



PIEMONTE

THE BEST OF
MADE IN ITALY



ENERGY & ENVIRONMENT PARTNERING EVENT

Torino, October, 9-10



Initiative co- financed by the Development and Cohesion Fund

www.regione.piemonte.it/fsc/internazionalizzazione



AGENDA

Piemonte, a favourable environment

Ms, Rosanna Viola, *Ceipiemonte - ITALY*

Sustainable City for a Sustainable World

Mr. Frank Kejberg, *Aarhus City - DENMARK*

Mr. Chi Lon Wan, *Masdar City - UAE*

Big projects (Infrastructure, Residential, Engineering)

Mrs. Michelle Shayer, *Odebrecht Properties - BRASIL*

Mr. Worya A. Alnajjar, *77Construction - IRAQ*

Mr. Nooriyandi Hamayoun, *Sinatel - IRAQ*

Mr. Nazih Braid, *Est Nazih - LEBANON*

Mr. Abdulhamit Ulker, *Ulker - TURKEY*

Overview of the Energy sector

Mr. Ashish Thomas, *PTL Solar - UAE*

Mr. Omelchuk Roman, *Vitasvet - RUSSIAN FEDERATION*

Overview of the Environment sector

Waste

Mr. Lucas Veloso, *Estre Ambiental - BRASIL*

Mr. Nasreddine Yahyaoui, *Logipro - MAROC*

Mrs. Marina Bochkova, *Eco-System - RUSSIAN FEDERATION*

Water

Mr. Itzik Harash, *Tahal – ISRAEL*



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PIEMONTE: FACTS AND FIGURES

- **Capital City:** Torino
- **GDP:** € 123.9 billion
(8% of the national total)
- **Export:** € 39.7 billion
(10.3% of the national total)
- **Companies:** 467.671 (7,7% of the national total)
- **R&D:** 4 universities, over 220 private and public R&D centres, 380 labs, 6 S&T Parks, 12 Innovation Hubs, incubators
- **1° Italian region** for expenditure on innovation in the manufacturing sector, private investment in R&D, hi-tech patents



Source: Unioncamere Piemonte on Demoistat (2010) **Source: 2011 anticipatory figures by Unioncamere Piemonte on Prometeia data * Source: Unioncamere Piemonte on Istat data (2012) **** Source: Unioncamere Piemonte on InfoCamere data (2011) ***** Source: Unioncamere Piemonte on Istat data (2010)*



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PIEMONTE: UNIQUE CAPABILITIES AND MANUFACTURING VARIETY

Multi-year projects of the Piemonte Region and Unioncamere Piemonte, aimed at offering a reserved lane to **meet best in class companies** and key players from Piemonte region, to develop business and cooperation.



Energy & Environment

- Renewable energies
- Waste management
- Water
- Air & noise
- Bio-building



Infrastructure & Logistics

- Infrastructure and transportation
- Civil engineering
- Information & communication technologies
- Territorial planning, architectural, structural and planning design services
- Realization of civil, industrial and commercial buildings
- Interior and outdoor decoration



Design, building, living



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ECOMPANIES GO GREEN WITH TORINO PIEMONTE



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ENERGY & ENVIRONMENT IN TORINO - PIEMONTE

1,300 companies with **33,000** employees offering

50 % energy

19 % