urban Development

## MASDAR CITY, ABU DHABI

Located in Abu Dhabi, the capital of the United Arab Emirates, Masdar City is a sustainable urban development and economic free zone. The city provides a 'green print' for cities of the future, with traditional Arabic architecture blending seamlessly with state of the art modern technology to maximize energy efficiency.

As one of the world's most sustainable communities for technology, Masdar City is an emerging global hub for knowledge, business, research and development. Masdar City is a modern Arabian city that, like its forerunners, is in tune with its surroundings. A high density, pedestrian-friendly, sustainable development, Masdar City not only embodies Abu Dhabi's commitment to a sustainable future but it is also pioneering best practices in sustainable urban planning, design, development and operation.

Masdar City delivers the highest quality living and working environment with the lowest possible ecological footprint, striving to be a model of sustainable development where residents will want to live, work and play.

## Masdar City – Goals infographics

- Total Site Size: 700 hectares.
- Gross Floor Area: 3.8m m<sup>2</sup>.
- 40,000 Residents.
- 50,000 Commuters.

MASDAR CITY  
MASTERPLAN

MASDAR  
INSTITUTE

INCUBATOR  
BUILDING

SIEMENS  
BUILDING

IRENA HQ

MASDAR  
TENNANTS



PROGRESSING URBAN SUSTAINABLE DEVELOPMENT

# Masdar City Masterplan

- Cars into certain areas of city.
- PRT expanded within core only.
- GRT loop throughout city.
- Walkable neighbourhoods.
- Small square: lower density NH.



Masdar City Masterplan



Masdar City Masterplan 2014





## PROGRESSING URBAN SUSTAINABLE DEVELOPMENT

# Masdar Institute

**Size (GFA): 79,162 m<sup>2</sup>**

The Masdar Institute Campus combines passive and intelligent design and the buildings integrate best practices – and state-of-the-art technologies – in sustainable development. From narrow corridors to smart shading to green materials, the campus reduces heat in the summer months and uses solar panels to generate renewable energy directly from the rooftops.

In 2014, Masdar welcomed many new tenants throughout the city. Various new retail outlets have opened providing a variety of new shopping options for people living and working in the city. New restaurants cafes and shops are helping to attract more businesses to the city and are contributing to Masdar's growth as a sustainable urban community.



Masdar Institute



PROGRESSING URBAN SUSTAINABLE DEVELOPMENT

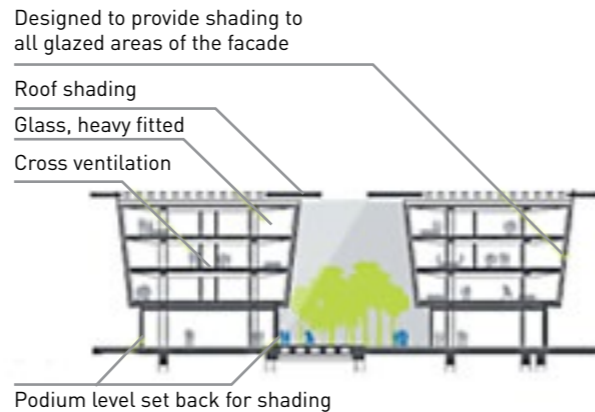
# Incubator Building

**Size (GFA): 9,709m<sup>2</sup>**

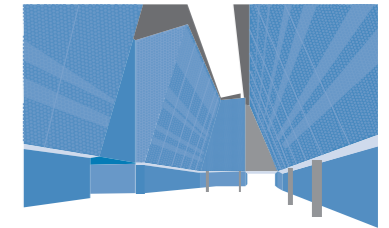
The Incubator Building is Masdar City's first commercial property in the heart of the city's research and development cluster. It lies at the heart of the Masdar City development and is strategically located adjacent to Masdar Institute.

Built around a shaded public courtyard area, with access provided via covered walkways, the Incubator Building incorporates innovative design, high-performance ceramic façade and smart shading strategies to reduce solar radiation by nearly 40%, offering lower operating costs to businesses and will become home to more than 60 companies over the course of 2014.

## INTELLIGENT DESIGN



## CRITERIA INCUBATOR PERFORMANCE



### AREA

**3,383m<sup>2</sup>**  
SITE AREA

**9,709m<sup>2</sup>**  
GROSS FLOOR AREA (GFA)

**7,896m<sup>2</sup>**  
NET INTERNAL AREA (NIA)

**81%**  
EFFICIENCY (NIA/GFA)

### BUILDING RATING

**45%**  
Energy Demand Reducior

**62%**  
Energy Demand Reducior

### WATER

**17%**  
Interior Water Demand Reduction

**75% of Hot Water**  
SOLAR HOT WATER GENERATION ON SITE

Facades are angled to reduce solar gain on the facade by an average of 30%



The Incubator Building





PROGRESSING URBAN SUSTAINABLE DEVELOPMENT

# Siemens Building

**Size (GFA): 22,800m<sup>2</sup>**

The 22,800m<sup>2</sup> Siemens Building sets the standard in sustainable engineering. Through its parametric façade design, the building maximises efficiency by building more with less. The façade structure reduces solar glare and heat gain, at the same time allowing natural light to penetrate the office and communal space through 9 atriums within the building. A covered courtyard complete with a restaurant, coffee shop and convenience store provides the most comfortable outdoor space possible for employees.

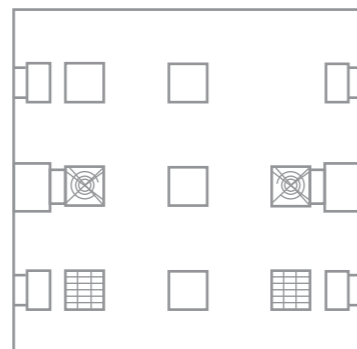
In December of 2013 the Siemens Building at Masdar City received the United States Green Building Council (USGBC) LEED Platinum certification. It is currently the first and the only building in Abu Dhabi that has obtained this certification with a total of 85 points under LEED for its Core and Shell Rating System.



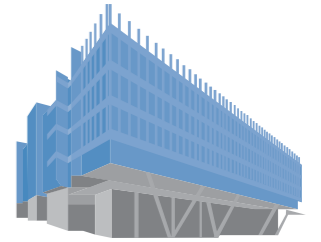
Siemens Building in Masdar City

**TYPICAL FLOORPLAN**

4,500m<sup>2</sup> of office space



## CRITERIA SIEMENS BUILDING PERFORMANCE



**AREA**

**6,426m<sup>2</sup>**  
SITE AREA

**18,863m<sup>2</sup>**  
NET INTERNAL AREA (NIA)

**22,800m<sup>2</sup>**  
GROSS FLOOR AREA (GFA)

**83%**  
EFFICIENCY (NIA/GFA)

**WATER**

**37%**

Interior Water Demand Reduction (Estidama Pearl Building Water Calculator)

**75% of Hot Water SOLAR HOT WATER GENERATION ON SITE**

**BUILDING RATING**

**PLATINUM**  
LEED CERTIFICATION

**3 PEARLS**  
ESTIDAMA PEARL BUILDING RATING SYSTEM (UAE)

**46%**  
Energy Demand Reduction (ASHRAE Standard 90.1-2007)

Energy Demand Reduction (Energy and Water Baseline and Resource Conservation Measures, March 2010 Arup Gulf Ltd.)

**OVER 90%**  
CONSTRUCTION WASTE % DIVERTED FROM LANDFILL

**MECHANICAL SYSTEMS**

**75%**

Sensible and Latent Heat Recovery in FAHUs

**REDUCTION OF 20% AGAINST ASHRAE 90.1-2010 SPECIFIC FAN POWER OF AHUS**



PROGRESSING URBAN SUSTAINABLE DEVELOPMENT

# IRENA HQ

**Size (GFA): 32,064m<sup>2</sup>**

Sustainability is fundamental to the design of IRENA HQ; this has resulted in a building that is efficient and compact, reducing building material requirements.

IRENA HQ's structure comprises three individual buildings that are encompassed by an iconic, high-performance 'sawtooth' façade that maximises the use of natural light, whilst reducing solar heat gain and glare. This helps to lower the buildings' overall consumption of electricity for artificial lighting and air conditioning.

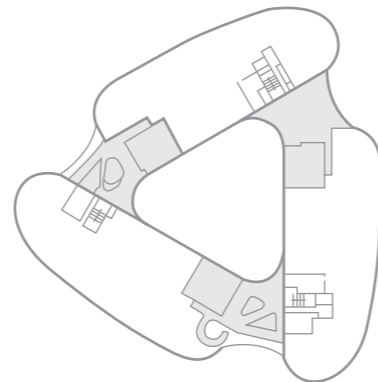
At the three buildings surround a central atrium that allows natural light to flow through the buildings. On the ground floor, food and beverage and retail outlets will create a busy and dynamic community feel. As a strategic and prestigious business address, IRENA HQ will be home to anchor tenants Masdar and the International Renewable Energy Agency (IRENA).



Masdar Headquarters

**TYPICAL FLOORPLAN**

4,555m<sup>2</sup> of office space



## CRITERIA IRENA HQ PERFORMANCE

**AREA**

**10,421m<sup>2</sup>**  
SITE AREA

**32,064m<sup>2</sup>**  
GROSS FLOOR AREA (GFA)

**25,000m<sup>2</sup>**  
NET INTERNAL AREA (NIA)

**78%**  
EFFICIENCY (NIA/GFA)

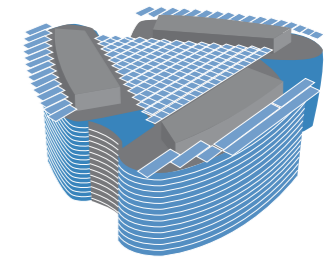
**BUILDING RATING**

**4 PEARLS**  
ESTIDAMA PEARL BUILDING  
RATING SYSTEM (UAE)

**42%**  
Energy Demand  
Reduction  
(ASHRAE Standard 90.  
1-2007)

**64%**  
Energy Demand  
Reduction (Energy and  
Water Baseline and  
Resource Conservation  
Measures, March 2010  
Arup Gulf Ltd.)

**OVER 90%**  
CONSTRUCTION WASTE %  
DIVERTED FROM LANDFILL



**WATER**

**48%**

Interior Water Demand  
Reduction (Estidama Pearl  
Building Water Calculator)

**75% of Hot Water  
SOLAR HOT WATER  
GENERATION ON SITE**

**OTHER FEATURES**

**15% Fresh air increase  
over ASHRAE**

**VENTILATION**

**REDUCTION OF 20%  
AGAINST ASHRAE  
90.1-2010**

Interior lighting power density

**REDUCTION OF 20% AGAINST  
ASHRAE 90.1-2010**

SPECIFIC FAN POWER OF AHUs

**15% Reducton in lighting schedule  
in areas that receive over 250 lux**

**Daylight controls**

**PROVISION OF OCCUPANCY SENSORS**

**Lighting controls**



PROGRESSING URBAN SUSTAINABLE DEVELOPMENT

# Masdar City Tenants



# Anchor Tenants



# Retail at Masdar City





# Environmental Performance Data

## Contents:

- ▶ Masdar Overview
- ▶ Paper Management
- ▶ Energy Management
- ▶ Water Management
- ▶ Operational Waste Management
- ▶ Construction and Hazardous Waste Management
- ▶ Sustainable Transport Systems
- ▶ Biodiversity
- ▶ GHG Emissions
- ▶ Construction Environmental Management Compliance



## MASDAR OVERVIEW

# Masdar's Environmental Impacts

Environmental impact mitigation is a key focus area throughout Masdar's core functions. The organization endeavours to monitor and control the environmental impact through efficient and effective asset delivery and optimal management. In 2014 Masdar authorized an amendment to the initial Environmental Impact Assessment for Masdar City Phase 1, conducted in 2009. The report highlighted key findings in Air Quality, Waste management, biodiversity, geology and many other environmental areas. These findings will be explained throughout this section.

This environmental section focuses on how Masdar continually seeks, innovates and implements leading environmental management practices to address the negative environmental impacts in its key operations.

## This section looks at Masdar's response to challenges in:

- Paper Management
- Energy Management
- Water Management
- Wastewater Management
- Construction Waste Management
- Operational Waste Management
- Greenhouse Gas Emissions
- Sustainable Transport Solutions
- Biodiversity Management
- Compliance Management

As a result of the materiality analysis for this reporting period, it was determined that a continued emphasis be put on Masdar City due to the level of engagement, ownership and environmental impact potential in Masdar city as compared to other projects that Masdar have only a small degree of involvement in.

## Preliminary targets for 2015:

Improve near-miss reporting / unsafe conditions / unsafe acts

**TARGET 5%**  
INCREASE

Improve Masdar City operational waste recycling

**TARGET 15%**  
INCREASE

Improve energy savings for Masdar City

**10%**  
REDUCTION  
TARGET

Decrease paper consumption

**TARGET 10%**  
DECREASE



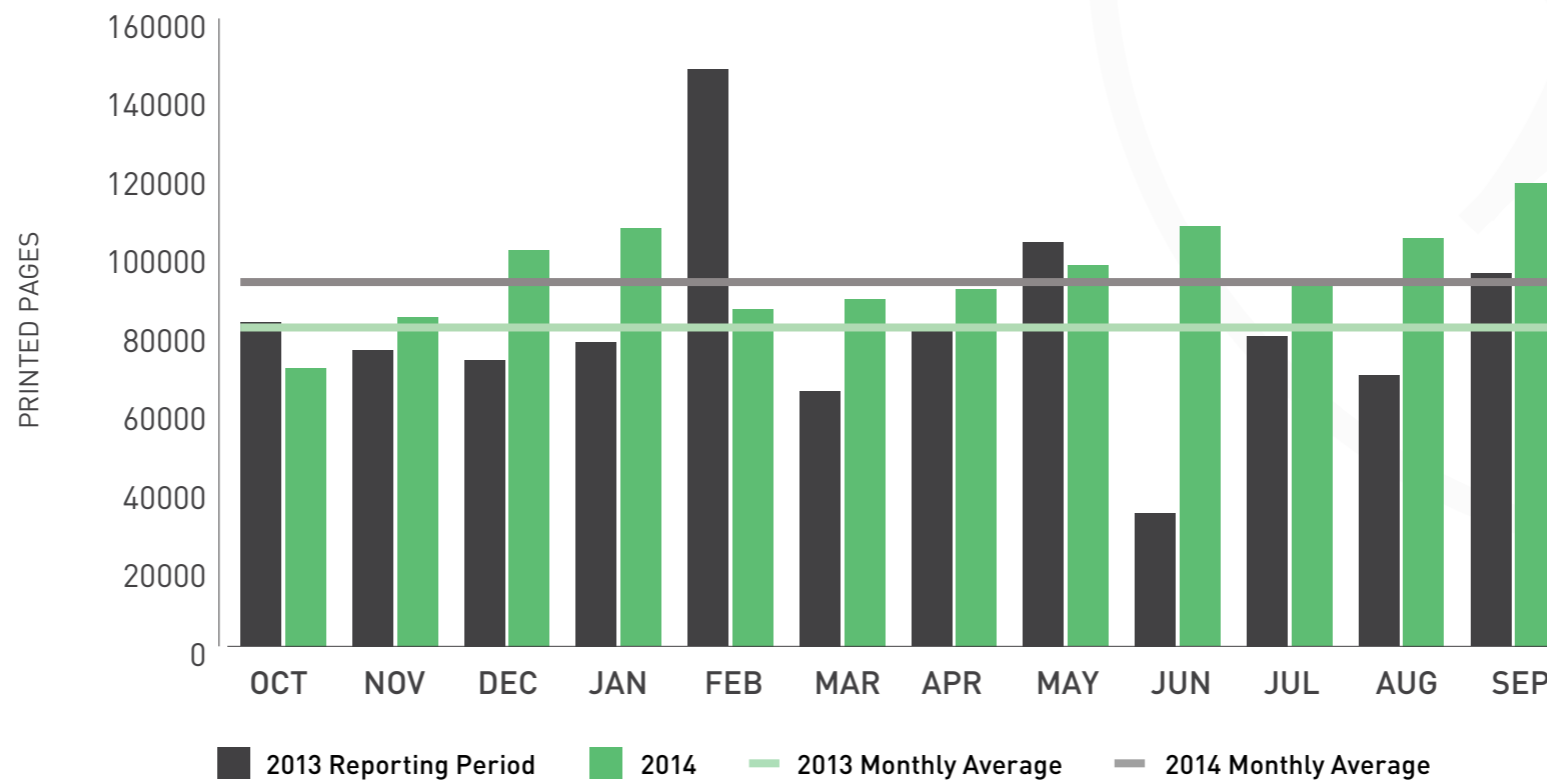


PAPER MANAGEMENT

# Paper Management

During the reporting period, Masdar witnessed an increase of 156,980 pages printed during the reporting period, compared with the previous period. This resulted in a monthly average increase of 16%.

The below graph shows a comparison of print activities between the 2013 and 2014 reporting periods.



ENERGY MANAGEMENT

# Energy Management

Masdar, in particular Masdar City, has made considerable efforts in demand side energy management, during the construction, design and operation of buildings within Masdar City. In 2013 a number of projects within Masdar City transitioned from the construction to the operational phase.

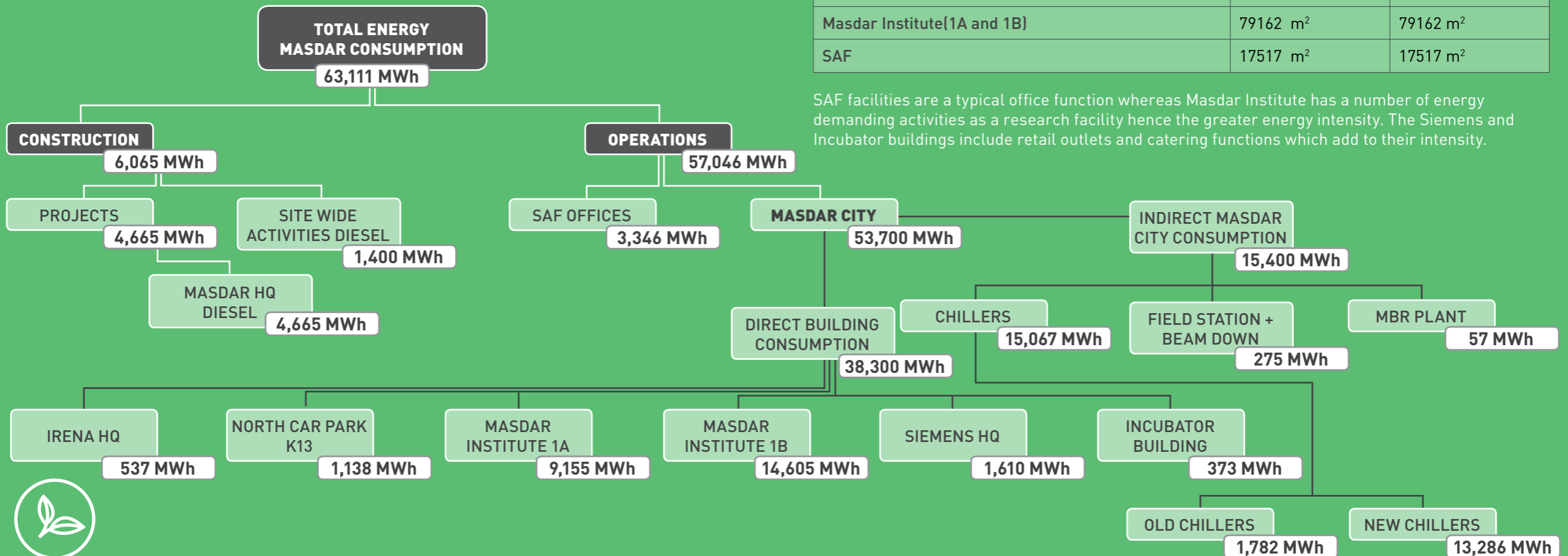
This transition from construction to operations is, therefore, the reason for significant increases in operational energy usage however the total energy usage of Masdar has decreased. Furthermore, specific buildings such as the Siemens and Incubator buildings have seen a large influx of tenants in 2014 giving valuable data to report on the energy performance of Masdar City buildings. The energy intensity of Masdar City operational buildings can be seen in the table below.

We are pleased to show the expanded reporting of specific buildings in Masdar City and hope to continue to expand and improve upon the precision of our data.

	ACTUAL		+/-
<b>BUILDING ENERGY INTENSITY (KWh/m<sup>2</sup>)**</b>	<b>2013</b>	<b>2014</b>	
Masdar Institute 1A & North Car Park	294.66	299.6	+7%
Masdar Institute 1B	N/A	325.96	
Siemens HQ	N/A	70.57	-
Incubator	N/A	98.87	-
SAF Offices	186.08	191.01	+5%

BUILDING OCCUPANCY BY LEASE AGREEMENTS	AVAILABLE SPACE	LEASED SPACE
Siemens Building	21720 m <sup>2</sup>	14335 m <sup>2</sup>
Incubator Building	9709 m <sup>2</sup>	9709 m <sup>2</sup>
Masdar Institute(1A and 1B)	79162 m <sup>2</sup>	79162 m <sup>2</sup>
SAF	17517 m <sup>2</sup>	17517 m <sup>2</sup>

SAF facilities are a typical office function whereas Masdar Institute has a number of energy demanding activities as a research facility hence the greater energy intensity. The Siemens and Incubator buildings include retail outlets and catering functions which add to their intensity.



ENERGY MANAGEMENT

# SIEMENS Building Case Study

## SIEMENS HQ Performance Data

Siemens monthly electricity, cooling and water usage in 2014: Building GFA = 24142m<sup>2</sup>

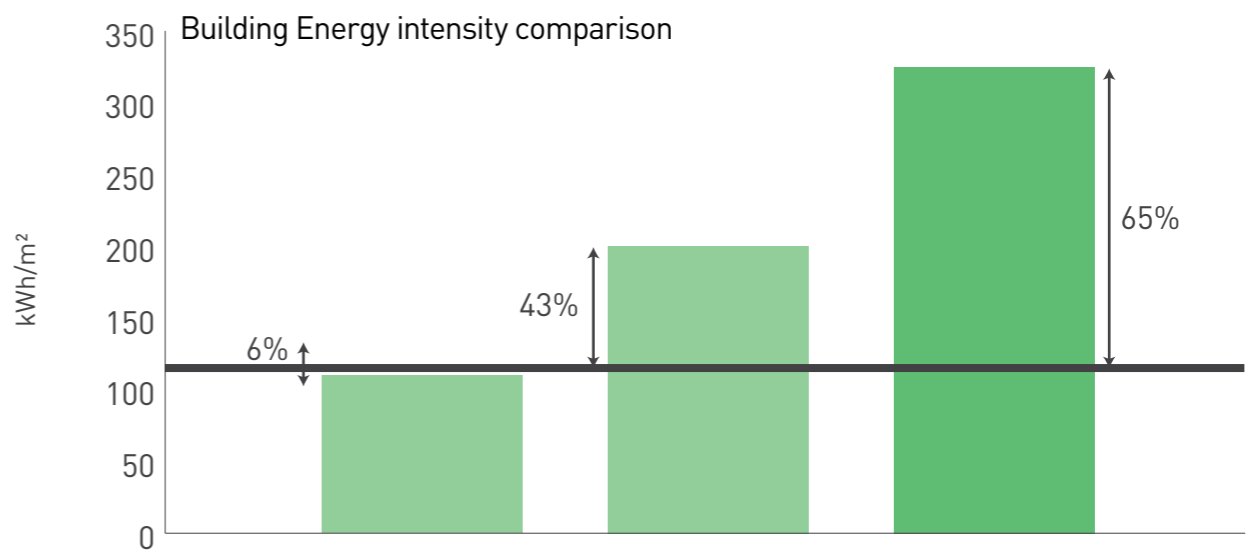
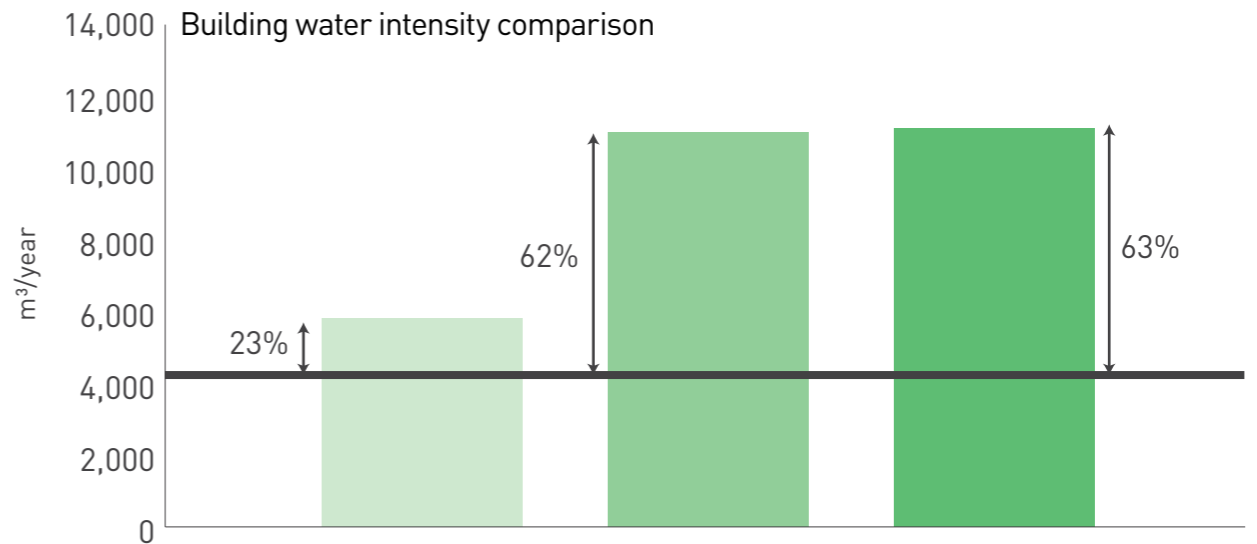
ACTUAL MONTHLY PERFORMANCE	2014	ELECTRICITY MWh	COOLING	EQUIVALENT TOTAL ENERGY	Water (m <sup>3</sup> )
	Jan	133	60 *	147	227
	Feb	135	60 *	149	270
	Mar	149	65 *	164	282
	Apr	156	70 *	171	355
	May	149	80	167	395
	Jun	151	108	175	322
	Jul	158	85	177	283
	Aug	158	150	191	421
	Sep	163	103	186	500
	Oct	160 *	80 *	178	450
	Nov	160 *	70 *	176	400
	Dec	160 *	60 *	173	350
Total	1833 MWh	991 MWh	2,824 MWh	4255 m <sup>3</sup>	
Intensity	76 kWh/m <sup>2</sup>	41 kWh/m <sup>2</sup>	117 kWh/m <sup>2</sup>	0.18 m <sup>3</sup> /m <sup>2</sup>	



\* Estimated consumption outside reporting period but necessary for benchmarking purposes

Actual performance VS Design Proposed Performance VS Design Baseline Performance.

ANNUAL USE	UNITS	ACTUAL	DESIGN	LEED BASELINE	ABU DHABI AVERAGE
Energy	MWh	2,824	2,666	4,936	8,039.29
Energy/m <sup>2</sup>	KWh/m <sup>2</sup>	117	110	204	333.00
Water	m <sup>3</sup>	4,255	5,534	11,252	11,515.73
Water/m <sup>2</sup>	m <sup>3</sup> /m <sup>2</sup>	0.18	0.23	0.47	0.48



Design Performance LEED Baseline Abu Dhabi Average Actual Performance

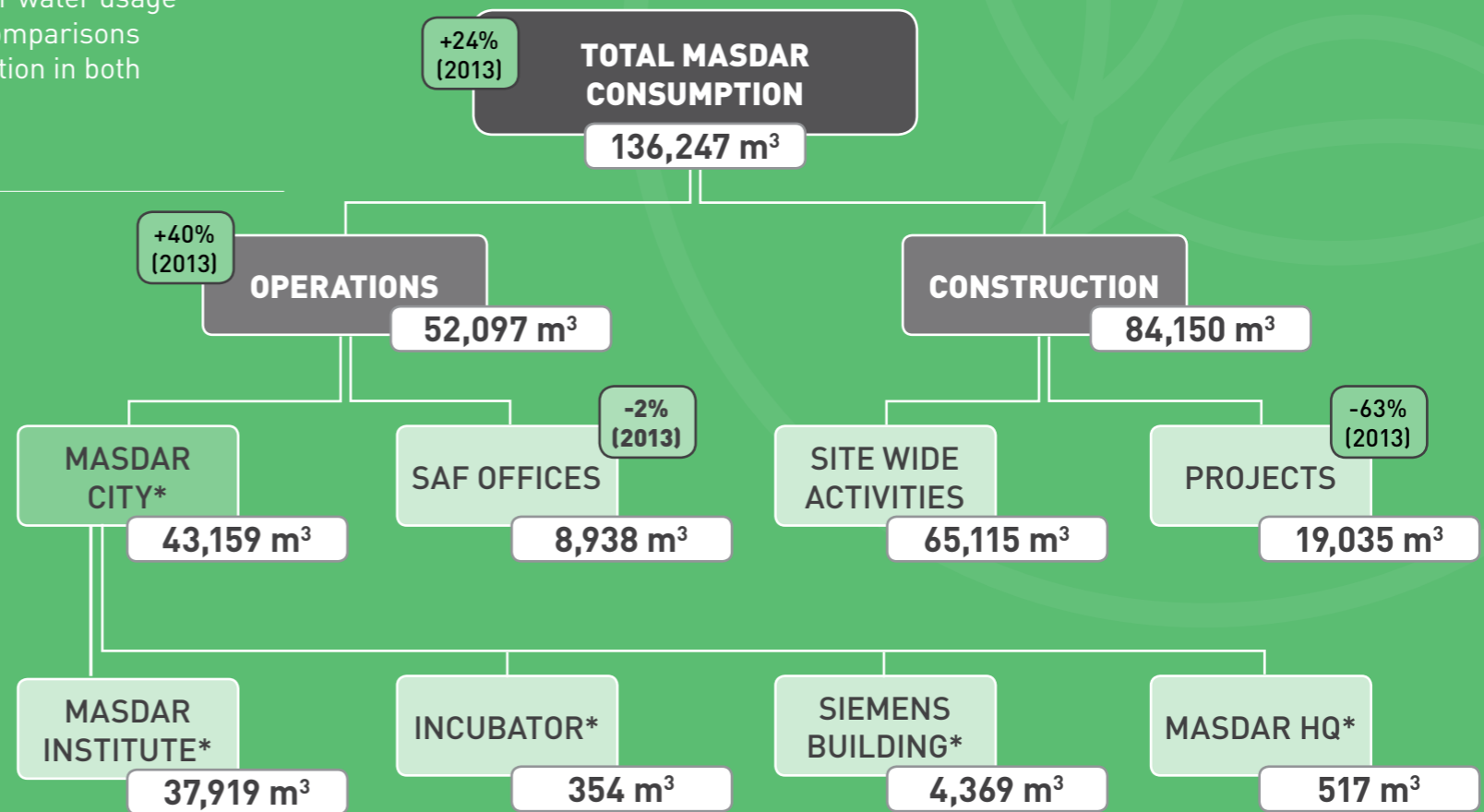


WATER MANAGEMENT

# Water Management

Increasingly, water consumption and management is getting as much attention, if not more, than energy management. For Masdar, located in the arid Middle East where water is an even more valuable commodity than in other parts of world, the importance of preserving and reusing water is well understood.

Extensive measures have been taken to raise awareness about water conservation, to incorporate water efficiency in building design, and to monitor water usage in construction and operations. The results show that, where comparisons are available, Masdar has successfully reduced water consumption in both Masdar City and Masdar's corporate offices.



\*Contains newly operating assets therefore not able to compare with 2013 data.



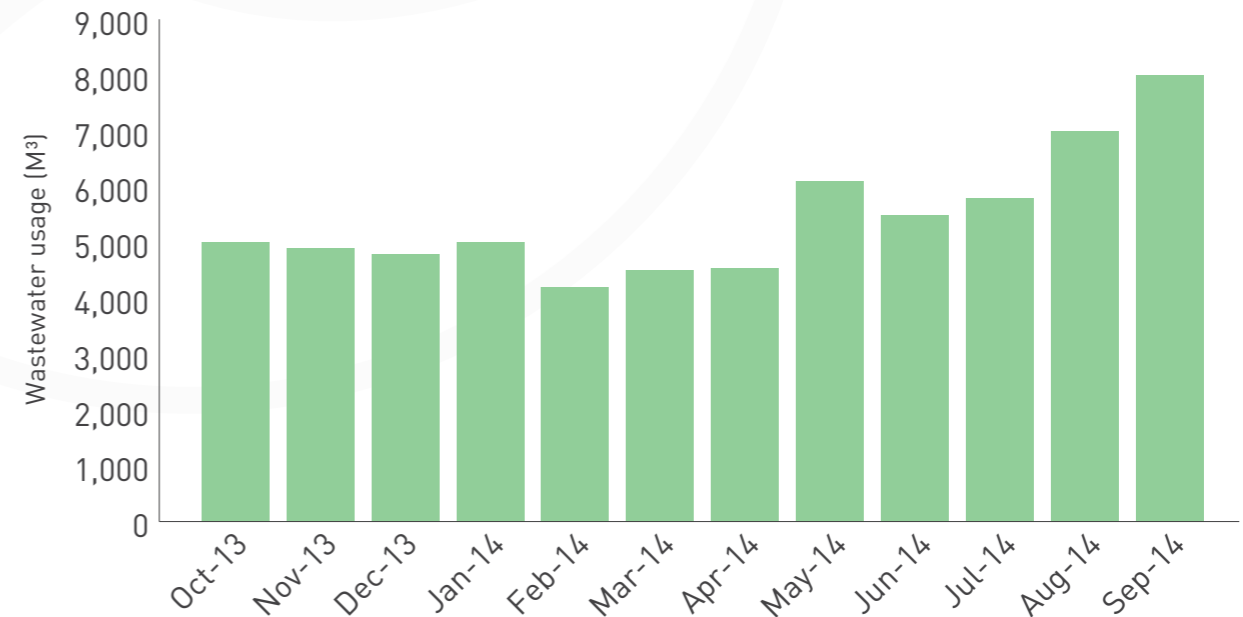
WATER MANAGEMENT

# Waste Water Management

The water used by Masdar City and the SAF offices is sourced from the municipality distribution network, with the exception of site-wide construction activities. The 21,276 m<sup>3</sup> of site-wide water consumption was sourced from the onsite membrane bioreactor (MBR) plant. The vast majority of it was used for Masdar City landscape irrigation and dust suppression for the network of construction roads used by construction trucks, which in turn reduce the volume of particulates impacting the air quality of local communities.

The second key area of water management, aside from construction and operational water efficiency, is wastewater recycling. In 2010, Masdar identified the need to manage wastewater recycling by constructing and operating an MBR plant to ensure that any wastewater generated can be treated and reused onsite or within the local community.

In January 2013, Masdar handed over management of the Masdar City plant to Abu Dhabi Sewerage Service Company (ADSSC) to allow ADSSC to incorporate the MBR plant into the emirate-wide network of wastewater recycling plants. Masdar has, however, established a reporting mechanism to track its consumption of water from the MBR plant. The below information accounts for the water received from the MBR plant which is shown as the Site Wide water usage:



Water Used from MBR Plant



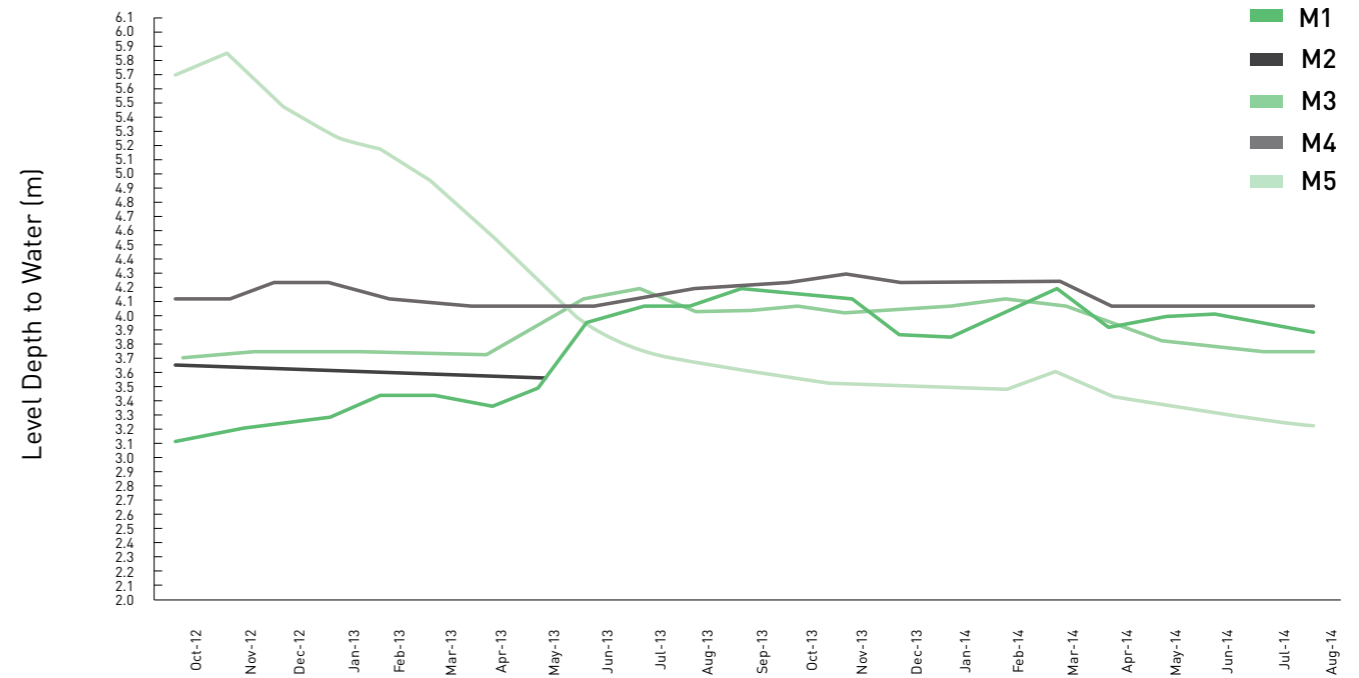


WATER MANAGEMENT

# Ground Water Management

In addition to wastewater and potable water management, Masdar has started monitoring ground water levels. With it's location in a desert climate, Masdar recognizes the importance of groundwater management in order to understand the long term sustainability of in Abu Dhabi's aquifers. This information can help decision makers to create advanced policy changes to help conserve water in arid regions.

In the Environmental Impact Assessment conducted during the reporting period, groundwater management was identified as a key finding. The finding was identified due to the Masdar City developers now having the option to add below grade areas as part of their buildings. These below grade areas can affect ground water levels through excavation and can draw contamination towards the water table although no contamination was detected during the assessment. Therefore the report indicated that contractors must continuously track groundwater levels, prepare a dewatering plan for the site and construct utility lines using best practices. The report also highlighted that there would be no ecological or biodiversity impacts in the area.



\*In May of 2013 Meter 2 Malfunctioned and then stopped giving information.



OPERATIONAL WASTE MANAGEMENT

# Operational Waste Management

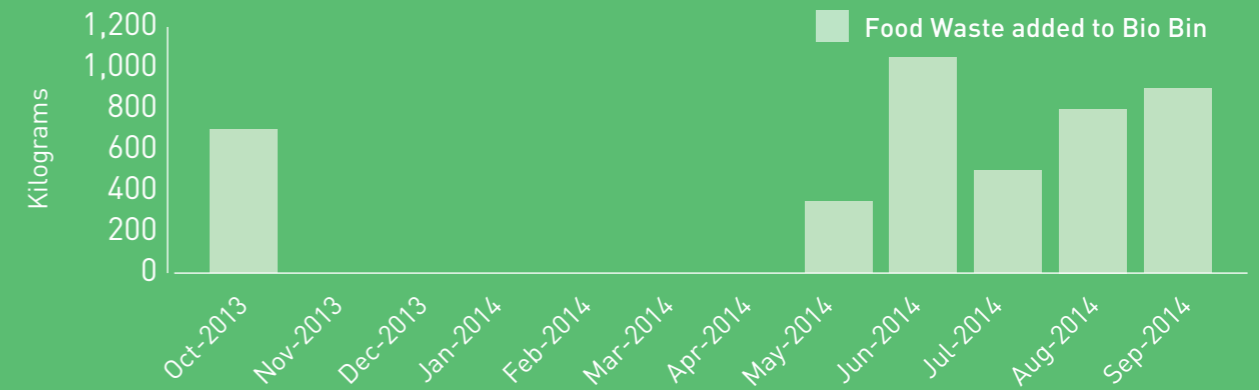
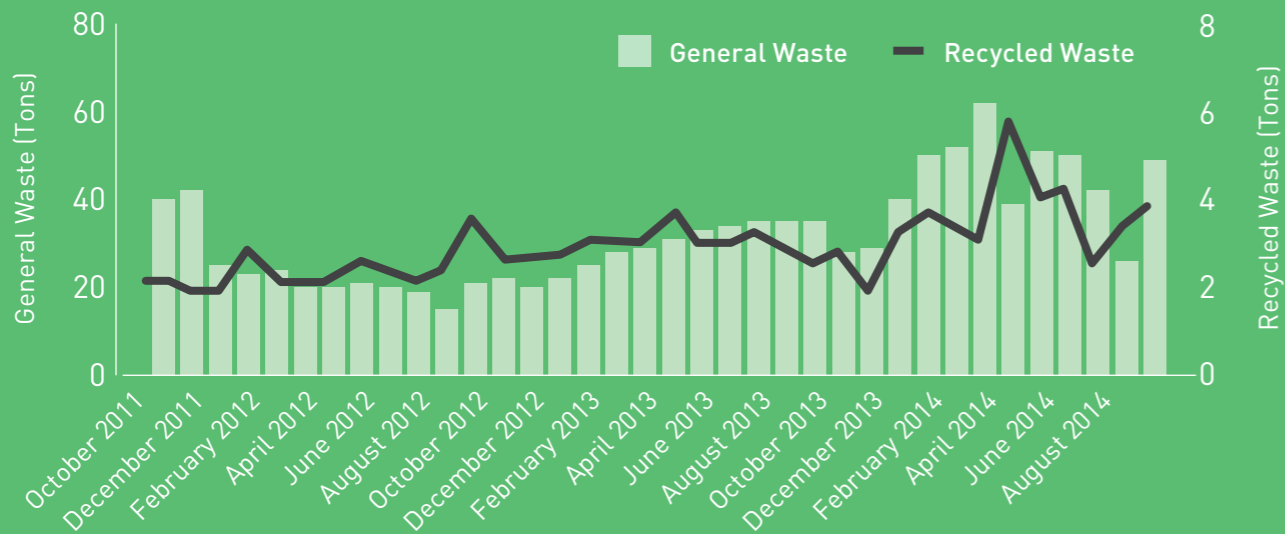
For Masdar, operational waste management is a blend of raising awareness, providing facilities and technologies that are both suitable and adequate in supporting Masdar’s ambitions to showcase best practices for sustainability in the workplace.

Masdar increased its reporting scope to include all new buildings that were completed during the 2013 period. Data is now being acquired for all buildings in Masdar City except for the newly commissioned IRENA HQ which we will soon be added to the reporting.

**Masdar Composting Initiative:**

Masdar has a one ton composting bin on site used to dispose of various types of biodegradable waste. Food and garden waste is continually supplied on a daily basis into the bio bin for composting. The compost is tested and then placed throughout the corporate offices(SAF) to fertilize the plants within the landscaped areas , which reduces costs incurred from the purchasing of soil enhancements periodically.

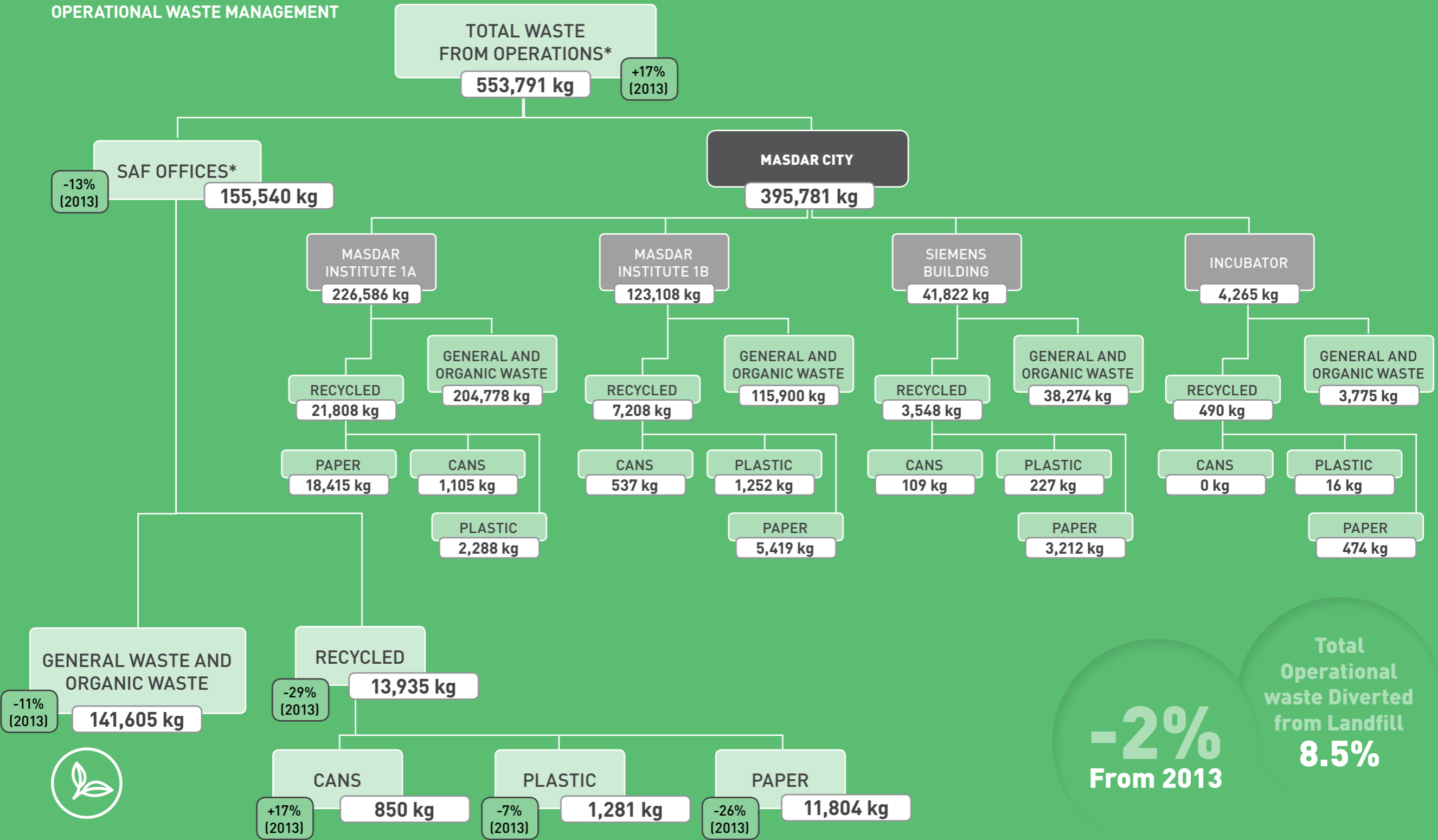
Masdar’s organic waste accounts for a large percentage of total operational waste and the company seeks to reduce those numbers through even more activities like composting.



\*From November 2013 to April 2014 the bio bin was not in operation due to scheduled maintenance.



OPERATIONAL WASTE MANAGEMENT



**-2%**  
From 2013

**8.5%**  
Total Operational waste Diverted from Landfill

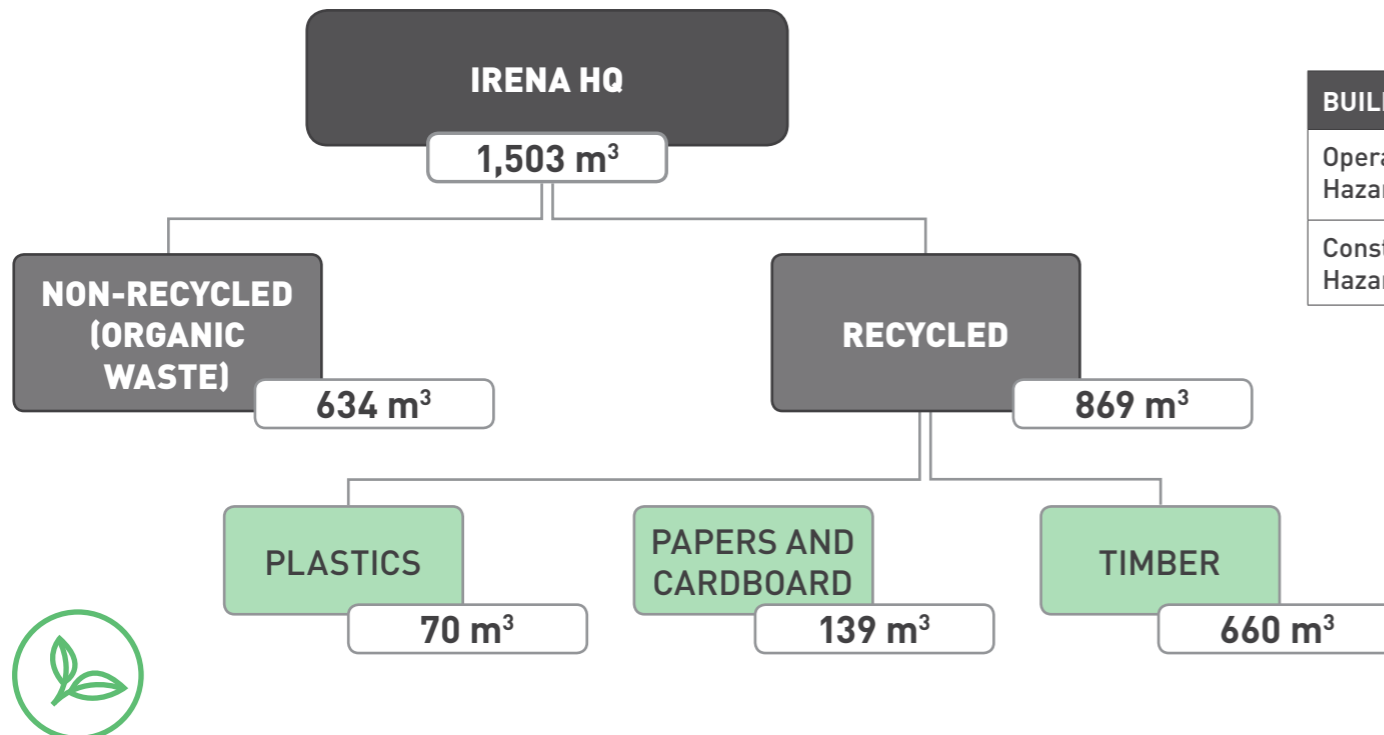


CONSTRUCTION WASTE MANAGEMENT

# Construction Waste Management

Masdar City continues to work towards minimising waste during the construction process by reusing and recycling all waste steel, concrete and wood. In order to achieve this, the majority of Masdar City construction waste is taken by contractors to the onsite Material Recycling Centre (MRC), where it is then separated. Wood is stockpiled for reuse or processing in a wood chipper to benefit the landscaped areas. Steel, other metals and plastics are collected and sent offsite for recycling. Concrete waste is ground down using a crusher for reuse in construction.

During this reporting period only one Project was within its construction phase. The diagram below shows the construction waste from that project.



During the reporting period, Masdar continued to maximise its waste diversion from landfill, achieving a similar rate to the previous year, successfully diverting 60% of all construction waste from landfill. In 2014 Masdar sold all of its diverted waste to the recycled waste management companies. The funds raised from the sale of waste materials were added to a fund aimed at financing student led sustainability projects in the community.

# Hazardous Waste Management

In compliance with the requirements of UAE Federal Law 21 of 2005, Masdar ensures that all hazardous waste, both in operations and construction, is both transported and disposed of by a waste-disposal company licensed by the Center of Waste Management-Abu Dhabi (CWM). The below table indicates the quantity of hazardous waste produced and disposed of during the reporting period.

BUILD		2013			2014								
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Operational Hazardous Waste	kg	200	-	200	100	100	-	200	-	200	-	-	-
Construction Hazardous Waste	m³	30	30	20	-	50	24	36	12	12	-	-	-



SUSTAINABLE TRANSPORT SYSTEM

# Sustainable Transport

There are currently two alternative transportation systems in place at Masdar City. They are:

The Personal Rapid Transit System (PRT) – The driverless vehicles are controlled by an advanced navigation system. They use magnets embedded in the PRT pathways to know their position and on-board sensors to detect any obstacles in their path. A wireless connection keeps them linked to the central computer, which guides them on their journey and ensures smooth operation among all vehicles.

Mitsubishi Electric Vehicles (EV) - Initiated in January 2011, the pilot project uses a fleet of Mitsubishi Motor i-MiEV new-generation electric vehicles. The i-MiEVs are powered by a 16kWh lithium-ion battery, have a top speed of 130kph and their batteries can be charged from empty to 80% in 30 minutes using the rapid charging station at the SAF offices. This pilot project also looks at testing and validating the performance of electric vehicles as well as various charging solutions, given the region’s climate and patterns of vehicle usage. The i-MiEVs take passengers to various locations in in Masdar City and throughout greater Abu Dhabi, such as the Al Mamoura Building and Abu Dhabi National Exhibition Centre (ADNEC).

**EVs**



**77,149 km**

**PRT**



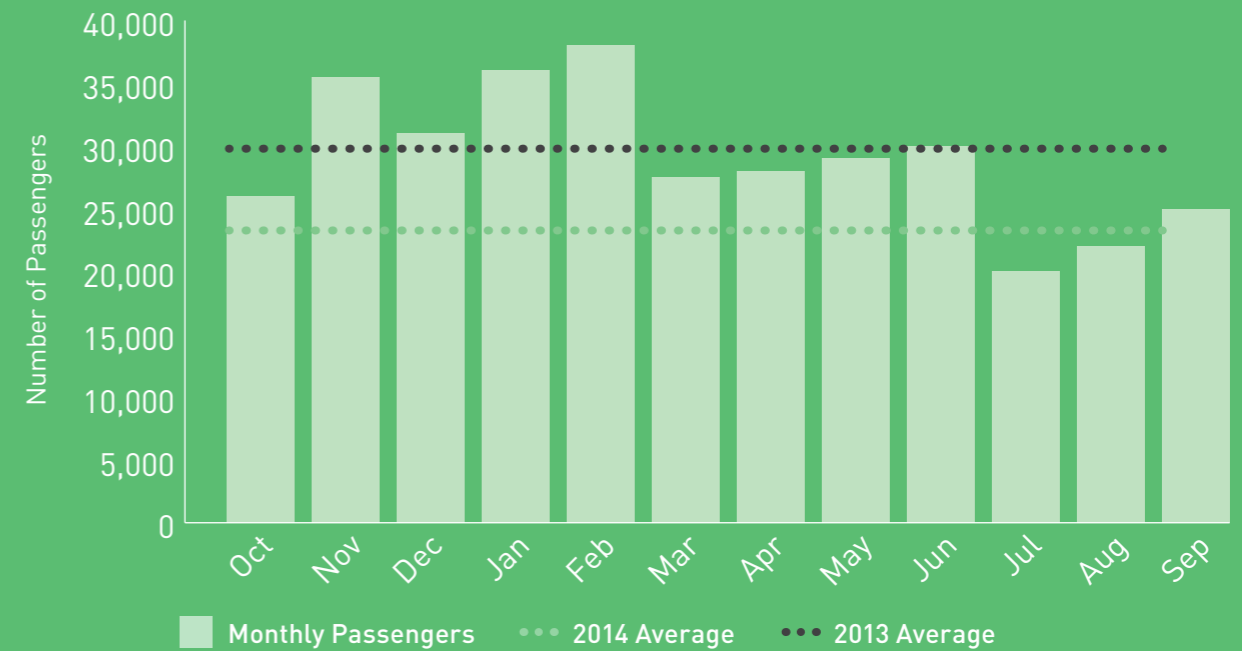
**165,966 km**

**TOTAL DISTANCE TRAVELLED**

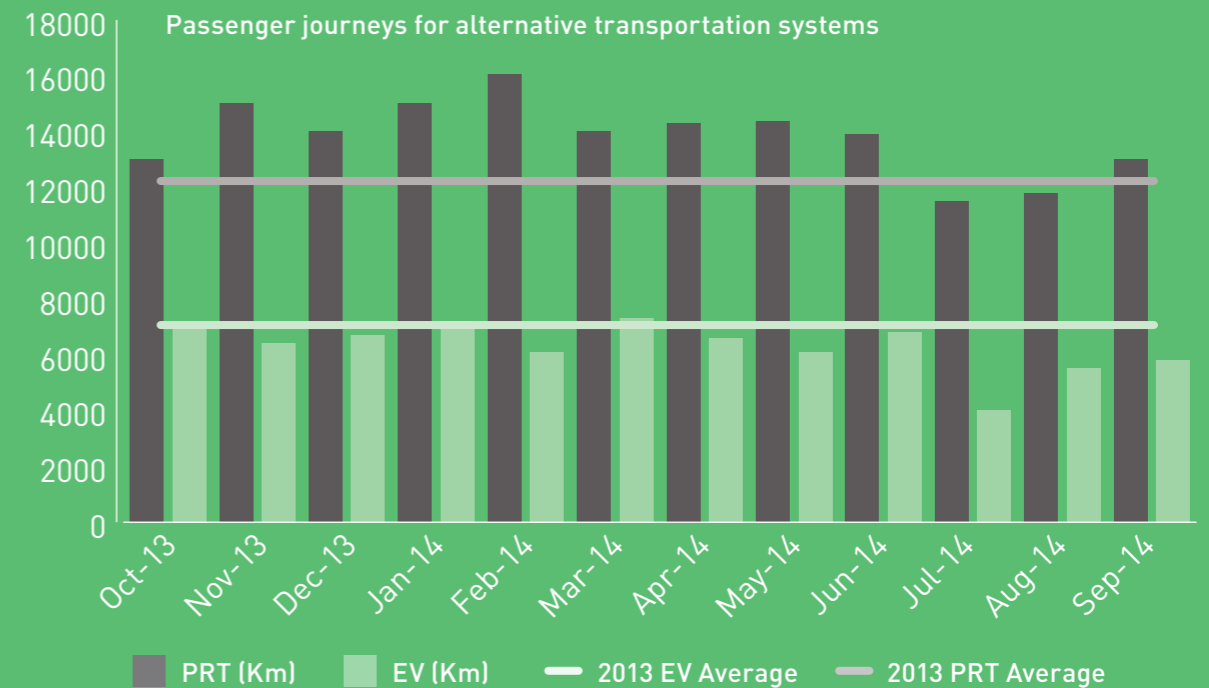
**243,115 km**



Passenger volumes for alternative transportation systems



Passenger journeys for alternative transportation systems





## BIODIVERSITY

# Biodiversity Initiatives in Masdar City

**The Masdar City site is primarily a brown-field development site that was once a municipality tree nursery site. The nursery had been created by importing ‘sweet’ sand to infill an area that was formerly ‘sabkha’ (salt flats).**

As part of Masdar’s environmental impact assessment conducted in 2009, the habitats observed on site were assessed in terms of their quality and potential value to species, particularly those species that are rare or threatened in the UAE. Specific species identified on site were reviewed to determine their rarity or threat by reviewing their status on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species (IUCN, 2008). The surveys indicated there were no threatened species present on Masdar City site, and development would have no impact on the marine environment. A biodiversity action plan was developed to maintain levels of habitat through the construction phases. The map to the right of the Masdar City site highlights areas that have been identified as biodiversity protection areas for Phase 1 construction. These areas have been preserved to provide habitat that will not be significantly impacted by construction activities.

## Biodiversity in the EIA

Biodiversity of the Masdar City plot was also covered in the The EIA (Environmental Impact Assessment) amendment, conducted during this reporting period. The report outlined impacts and recommendations for ecological mitigation of various species of flora and fauna, in line with the revised masterplan of 2013.

The report highlighted the importance of local habitat development throughout the Masdar City development projects by planting of indigenous plant species which discourage pests and help to increase the population of local animals and birds. Recommendations were given for specific ways to increase the populations of indigenous species such as artificial dens for Arabian Foxes, and nesting foxes for the Common Kestrel and Barn Owls.

Masdar City will host large “green” areas linked throughout the city that can serve as valuable sites for public environmental education while also helping these species thrive.



**Green** – Biodiversity Areas  
**Light Green** – Masdar Construction Projects and Operational Buildings  
**Turquoise** – Dewatering Ponds  
**Dark Blue** – SAF Offices



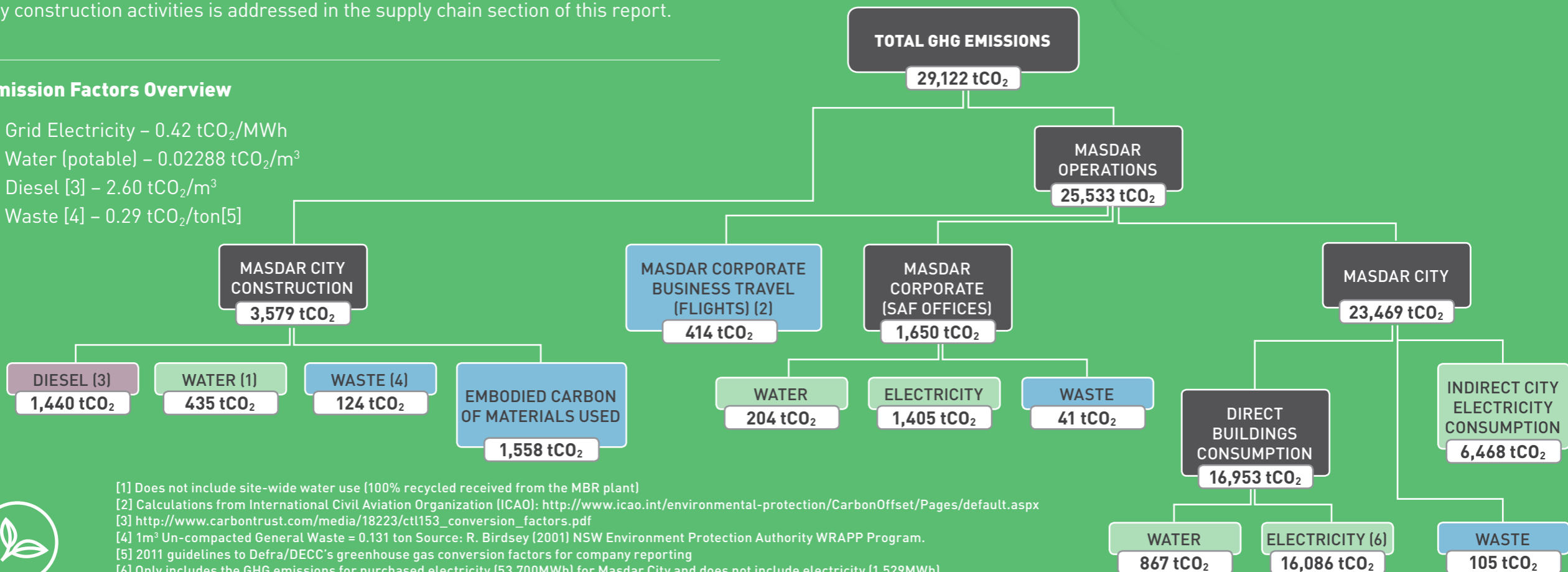
GHG EMISSIONS

# Masdar's Greenhouse Gas (GHG) Emissions Overview

Masdar's GHG calculations continue to follow the World Resources Institute's (WRI) proposed methodology. However, instead of using the IPCC emission factors for purchased electricity, Masdar has continued to use the emission factors put forward by Masdar Institute members (Dr Scott Kennedy, Dr Sgouris Sgouridis, Pei-Yun Lin, Arslan Khalid). The emission factors used are listed below for grid electricity consumption, potable water and diesel. Masdar has included the GHG emissions related to corporate business (air) travel to further expand detail of the company's key activities and impacts. The embodied carbon of construction materials used in Masdar City construction activities is addressed in the supply chain section of this report.

## Emission Factors Overview

- Grid Electricity – 0.42 tCO<sub>2</sub>/MWh
- Water (potable) – 0.02288 tCO<sub>2</sub>/m<sup>3</sup>
- Diesel [3] – 2.60 tCO<sub>2</sub>/m<sup>3</sup>
- Waste [4] – 0.29 tCO<sub>2</sub>/ton[5]



[1] Does not include site-wide water use (100% recycled received from the MBR plant)  
 [2] Calculations from International Civil Aviation Organization (ICAO): <http://www.icao.int/environmental-protection/CarbonOffset/Pages/default.aspx>  
 [3] [http://www.carbontrust.com/media/18223/ctl153\\_conversion\\_factors.pdf](http://www.carbontrust.com/media/18223/ctl153_conversion_factors.pdf)  
 [4] 1m<sup>3</sup> Un-compacted General Waste = 0.131 ton Source: R. Birdsey (2001) NSW Environment Protection Authority WRAPP Program.  
 [5] 2011 guidelines to Defra/DECC's greenhouse gas conversion factors for company reporting  
 [6] Only includes the GHG emissions for purchased electricity (53,700MWh) for Masdar City and does not include electricity (1,529MWh) being supplied from internal PV production and usage.



ENVIRONMENTAL MANAGEMENT COMPLIANCE

# Construction Environmental Management Compliance

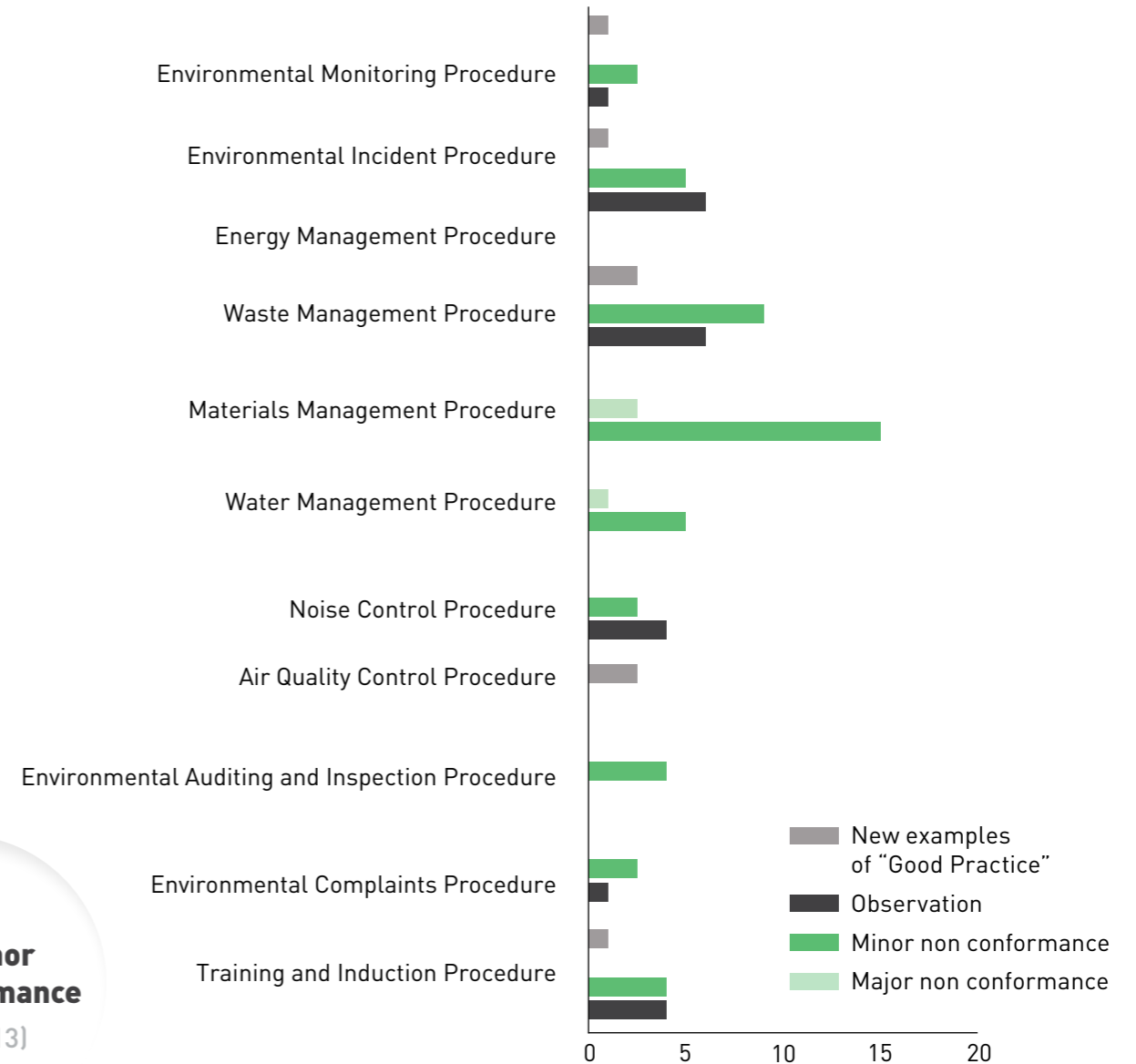
The performance over the reporting period is highlighted below and shows the non-compliance or observations that have been acknowledge against the various Construction Environmental Management Plan (CEMP) assessment criteria compiled by an EAD-approved auditing company and conducted on a quarterly basis. All audit reports once finalised are submitted to EAD, providing a reference regarding the performance of Masdar City projects.

Below is an update of Masdar City’s construction environmental management. The results reflect that the reporting period was one of transition away from major construction activity. This reduced the demand for a comprehensive environmental programme. Highlighted below are key points from the construction environmental management of Masdar City, including comparisons with 2013.

- 20 Internal Environmental Audits  
38% (2013)
- 58 Environmental Inspections  
+49% (2013)
- +750 Man-Hours of Environmental Training  
+50 Hrs (2013)
- 6 Minor Environmental Incident (minor oil spills)  
+5 (2013)
- 0 Complaints from Local Community



As part of Masdar’s obligation to EAD, an external environmental auditor is contracted to assess and verify Masdar’s compliance with the agree CEMP. The audits are conducted and based on the amount of site activity, which decreased from the previous years due to project completion. As a result, one external audit took place during the reporting period and the below table highlights the results of the audit in terms of non-conformances and observations related to the reporting year.



The 2nd Biannual audit for 2013 (BA01-13) Audit was carried out over two days, 26th and 27th January 2014. The audit focused on the period July 2013 to January 2014 (inclusive). The BA02-13 audit focused mainly on site wide implementation of the Construction Environmental Management Plan (CEMP) and the supporting documentation.





# Supply Chain Management

## Contents:

- ▶ Supply Chain Management
- ▶ Procurement Prequalification
- ▶ Ethical Supply Chain
- ▶ Supply Chain Excellence
- ▶ Embodied Carbon



SUPPLY CHAIN MANAGEMENT

# Masdar's Supply Chain Management

**During this reporting period Masdar continues to improve in procurement and supply chain management processes. In January 2014, Masdar was awarded the CIPS (Chartered Institute of Procurement & Supply) gold certification for its rigorous procurement qualification process, improving on the previous years CIPS Silver certification.**

The Masdar procurement team showed improved performance in its policies, processes and systems leading to a best practice performance measurement benchmark.

Zuha Moussa, head of procurement and contracts at Masdar, said: "We are excited to receive the CIPS gold-level certification, which underlines Masdar's drive towards more responsible and sustainable procurement. As a cornerstone of our commitment to sustainable development and renewable energy, Masdar's procurement team is pleased to be recognised along with some of the world's most respected companies after completing its rigorous certification process."

During this reporting period, similar to the previous reporting period,, Masdar continued to chair the Abu Dhabi Sustainability Procurement Group, which is tasked with developing sustainable procurement practices throughout the Emirate of Abu Dhabi.

Masdar aligned its procurement processes with that of the Mubadala Group by through the use of spend analytics. Mubadala Corporate Support Services issued an approved spend hierarchy to be used for the categorisation of all asset indirect spend data.

**The benefits of these spend analytics include:**

- Greater visibility and control over indirect spend
- Structure of supply chain mapped
- Profiling of spend to detect patterns
- Opportunities identified to reduce costs / improve quality
- Identification of risk in relation to categorised spend areas
- Targeted approach to supply chain development

MASDAR SPEND CATEGORIES				
Direct Costs – Goods and services required for the business and linked to production or service delivery.				
Indirect Costs – Goods and services required for the business and linked to production or service delivery.				
Professional Services	Travel	Construction	Logistics	Consulting
Non-Sourceable (Staff Payroll)	Facilities	HR Services	IT and Telecom	Communications





## SUPPLY CHAIN MANAGEMENT

# Tejari

In 2014 Masdar introduced Tejari, Masdar's e-Procurement Portal that provides a suite of collaborative, web-based tools enabling Masdar's procurement professionals and suppliers to conduct sourcing and contract management activities with greater efficiency.

Tejari helps Masdar organize parts of the procurement process through:

**Spend Analysis**

- Enriched Supplier Data
- Comprehensive Spend Analysis

**Contract Management**

- Improve Planning – Configurable expiration warnings ensure lead time for sourcing teams
- Decrease Cycle Time – Negotiate online to decrease contract negotiation cycles
- A Full Auditable Process
- Invoice validation against negotiated prices to prevent savings erosion

**Supplier and Performance Management**

Tejari's SPM solution enables Masdar to develop optimal relationships with strategic sourcing partners and gain visibility into the compliance and performance of the supply base. This visibility can help to advise compliance and risk mitigation programs, improve supplier relationships, and execute sourcing strategies.

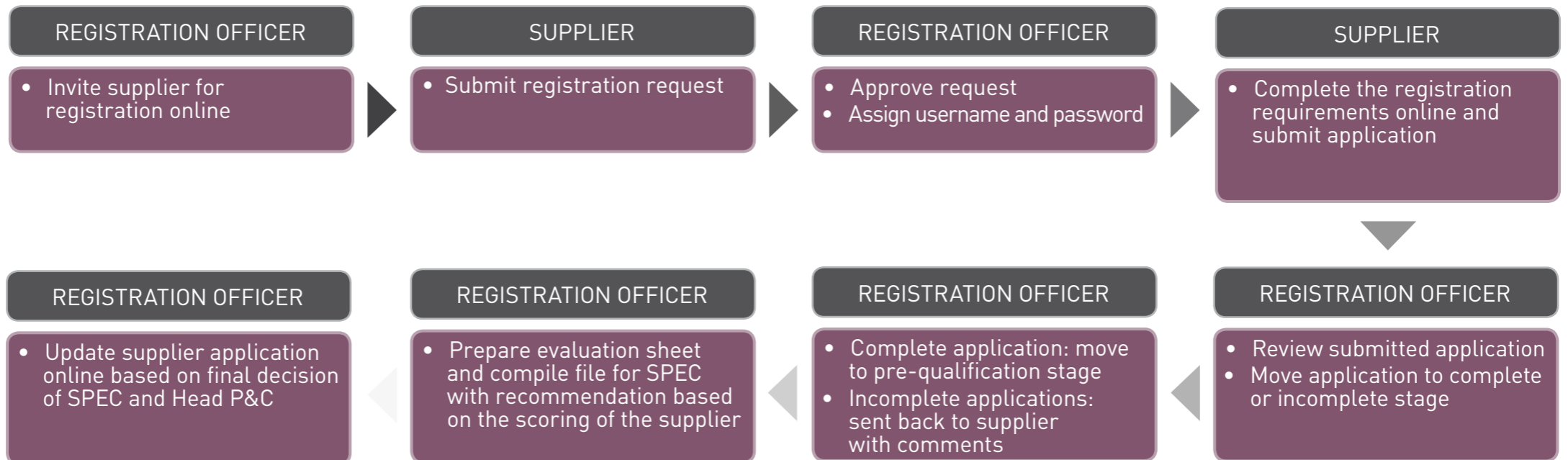
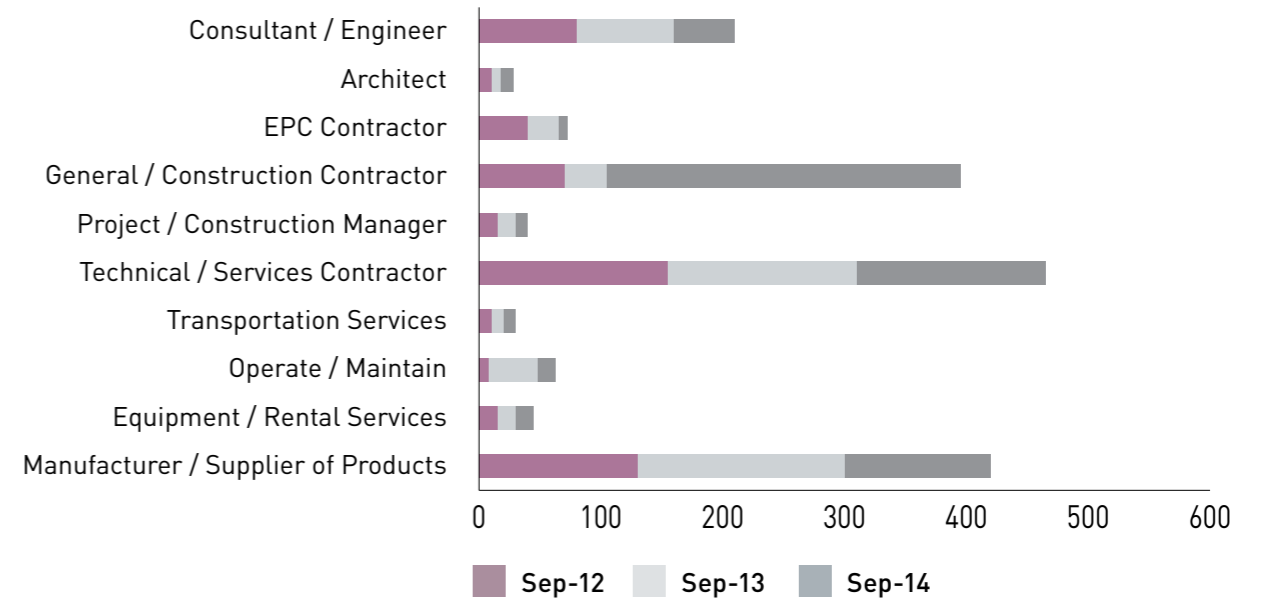


PROCUREMENT PREQUALIFICATION

# Procurement Prequalification at Masdar

The below table flowchart highlights the supply chain activities and processes from initial registration to qualification to providing products and services to Masdar.

As of the end of the reporting period, Masdar had a total of 1,760 prequalified companies that the company evaluated to ensure that they meet all of Masdar’s sustainable and ethical supply chain requirements. Below is a breakdown of the type of companies that prequalified.



## ETHICAL SUPPLY CHAIN

# Ethical Supply Chain at Masdar

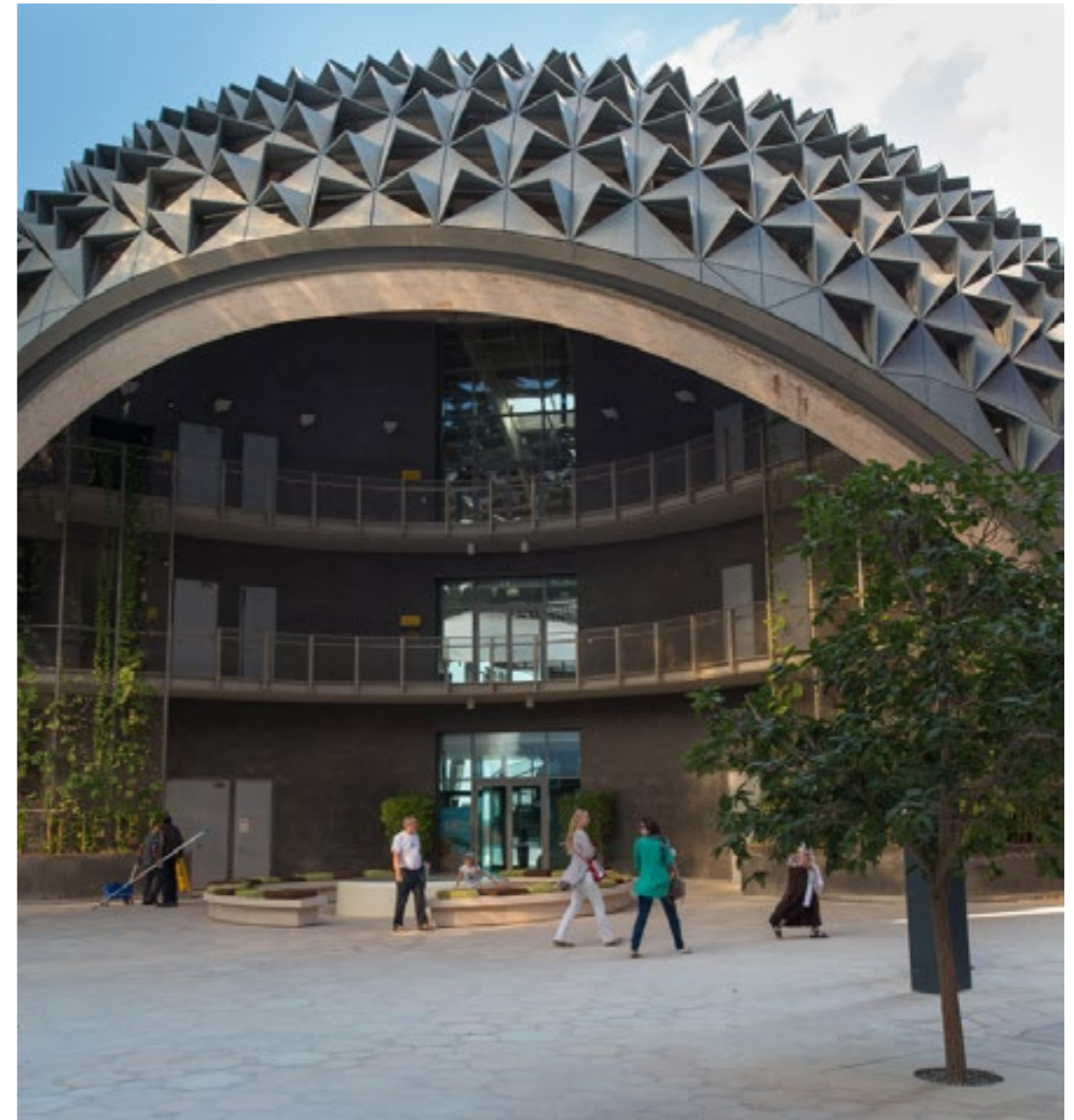
In addition to strategic procurement practices introduced this reporting year, Masdar continues to adopt best practices in sustainable and ethical supply chain management through the Masdar procurement portal. The portal is designed to screen all potential companies that wish to provide products and services to Masdar.

**The screening process not only looks at the financial stability and business security attributes but is also used as an assessment point to gauge the company's ability to meet Masdar environmental and social criteria. In order to enter into purchasing agreements with Masdar, each organisation must adhere to all elements that are part of the Masdar Sustainability Supply Chain Code of Conduct highlighted below:**

- The supplier must comply with all relevant local and national laws and regulations with regard to employment practices, benefits, health and safety, and anti-discrimination.
- The supplier must not use child, forced or involuntary labour in any form.
- The supplier must comply with all relevant local and national laws and regulations with regard to occupational health and safety, and the provision of health-related benefits to employees.
- The supplier must comply with all relevant local and national laws and regulations with regard to land and water management, waste and recycling, the handling and disposal of toxic substances, discharges and emissions, noise, transportation of products, and waste.
- The supplier must strictly comply with all laws and regulations on bribery, corruption and prohibited business practices.



Each company that wishes to work with Masdar is required to acknowledge these prerequisites and is subject to review and audits periodically or in the event of suspect information or behaviour.



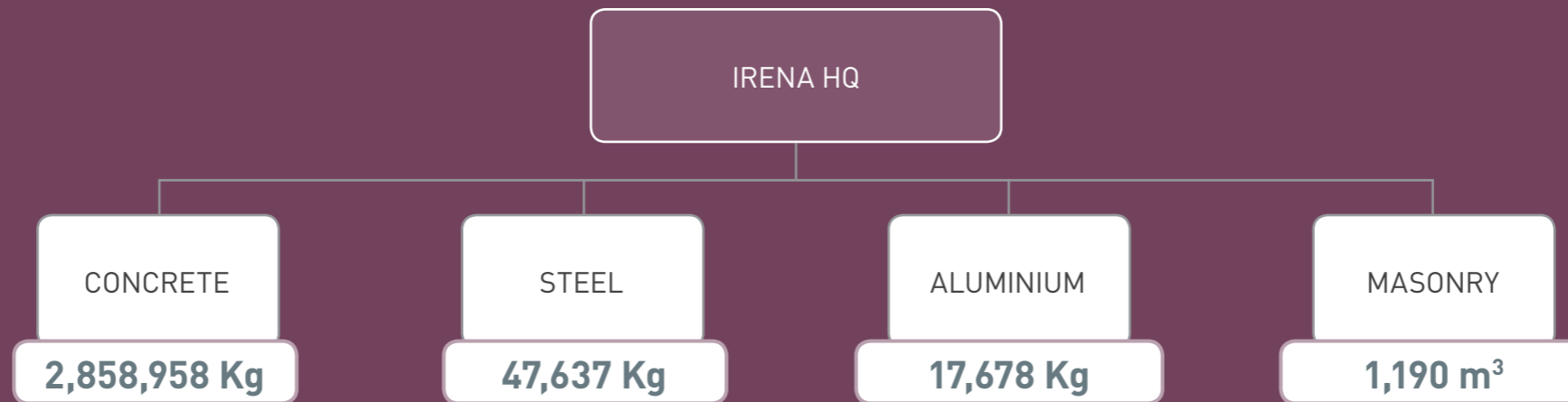
SUPPLY CHAIN EXCELLENCE

# Sustainable Materials Management

Masdar is dedicated to reducing its carbon footprint in all activities, especially those concerning Masdar City development.

Within the Masdar City design team, there is an increased drive to source green building products that optimise raw material usage through process improvements, implement energy-efficient technologies, and promote recycling and other energy-conservation practices. In addition, Masdar has taken a leadership role in encouraging manufacturers and suppliers to shrink the life-cycle environmental impact of their products.

MAJOR MATERIALS USED	QUANTITY	RECYCLED CONTENT	RECYCLED
(Oct-13 - Sept 14)	(Tons)	(Tons)	(%)
Concrete	2,859	207.8	7.23%
Steel	42,637	23.45	55%
Aluminium	54.4	48.96	90%



\*Recycled content of all materials are reduced this year due to completion of most projects in Masdar City.



EMBODIED CARBON

# Embodied Carbon Management at Masdar

A major attribute of Masdar’s award-winning sustainable supply chain management practices is the continuous monitoring and analysis of the environmental impact of buildings during the design and construction phase. As a building’s operational efficiency in terms of energy and water consumption increases, a greater focus must be placed on the embodied carbon impact of the building itself.

Masdar, through Masdar City, has pioneered the field of low-embodied carbon materials, with the main example being the green aluminium introduced in Masdar City buildings in 2009. A world first, this green aluminium reduced the embodied carbon of the aluminium from 10.44kgCO<sub>2</sub>/Kg to only 0.98kgCO<sub>2</sub>/Kg through rigorous supply chain management.

Embodied Carbon Numbers:

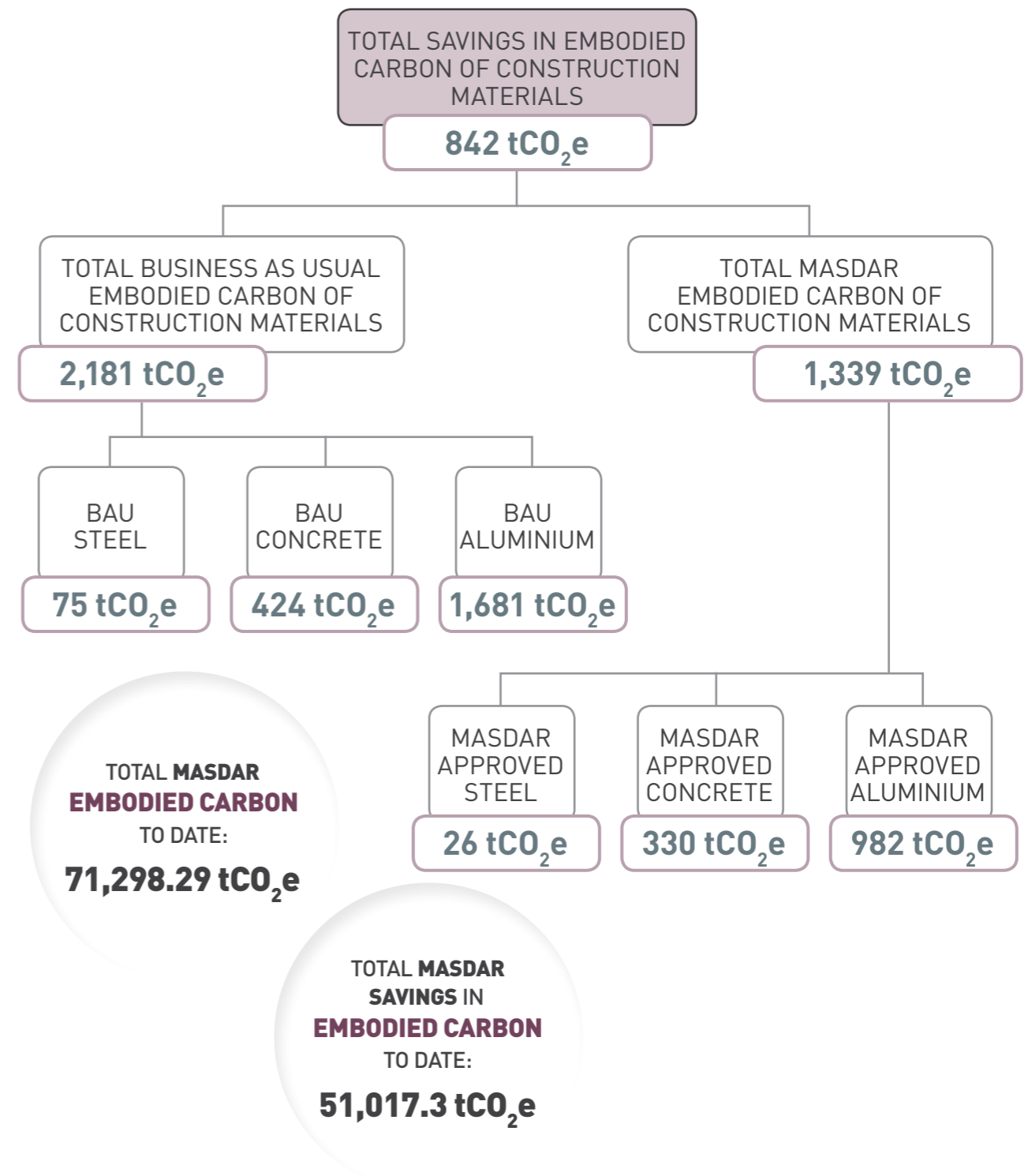
MATERIAL TYPE	BUSINESS AS USUAL	MASDAR USED	EMBODIED CARBON REF**
Concrete	299 kg CO <sub>2</sub> /m <sup>3</sup> – 432 kg CO <sub>2</sub> /m <sup>3</sup>	168 kg CO <sub>2</sub> /m <sup>3</sup> – 260 kg CO <sub>2</sub> /m <sup>3</sup>	EPD in accordance to ISO 14025
Rebar	1.724 tCO <sub>2</sub> /ton	0.517 tCO <sub>2</sub> /ton	ICE*
Steel Section	1.78 – 2.78 tCO <sub>2</sub> /ton	0.44 – 2.78 tCO <sub>2</sub> /ton	ICE*
Aluminium	18.903 tCO <sub>2</sub> /ton	1.736 tCO <sub>2</sub> /ton	LCA in accordance to ISO 14040

\* For Inventory of Carbon & Energy (ICE), University of Bath, UK (<http://www.bath.ac.uk/research/features/embodiedenergy.html>)

\*\* Business as Usual (BAU) numbers are based on the lowest recycled content normally achieved as standard practice in the UK. Reference: The Waste and Resources Action Programme Plan (WRAP), [www.wrap.org.uk](http://www.wrap.org.uk)



The below diagram shows the performance of Masdar City in terms of building embodied-carbon activities during the reporting period.





SECTION HEADING

# Masdar City Embodied Carbon Benchmarking

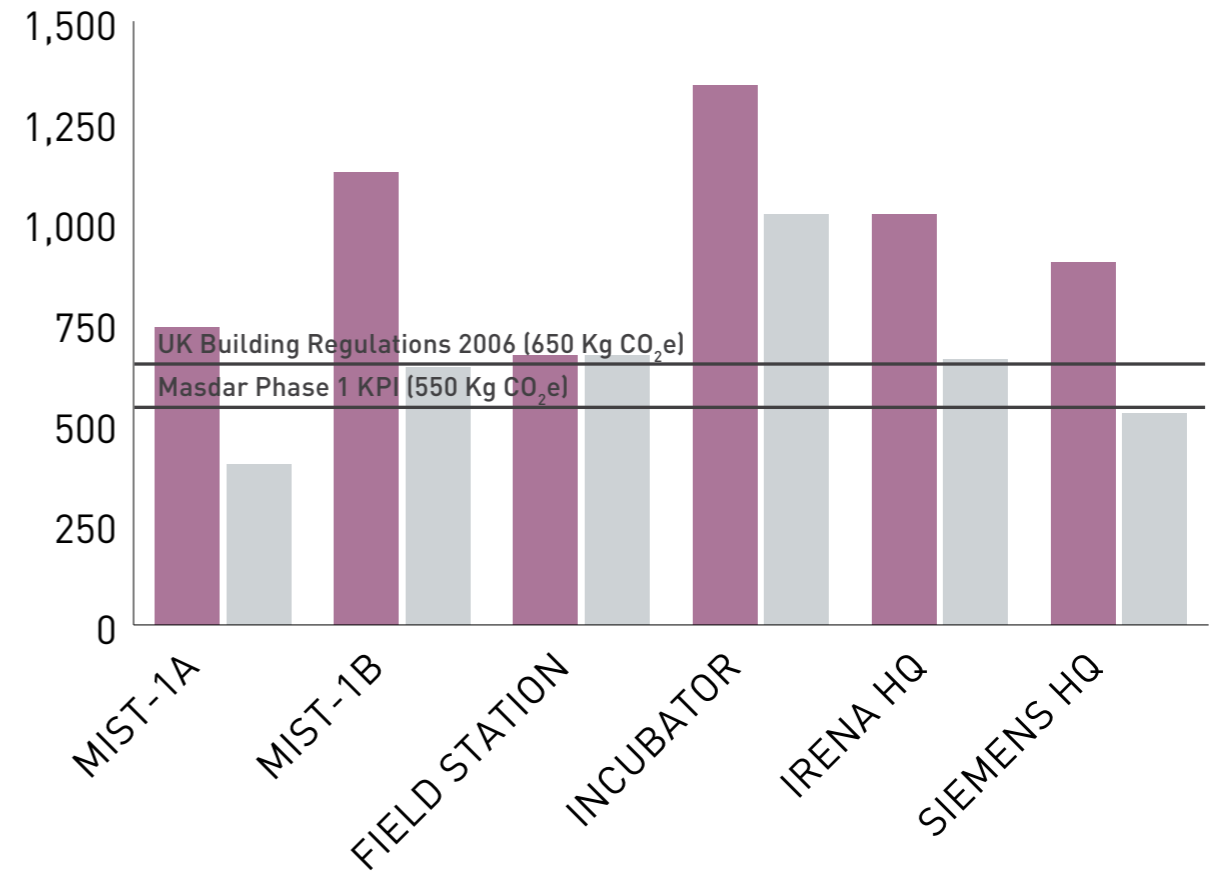
The data opposite looks at the total embodied carbon of Masdar City projects (completed and under construction). Masdar uses UK regulations as an international benchmark and has set a target for the developments of Masdar City Phase 1.



IRENA HQ, Abu Dhabi

■ Embodied Carbon per m<sup>2</sup> GFA, Kg CO<sub>2</sub>e, BAU, All

■ Embodied Carbon per m<sup>2</sup> GFA, Kg CO<sub>2</sub>e, Masdar, All





# Community Involvement

## Contents:

- ▶ Community Involvement At Masdar
- ▶ Engaging The Global Sustainability Community
- ▶ Zayed Future Energy Prize
- ▶ YFEL
- ▶ Masdar And UAE Partnerships
- ▶ Blogging Contest
- ▶ Community Outreach

COMMUNITY INVOLVEMENT AT MASDAR

# Community Involvement at Masdar

Masdar strives to support and help enhance community development, including both the local community in which Masdar operates and the wider sustainability community. By fostering strong relationships, Masdar is able to contribute to the development and building of skills that support the ongoing transition to global sustainability.

This section will showcase the role that Masdar has played in advancing dialogue across the sustainability community at an international level, and also Masdar's impact on educating the local community in sustainability and sustainable living through sponsorships and partnerships of events and various initiatives and mechanisms.

In keeping with the concept of knowledge sharing, Masdar and its affiliated entities continue to hold representation in a number of externally managed initiatives through memberships and affiliations.



ENGAGING THE GLOBAL SUSTAINABILITY COMMUNITY

COMMUNITY ENGAGEMENT

COMMUNITY OUTREACH



# Engaging the Global Sustainability Community

**As a key player in the renewable energy and sustainable development sector, Masdar remains an active participant in the discussions on advancing the sustainability agenda both locally and on a global platform.**

During the reporting period, Masdar hosted the second Abu Dhabi Sustainability Week in January 2014. As host, Masdar is tasked with enhance dialogue between nations and the private sector on the ever-increasing concerns surrounding climate change and to help facilitate actions to address these concerns as well as further establishing Abu Dhabi as a hub for renewable energy and clean technology.



**ADSW is the largest gathering on sustainability in the Middle East and a significant platform for international dialogue and cooperation which seeks to:**

- Tackle the world's pressing issues in energy, water and environment.
- Accelerate the global adoption of renewable energy and sustainable development.
- Address water challenges in arid regions.
- Elevate the water-energy nexus topics on the global agenda.
- Encourage the dialogue between broad industry stakeholders to strengthen strategic partnerships.
- Stimulate investment in water, energy and environment projects.
- Empower the young generations and entrepreneurs.

**ADSW 2013 in Numbers:**

**650**

**EXHIBITING COMPANIES**

+2.8% (2013)

**170**

**COUNTRIES REPRESENTED**

+13.1% (2013)

**+32,000**

**ATTENDEES**

+14.5% (2013)

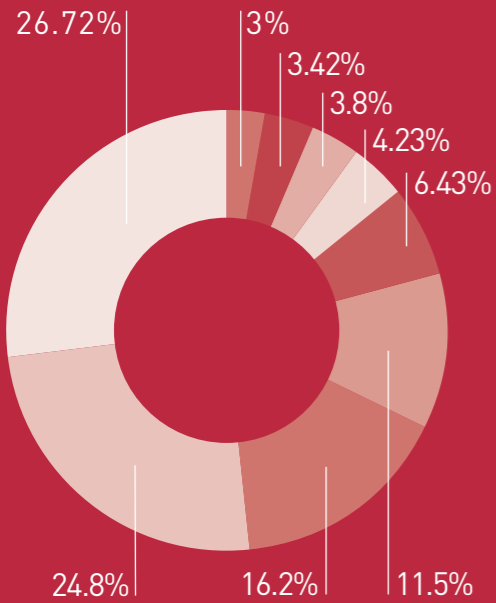
**140**

**OFFICIAL DELEGATIONS**

+71.6% (2013)

ENGAGING THE GLOBAL SUSTAINABILITY COMMUNITY

# Abu Dhabi Sustainability Week



- ANALYST / LEGAL / MEDICAL PROFESSIONAL
- TECHNICAL / BUSINESS SPECIALIST
- ASSOCIATE / EXECUTIVE
- DIPLOMAT / GOVERNMENT OFFICIAL
- EXECUTIVE MANAGEMENT (EVP / SVP / MD)
- ACADEMIC / STUDENT
- CEO / PRESIDENT / CHAIRMAN / OWNER
- ARCHITECT / CONSULTANT / DESIGNER / ENGINEER
- MANAGER / SUPERVISOR / PROJECT MANAGER

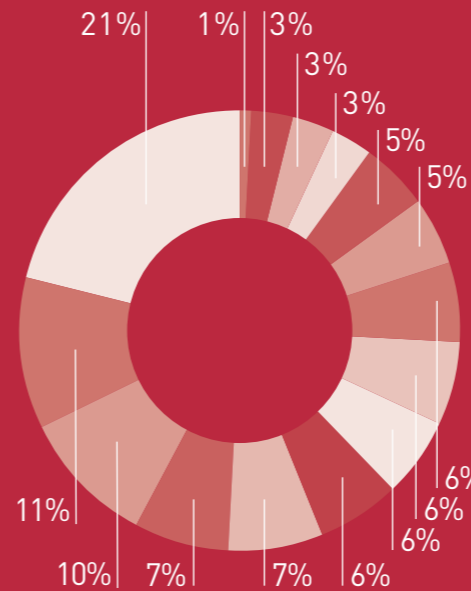
Job Function

# 140

## OFFICIAL DELEGATIONS

# 900

exhibiting companies from 47 countries



- FINANCIAL INSTITUTION
- POLLUTION TREATMENT & RECYCLING
- CARBON MANAGEMENT
- CLEAN TRANSPORT
- INSTITUTION / R&D/ NGO
- BIOMASS / BIOFUEL
- MEDIA / PUBLISHER
- AIR
- WIND
- EXHIBITION PARTNER & OTHERS
- SUSTAINABLE DEVELOPMENT
- WASTE
- GREEN BUILDING
- WATER
- SOLAR

Exhibitors by Sector

# 32,093

attendees





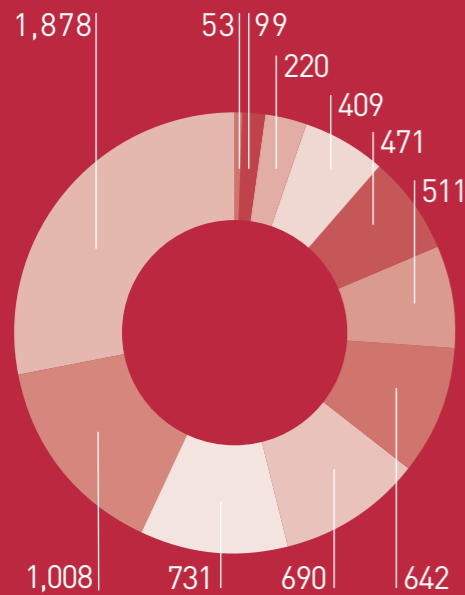
ENGAGING THE GLOBAL SUSTAINABILITY COMMUNITY

# Abu Dhabi Sustainability Week

# 170

## COUNTRIES REPRESENTED

# 600

 press registrations from **36** countries

- NUCLEAR ENERGY PRODUCTION AND / OR DISTRIBUTION
- AUTOMOTIVE
- FINANCIAL INSTITUTION / BANKING / INVESTMENT
- CONVENTIONAL ENERGY PRODUCTION AND / OR DISTRIBUTION
- R & D, ACADEMIA
- CONSULTANCY, LAW FIRM
- RENEWABLE ENERGY PRODUCTION AND / OR DISTRIBUTION
- DISTRIBUTION, TRADE, BUSINESS
- MANUFACTURING
- GOVERNMENT, PUBLIC SECTOR, UTILITY
- ARCHITECTURE, ENGINEERING, CONTRACTING, BUILDING DEVELOPER

Company Activity



- ROYALTY, HEADS OF STATE & MINISTERS
- RESEARCH & ACADEMIA
- IGO / NGO / ASSOCIATIONS
- CORPORATE & PRIVATE

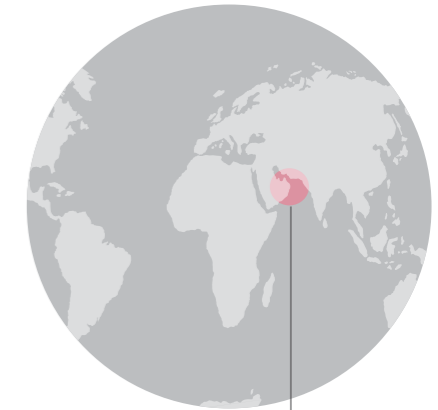
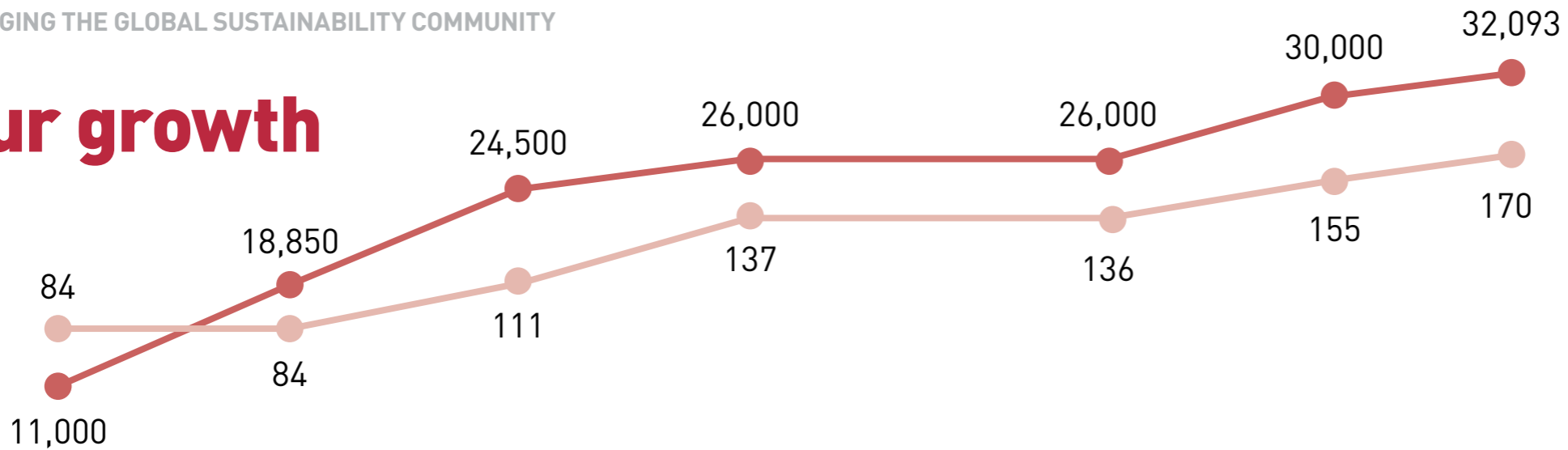
Speaker Statistics

# 3,400

 opening ceremony delegates and more than 200 high level speakers

ENGAGING THE GLOBAL SUSTAINABILITY COMMUNITY

# Our growth



**2008**  
The 1st WFES marked the beginning of this successful annual event.

**2009**  
The 2nd WFES takes place.  
The 1st Zayed Future Energy Prize (ZFEP) Awards Ceremony takes place.  
Abu Dhabi is selected to host the International Renewable Energy Agency (IRENA) Headquarters.

**2010**  
The 3rd WFES takes place.  
The 2nd ZFEP Awards Ceremony takes place.  
Launch of the Masdar Institute of Science and Technology in Abu Dhabi.  
Clean Energy Preparatory Meeting, an initiative of the United States Department of Energy is held in Abu Dhabi.

**2011**  
The 4th WFES takes place.  
The 3rd ZFEP Awards Ceremony takes place.  
The 1st IRENA General Assembly takes place.  
Clean Energy Ministerial (CEM 2), is held in Abu Dhabi.  
Opening of Global Green Growth Institute regional hub in Abu Dhabi.  
Eye on Earth Summit is held in Abu Dhabi.  
Launch of Future Build, a green materials directory.

**2012**  
The 5th WFES takes place.  
The 4th ZFEP Awards Ceremony takes place.  
The 2nd IRENA General Assembly takes place.  
United Nation's year of "Sustainable Energy for All" is announced during WFES.  
United Nations Industrial Development Organization (UNIDO) launched the Industrial Development Report in Abu Dhabi.

**2013**  
Launch of the Abu Dhabi Sustainability Week (ADSW).  
The 6th WFES takes place.  
The 5th ZFEP Awards Ceremony takes place.  
The 3rd IRENA General Assembly takes place.  
The 1st IWS is held during the ADSW.  
Abu Dhabi International Renewable Energy Conference (ADIREC) is held in conjunction with WFES.  
The 1st energy ministerial of the Summit of South American-Arab countries (ASPA) is held in Abu Dhabi.

**2014**  
The 2nd Abu Dhabi Sustainability Week (ADSW) will include the following events:  
The 7th WFES.  
The 6th ZFEP Awards Ceremony.  
The 4th IRENA General Assembly.  
The 2nd IWS.  
The 1st Eco WASTE Exhibition.  
Sustainable Cities Conference (in association with IEEE - Institute of Electrical and Electronics Engineers).  
World Energy Leaders' Summit (in association with World Energy Council).  
The 1st Indian Ocean Renewable Energy Forum (IOR - ARC) meeting.  
Abu Dhabi Sustainability Festival.



● Countries ● Attendees



ENGAGING THE GLOBAL SUSTAINABILITY COMMUNITY

# Key Events during Abu Dhabi Sustainability Week 2014



## 7TH WORLD FUTURE ENERGY SUMMIT (WFES)

The World Future Energy Summit (WFES) is the world's foremost annual meeting committed to advancing future energy, energy efficiency and clean technologies by engaging political, business, finance, academic and industry leaders to drive innovation, business and investment opportunities in response to the growing need for sustainable energy.



## 2ND INTERNATIONAL WATER SUMMIT (IWS)

IWS brings together world leaders, field experts, academic luminaries and business innovators to accelerate the development of new strategies and technologies that will further promote sustainable water management by highlighting the needs of, and the opportunities within, the sector.



## 1ST ECOWASTE

EcoWASTE is a new exhibition that aims to become the international leading specialised event for sustainable waste management and recycling, bringing together leading local and international technology and service providers, local and regional buyers, and industry professionals from both the private and public sectors.



## BLUE ECONOMY SUMMIT

The UAE Ministry of Foreign Affairs, in partnership with the government of the Republic of Seychelles, hosted the first Blue Economy Summit, to be held in Abu Dhabi on 19 and 20 January 2014. The Blue Economy concept, focusing on governance frameworks for the sustainable development of oceans and ocean-linked communities and countries, is a key component of the post-Rio global conversation.

## INDIAN OCEAN RENEWABLE ENERGY MINISTERIAL FORUM

The first ministerial on renewable energy in the Indian Ocean region took place during Abu Dhabi Sustainability Week 2014, hosted by the UAE Ministry of Foreign Affairs in partnership with the Indian Ocean Rim Association (IORA, formerly the IOR-ARC) and the International Renewable Energy Agency (IRENA). Energy ministers from the 26 member and partner countries of the IORA had launched a new initiative in resource assessment, cost analysis, and capacity-building.

## ENGAGING THE GLOBAL SUSTAINABILITY COMMUNITY

## Abu Dhabi Ascent

The Abu Dhabi Ascent was a special two-day, high level meeting convened by the United Nations Secretary General that brought together political, business and society leaders and policy makers, from across the developed and developing world, in an effort to catalyze ambitious climate change solutions. The Secretary General said the meeting had accelerated momentum in the lead up to September's New York Climate Summit, which aims to drive transformative action and build political impetus for a global, binding climate agreement, to be signed in 2015.

### The Abu Dhabi Ascent will explore areas for action including:

- adaptation
- disaster risk reduction
- agriculture
- cities
- climate finance
- energy efficiency
- forests
- renewable energy
- short-lived climate pollutants
- transport

OVER **1,000**  
DELEGATES

**100**  
Government  
Leaders and  
Ministers



The meeting will also explore international and multi-stakeholder efforts that support ambitious on-the-ground actions.

The decision to host Abu Dhabi Ascent underscores the strong reputation of the UAE as a forward-looking leader in driving global energy and climate change policy. The UAE's influence as a strategic energy hub is also why Abu Dhabi was selected as the permanent home of the International Renewable Energy Agency – the first intergovernmental organization in the Middle East.

Through Masdar, a subsidiary of Mubadala, Abu Dhabi's strategic investment company, the UAE has become the leading Middle East investor in renewable energy projects across the world. Today, Masdar is delivering nearly one gigawatt of renewable energy to international grids.



Al Gore at Abu Dhabi Ascent

# Awarding Innovation – Zayed Future Energy Prize

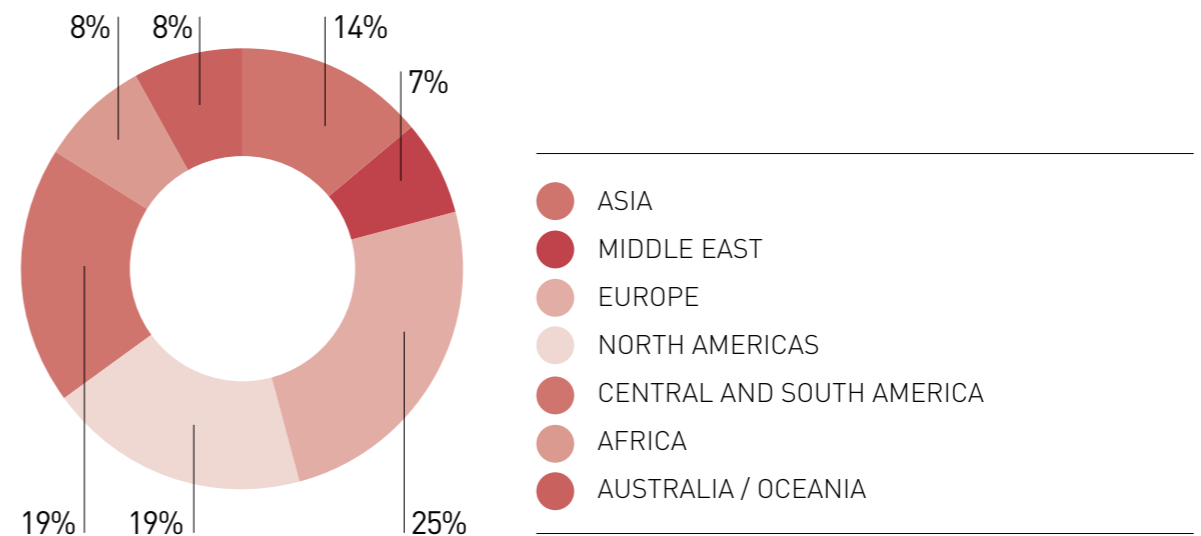
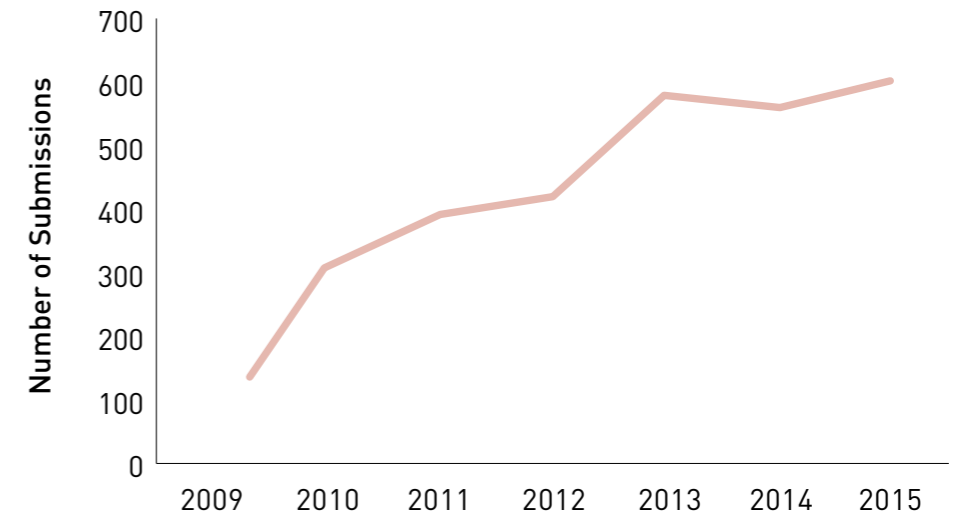
The Zayed Future Energy Prize represents the vision of the Founding Father of the United Arab Emirates, the late Sheikh Zayed bin Sultan Al Nahyan, who championed sustainability and environmental stewardship.

The prize categories (Large Corporation, SME, NGO, Lifetime Achievement and Global High Schools Prize) focus on supporting emerging businesses, individuals and future generations that have innovative ideas and projects offering real-world solutions that can create a positive impact on meeting the requirements of our greatest energy and sustainability challenges.

Each of these categories is evaluated based on the four core criteria of the prize:

- Leadership
- Long-Term Vision
- Innovation
- Impact

In January 2014, the 6th annual Awards Ceremony of the Zayed Future Energy Prize took place, and submissions opened for the 7th Zayed Future Energy Prize in March 2014.





# 2014 Zayed Future Energy Prize Winners

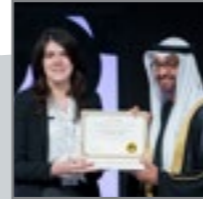
Bronx Design & Construction School  
Global High Schools Category  
USE



Fraunhofer Institute for Solar Energy Systems ISE  
NGO  
Germany



Gh. Conreanu National College  
Global High School Category  
Romania



Mr. Wang Chuan Fu  
Lifetime Achievement  
China



ABB  
Large Corporation  
Switzerland



Kalkeri Sangeet Vidyalaya  
Global High Schools Category  
India

Tonga High School  
Global High Schools Category  
Tonga



Nkhata Bay School Authority  
Global High Schools Category  
Malawi



Abellon Clean Energy  
SME Category  
India



## Previous Zayed Future Energy Prize Winners

Year	Winners	Category	Country	Sector
2009	Dipal Barua	Lifetime	Bangladesh	Solar PV
	Martin Green	Lifetime	Australia	Solar PV
2010	Toyota	Large Corp	Japan	Automotive
	E+CO (Persistent Energy Partners)	NGO	USA	Clean Energy Investment
	Amory Lovins	Lifetime	USA	Energy Efficiency
2011	Vestas	Large Corp	Denmark	Wind
	E+CO (Persistent Energy Partners)	NGO	USA	Clean Energy Investment
	Amory Lovins	Lifetime	USA	Energy Efficiency
2012	Schneider	Large Corp	France	Energy Efficiency, Electrical Equipment
	Ashok Gadgil	Lifetime	USA	Energy Efficiency, Water
	CDP	SME	UK	Advocacy, Carbon Emissions Reporting
	Orb	SME	India	Solar PV
	Environmental Defense Fund	NGO	USA	Advocacy, Energy Efficiency
2013	Siemens	Large Corp	Germany	Wind
	Ceres	NGO	USA	Advocacy
	d. light	SME	USA	Solar PV
	Jose Goldemberg	Lifetime	Brazil	Biofuels
	Secunduria Tecnica 120	School (The Americas)	Mexico	Solar, Water efficiency
	Kiryia Secondary School	School (Africa)	Tanzania	Wind, Solar and Biomass
	Okehampton College	School (Europe)	UK	Wind, Biomass
	SKBZ Bangladesh Islamia School	School (Asia)	UAE	Solar, Energy efficiency



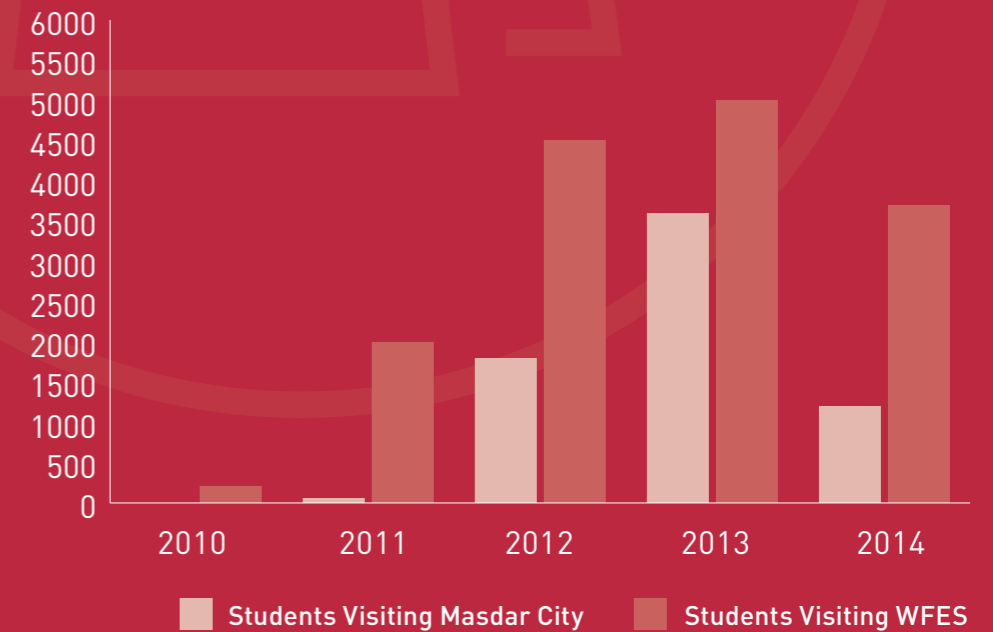
Previous Zayed Future Energy Prize winners



# Youth Outreach at Masdar

The Young Future Energy Leaders (YFEL) programme is a key element of the annual World Future Energy Summit (WFES). The program focuses on raising the awareness of students and young professionals in the fields of renewable energy and sustainability. This unique programme, led by Masdar Institute, helps mentor future leaders in the field of alternative energy by engaging them with the leaders of today. YFEL also offers young professionals and students from the UAE and abroad the opportunity to become more engaged in finding solutions to the world's biggest challenges: energy efficiency and climate change.

During ADSW, some of the world's brightest students and young professionals engage in debates and discussions about the future of energy and sought sustainable solutions to the challenges of climate change.



# Masdar and UAE Partnerships: Accelerating to a Renewable Energy Future

JUNE, 2014

This past reporting period has seen many partnerships and pledges in the international arena for the advancement and deployment of Renewable Energy worldwide. In 2014 Masdar was committed to form strong partnerships with various organizations and countries emphasizing the importance of Masdar as a global player in the renewable arena. Key partnerships in the reporting period are highlighted below.

Masdar and the King Abdullah City for Atomic and Renewable Energy (K.A.CARE) announced an agreement to work together to advance the development of renewable energy and clean technology across the region and to create opportunities for collaboration on research and development of advanced clean energy technologies, including solar, wind and water.

The accord, which comes at a time of increasing interest in renewables across the region, lays down a framework to jointly invest in clean energy projects and green technology investment funds.

In January, 2014 the United Arab Emirates signed partnerships with five Pacific island countries to deploy renewable energy projects, financed from the US\$50 million UAE-Pacific Partnership Fund. The solar and wind projects – in Fiji, Kiribati, Samoa, Tuvalu and Vanuatu – represent one of the largest capital investments in the region’s clean energy sector.

All five projects will be co-designed and implemented by Masdar, in cooperation with each nation’s government.

In January, 2014 Masdar signed a framework agreement with Energias De Portugal (EDP), Portugal’s largest utility company, to explore opportunities to deploy large-scale renewable energy projects and promote renewables as source of foreign aid.

The framework outlines geographic opportunities for co-development – for both wind and solar power – in countries that have supportive regulatory frameworks. The areas of focus include Latin America, Africa, Middle East and Europe.

In February 2014, Masdar signed a memorandum of understanding (MOU) with the Japan Bank for International Cooperation (JBIC) that will see the two parties work together in identifying, financing and executing renewable energy projects around the world.

The MOU will see the two parties explore the co-development of commercially viable renewable energy projects including; wind, solar power, water desalination, carbon capture, use and storage (CCUS) technology and sustainable city development.

“We look forward to leveraging Masdar’s expertise and experience across the clean tech sector to create mutually beneficial opportunities,” said JBIC Governor, Hiroshi Watanabe.

JANUARY, 2014

FEBRUARY, 2014



# Community Engagement – Masdar’s 2014 Blogging Contest

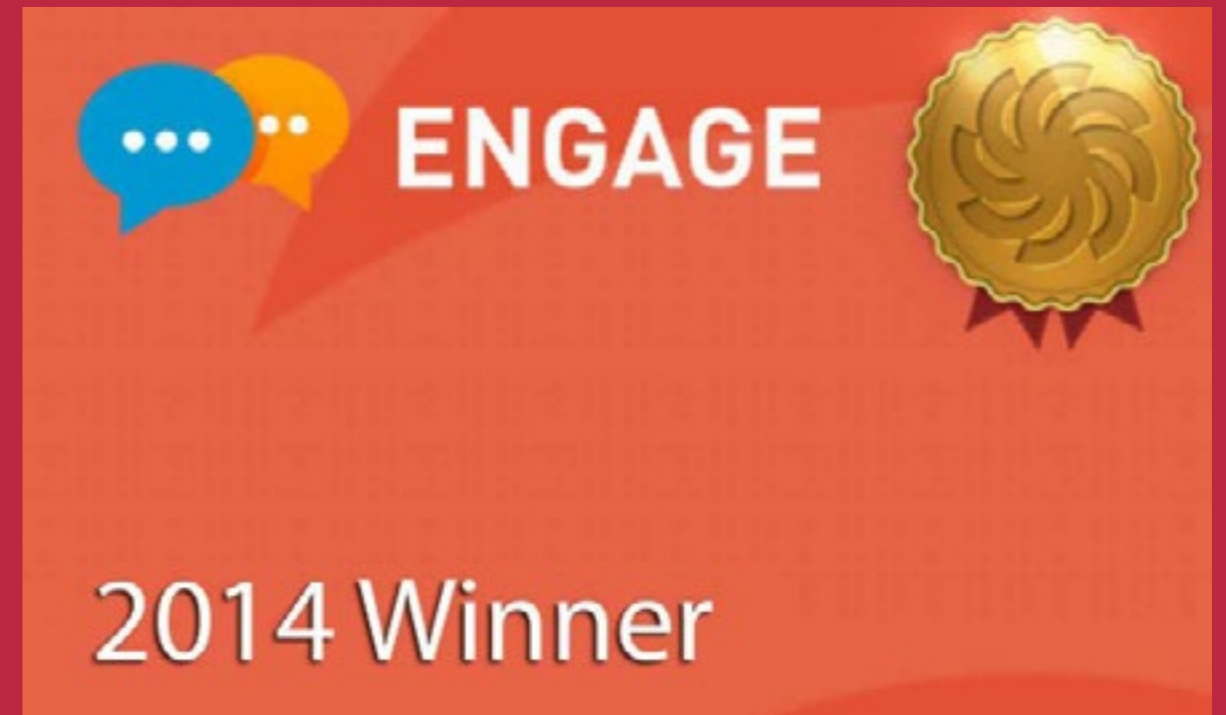
In the build up to ADSW, Masdar completed the second annual blogging contest under the theme “Cities and Sustainable Development”. The competition asks contributors to discuss their views of the critical role our cities play in driving sustainability.

Published on Masdar’s website, each story was supported by a voting system (1-5 stars) and social media assets, giving voters the ability to ‘share’, ‘tweet’, and ‘like’ each story.

The 2014 contest received 117 entries from six continents and motivated thousands of readers to share their ideas about sustainability across Masdar’s web site, blogs and social media platforms. The winning post, entitled “Urbanity 2050,” was submitted by Tyler Caine, a LEED-accredited architect practicing in New York City as part of COOKFOX Architects. Caine’s submission read as a futuristic newswire story, describing a New York City that achieved “resource neutrality” by 2050 due to technological innovations, social change and a complete rethink of how cities are structured. As the winner, Caine received an all expenses paid invitation to attend ADSW 2014 as a guest journalist.

You can view the winning blog post here.

(Link: <http://www.masdar.ae/en/adsw/detail/tyler-caine-urbanity-2050> )





# Community Outreach at Masdar

In 2014, Masdar was able to support and deliver a number of key community-based initiatives to push the message of sustainability to the local community and deliver key youth outreach programmes.



The Abu Dhabi Film Festival (ADFF), powered by twofour54, helps to create a vibrant film culture throughout the region, with a focus on Arab cinema and the wealth of emerging and established film talent from around the world. In 2013 a jury of Masdar students awards a prize for the best film in the “Our World” category. This category highlighted films devoted to broadening awareness of significant environmental and related issues. The winner was Fatal Assistance by Raoul Peck



In 2013, Masdar sponsored and participated in the Abu Dhabi Science Festival, a globally awarded strategic initiative organised by the Abu Dhabi Technology Development Committee (TDC). The festival aimed to inspire the nation's youth with science-related hands-on activities and is part of a wider strategy to build a talent base in science, technology and innovation in the UAE.



Abu Dhabi Film Festival

COMMUNITY OUTREACH

# The Festival at Masdar City

As part of Abu Dhabi Sustainability Week (ADSW) Masdar had hosted a 2 day sustainability festival that invited all Abu Dhabi residents to spend a fun, educational weekend in one of the world's most sustainable cities. Masdar City's festival had the goal to inspire UAE residents of all ages to adopt more sustainable habits through fun and engaging activities.

Organized by Masdar, the event contained several activities each with a unique theme and activities aimed at both inspiring and educating children and families.

**“Masdar City is a place to learn and understand how to balance modern life’s increasing appetite to consume, with a responsibility to protect our scarce natural resources and safeguard the environment.”**

**Anthony Mallows**  
Director of Masdar City.



The Festival at Masdar City





# Appendix

**Principles to Define  
Reporting Content  
and Quality**

**Reporting Principles  
for Defining  
Quality**

**External  
Assurance  
Letter**

**GRI Index**

# Appendix

## USING THE PRINCIPLES TO DEFINE THE REPORTING CONTENT

This report has used the most current Global Reporting Initiative Guidelines. The GRI G4 requirements have been used as the assessment criteria to enrich the integrity of the Masdar Sustainability Report 2014.

### MATERIALITY

In accordance with the GRI G4 guidelines, Masdar has developed the report to ensure that only those aspects deemed material to Masdar stakeholders have been incorporated in the 2014 sustainability report. This has been elaborated on in the materiality section of this report.

### COMPLETENESS

Masdar has designed this report to ensure that complete and concise data is provided to allow for stakeholder evaluation and to help inform the decision-making process. The report also offers justifications for areas in the report where data is incomplete and remedial action plans are in place for this data's inclusion in future reports.

### STAKEHOLDER INCLUSIVENESS

As part of this reporting exercise, we feel we have successfully acknowledged all key stakeholders and their specific issues related to Masdar's activities. The elements focused on in this report are in response to the communications with these stakeholders.

### SUSTAINABILITY CONTEXT

We at Masdar feel that this report highlights and includes the major sustainability-related impacts that affect the defined operations and activities. The report addresses the identified economic, environmental and social issues with reference to their regional and global significance.

## USING THE REPORTING PRINCIPLES FOR DEFINING QUALITY

### BALANCE

In developing this report, we feel we have highlighted both positive and less positive performances in the selected activities outlined. The report is balanced in its content to provide a true account of Masdar's operations.

### COMPARABILITY

Where applicable, Masdar's 2014 report has been able to offer a comparison against the performance of material aspects set out in previous reports and will continue to highlight trends and performance to assist our stakeholders in making their assessments. We have followed the same reporting period of October to September, in this case October 2013 to September 2014.

### ACCURACY

We believe that both the quantitative and qualitative data is accurate and auditable. Any limitations and estimations have been clearly identified.

### TIMELINESS

This report is inclusive of the most up-to-date information and allows for a relevant assessment of the organisations current economic, environmental and social status of operations and activities.

### CLARITY

This report has been designed and worded to ensure that the reader is able to understand and comprehend the messages and information provided in a clear and concise manner.

### RELIABILITY

The report has been designed and subjected to a rigorous review internally. We have used various tools to ensure that the calculations and information are reliable, and we have utilised recognised methodologies that allow for the verification of data. Masdar has also taken the necessary action to have this report externally assured, both for the quality of data and for meeting the necessary requirements for 'in accordance' with GRI G4 guidelines at a core level.

January 06<sup>th</sup> 2015



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## Assurance Statement

### Background

RSK Environment LLC (RSK) was commissioned by Abu Dhabi Future Energy Company (MASDAR) to conduct an independent assurance of MASDAR's Corporate Sustainability Report 2013-14 ('the Report') in its printed format which was prepared in accordance with Core option of the G4 Sustainability Reporting Guidelines issued by the Global Reporting Initiative (GRI).

This independent assurance report is made solely to MASDAR based on the terms of RSK's proposed scope.

This assurance statement provides readers of the Report with an independent opinion on the reliability of information, based on our assessment of the Report and underlying systems and evidence. This Statement is intended both for the general readers and for stakeholders who have a professional interest in MASDAR's sustainability performance and challenges. The assurance engagement is based on the assumption that the data and information provided to RSK is complete and true. RSK expressly disclaims any liability or co-responsibility for any decision a person or entity would make based on this assurance statement.

### Responsibility

MASDAR were responsible for preparing the Report and the information and statements within it. They were responsible for identification of stakeholders and material issues, for defining objectives with respect to sustainability performance, and for establishing and maintaining appropriate performance management and internal control systems from which the reported information is derived.

MASDAR's role in this verification process has been to provide the necessary data and evidence to support their assertions.

RSK's responsibility was to express our conclusions in relation to the assurance scope.



RSK Environment llc  
[www.rsk.co.uk](http://www.rsk.co.uk)



### Scope of Assurance

RSK's assurance included the verification of data management processes and reported information. This was carried out in the context of MASDAR's sustainability strategy, management processes and performance in the 12 month period ending on 30 September 2014.

The scope of work agreed upon with MASDAR includes the following:

- Assess the robustness of the data management system, information flow and controls;
- Undertake an audit trail on selected claims and data streams to determine the level of accuracy in collection, recording and accumulation;
- Examine and review documents and data made available to RSK by MASDAR;
- Visit MASDAR head-office;
- Review MASDAR's approach to materiality analysis;
- Perform sample-based audits of the mechanisms for implementing MASDAR's own sustainability-related policies, as described in the Report; and
- Perform sample-based audits of the processes for generating, gathering and managing the quantitative and qualitative data included in the Report.

The assurance was made according to AA1000APS (2008) at a moderate level of assurance.

### Limitations

Inherent limitations affect the conversion of electricity, water, waste and fuel used to calculate carbon emissions. Conversion to carbon emissions is based upon information and factors derived by independent third parties. RSK's assurance work has not included examination of the derivation of those factors and other third-party information. Our assurance work has not included challenging the scientific work undertaken by independent third parties when calculating these emissions factors.

### Our Independence

RSK did not provide any services to MASDAR during 2013-14 that could compromise the independence or impartiality of our findings, conclusions or recommendations. RSK was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement.





### Methodology

RSK planned and performed the work to obtain all the evidence, information and explanations that were considered necessary in relation to the above scope.

Verification of the full Report was based on GRI Guidelines and the AA1000 Assurance Standard (2008). Throughout the assurance process, RSK concentrated on the issues that are believed to be most material for both MASDAR and its stakeholders.

As part of the verification RSK has:

- Challenged the sustainability-related statements and claims made in the Report and assessed the robustness of the data management system, information flow and controls;
- Executed the audit trail on selected items and data streams to determine the level of accuracy in collection, and recoding;
- Examined and reviewed documents, data and other information made available to RSK by MASDAR;
- Undertaken a visit to MASDAR head-office;
- Conduct interviews with information owners (five people);
- Reviewed and challenged MASDAR's approach to materiality analysis;
- Performed sample-based audits of the mechanisms for implementing MASDAR's own sustainability-related policies, as described in the Report;
- Performed sample-based audits of the processes for generating, gathering and managing the quantitative and qualitative data included in the Report; and
- Provided recommendations to MASDAR for future reporting.

An initial readiness assessment allowed MASDAR to provide documentation for review by RSK and implement corrective actions for discrepancies detected during both quantitative and qualitative reviews.



### Conclusions

In RSK's opinion, information presented in the Report provides a material and complete representation of MASDAR performance in the context of sustainable development. The verification process confirmed that the Report was prepared based on factual statements and that the data contained within the Report are accurate. It is a fair representation of initiatives, targets, progress and performance on MASDAR's sustainable development achievements.

The Report provides an adequate and fair account of MASDAR's sustainability performance on material aspects and demonstrates satisfactory disclosures of the Core option of the GRI's G4 sustainability Reporting guidelines. RSK confirms that the GRI requirements for Application 'in accordance criteria' have been met.

- **Materiality:** MASDAR has identified material issues by conducting internal assessments of risks and opportunities, and the stakeholders mapping exercise that was undertaken companywide to reassess their stakeholder's engagement practices and improve it. MASDAR materiality assessment results have been adequately used as a basis for the preparation of the Report, guiding the identification of issues and ensuring that the emphasis given to assertions and information on various topics is proportionate to their relative materiality.
- **Completeness:** Based on RSK's review and within the reporting boundary defined by MASDAR, RSK noted progress been made in presenting information in a format which facilitates understanding and the comparison of performance with previous years, highlighting the key efforts and achievements over the last three years. Ensuring the comparability of MASDAR's performance over time continues to be a challenge on a number of CSR and Sustainability issues (e.g. environmental performance) mainly due to changes in boundary of reporting from recent years. It is not always easy to establish whether changes in reported performance are the result of changes in actual performance, or due to changes in activities and operations. RSK is not aware that the Report omits relevant information that would significantly influence stakeholder assessments or decisions or that reflect significant economic, environmental and social impacts.
- **Accuracy:** The data measurement techniques and bases for calculations have been adequately described to RSK. Although no systematic errors have been detected, RSK identified some manual errors which have subsequently been corrected. MASDAR is committed to continually improving the quality of data and is in the process of adopting a more structured data management system. In the final form of the Report, RSK has not found material inaccuracies in the data verified or instances where data is presented in a way which significantly affects the comparability of data.
- **Neutrality:** RSK considers the information contained in the Report to generally provide a fair and balanced representation of MASDAR's CSR and Sustainability management approach, performance and challenges in 2014, both in terms of content, tone and emphasis.



- **Comparability:** The information in the Report is presented in a format that allows users to see positive and negative trends in performance.
- **Responsiveness:** MASDAR stakeholder's recent mapping exercise demonstrates a commitment to efficient dialogue with its stakeholders.

#### Recommendations

The following is a summary of the observations and opportunities reported back to MASDAR. However, these do not affect RSK's conclusions on the Report, and they are consistent with MASDAR's objectives.

- The outcomes of the reporting process and sustainability performance issues to be discussed with the respective business units to help improve performance, just as the stakeholders mapping exercise triggered a re-evaluation of engagement approach and a better understanding of the stakeholders.
- Develop a more structured approach to measuring and reporting performance on the following aspects: contribution to global renewable energy; sustainability performance of MASDAR City in light of more third party owners coming on board products; and sustainability performance of business units and affiliates.
- Definition of boundaries of reporting on the different aspects would benefit from a more structured approach.

A blue ink signature of Ruba Farkh.

**Ruba Farkh**  
Associate Director

A blue ink signature of Fergus A Collie.

**Fergus A Collie**  
Managing Director

GRI G4 INDEX – GENERAL STANDARD DISCLOSURE

Profile Disclosure	Page/ Direct Answer	External Assurance
<b>STRATEGY AND ANALYSIS</b>		
G4-1	5	YES (Pages 137-139)
<b>ORGANIZATIONAL PROFILE</b>		
G4-3	Abu Dhabi Future Energy Company – Masdar	YES (Pages 137-139)
G4-4	6 7 11 76-78	YES (Pages 137-139)
G4-5	PO Box 54115, Masdar City, Abu Dhabi, UAE	YES (Pages 137-139)
G4-6	11	YES (Pages 137-139)
G4-7	State Owned Enterprise Subsidiary	YES (Pages 137-139)
G4-8	7 11	-
G4-9	7 11 55	YES (Pages 137-139)
G4-10	55-56 67	YES (Pages 137-139)
G4-11	n/a in UAE	YES (Pages 137-139)
G4-12	112-118	YES (Pages 137-139)
G4-13	55	YES (Pages 137-139)
G4-14	17-20 24	-
G4-15	47-48 120	YES (Pages 137-139)
G4-16	120	YES (Pages 137-139)
<b>IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES</b>		
G4-17	39	-
G4-18	30 32 34-38	YES (Pages 137-139)
G4-19	39	YES (Pages 137-139)
G4-20	39*	YES (Pages 137-139)
G4-21	39	YES (Pages 137-139)
G4-22	No Restatements of Information	-
G4-23	39	YES (Pages 137-139)
<b>STAKEHOLDER ENGAGEMENT</b>		
G4-24	32	YES (Pages 137-139)
G4-25	31-32	YES (Pages 137-139)
G4-26	33-35	YES (Pages 137-139)
G4-27	36	YES (Pages 137-139)

Profile Disclosure	Page/ Direct Answer	External Assurance
<b>REPORT PROFILE</b>		
G4-28	Q4 2012 - Q3 2013	YES (Pages 137-139)
G4-29	Q4 2013 – Q3 2014	YES (Pages 137-139)
G4-30	Annual	YES (Pages 137-139)
G4-31	4	YES (Pages 137-139)
G4-32	140-141	YES (Pages 137-139)
G4-33	137-139	YES (Pages 137-139)
<b>GOVERNANCE</b>		
G4-34	8-10	YES (Pages 137-139)
G4-38	8-9	YES (Pages 137-139)
G4-39	8	YES (Pages 137-139)
<b>ETHICS AND INTEGRITY</b>		
G4-56	13-15 22-23 115	YES (Pages 137-139)
G4-58	23	YES (Pages 137-139)

\* Masdar Corporate QHSE activities include both the corporate activities as well as defined projects



GRI G4 INDEX – SPECIFIC STANDARD DISCLOSURE

Indicators	DMA	Page/ Direct Answer	Omission	External Assurance
<b>ECONOMIC</b>				
EC1		64	Partial data available due to proprietary information	YES (Pages 137-139)
EC2		20		YES (Pages 137-139)
EC3		58		YES (Pages 137-139)
EC4		-	State Owned Enterprise Subsidiary	YES (Pages 137-139)
EC5	41-44 47-48 112-115	-	No Minimum wage in UAE	YES (Pages 137-139)
EC6		67		YES (Pages 137-139)
EC7		66 81-88		YES (Pages 137-139)
EC8		66-72 77-89 95 127-129		YES (Pages 137-139)
EC9		65 75		YES (Pages 137-139)
<b>ENVIRONMENTAL</b>				
EN1		98 116		YES (Pages 137-139)
EN2		116		YES (Pages 137-139)
EN3		99		YES (Pages 137-139)
EN4		-	Outside of reporting boundary	-
EN5		99		YES (Pages 137-139)
EN6		100		YES (Pages 137-139)
EN7		91-94 100		YES (Pages 137-139)
EN8		101-102		YES (Pages 137-139)
EN9		103		YES (Pages 137-139)
EN10		102		YES (Pages 137-139)
EN11		108		YES (Pages 137-139)
EN12		108		YES (Pages 137-139)
EN13		108		YES (Pages 137-139)
EN14	41-45 47-48 112-115	108		YES (Pages 137-139)
EN15		109		YES (Pages 137-139)
EN16		109		YES (Pages 137-139)
EN17		109		-
EN18		-	No comparable methodology defined	-
EN19		109 117-118		YES (Pages 137-139)
EN20		-	No data available	-
EN21		-	No data available	-
EN22		102		-
EN23		104-106		YES (Pages 137-139)
EN24		110		YES (Pages 137-139)
EN25		102 106		YES (Pages 137-139)
EN26		102		-
EN29		Zero		YES (Pages 137-139)
EN30		107 109		YES (Pages 137-139)

Indicators	DMA	Page/ Direct Answer	Omission	External Assurance
EN31		-	No data available	-
EN32		114-115 (100%)		YES (Pages 137-139)
EN33	41-45 47-48 112-115	117-118		YES (Pages 137-139)
EN34		Zero		-
<b>SOCIAL: LABOUR PRACTICES AND DECENT WORK</b>				
LA1		58		YES (Pages 137-139)
LA2		58		YES (Pages 137-139)
LA3		56		YES (Pages 137-139)
LA5		Total: 10 employees		YES (Pages 137-139)
LA6		60		YES (Pages 137-139)
LA7		61		YES (Pages 137-139)
LA8	41-45 47-48 112-115	-	No trade unions in UAE	-
LA9		59		YES (Pages 137-139)
LA10		59		YES (Pages 137-139)
LA11		43 (100%)		YES (Pages 137-139)
LA12		56-57		YES (Pages 137-139)
LA14		114 (100%)		YES (Pages 137-139)
LA15		115		-
LA16		Zero		-
<b>SOCIAL: HUMAN RIGHTS</b>				
HR1		20 115		YES (Pages 137-139)
HR2		-	no data available	-
HR3		Zero		-
HR4		Not applicable in UAE		-
HR5		115		YES (Pages 137-139)
HR6	14 17-20 41-45 47-48	115		YES (Pages 137-139)
HR7		Zero		-
HR8		Zero		-
HR9		44 115		-
HR10		114		-
HR11		115		-
HR12		Zero		-
<b>SOCIAL: SOCIETY</b>				
S01		100%		YES (Pages 137-139)
S02		110		-
S03		100%		-
S04		23-24		-
S05	14 17-20 41-45 47-48	Zero		-
S07		Zero		-
S08		Zero		-
S09		115		-
S010		115		-

**Masdar**  
A MUBADALA COMPANY

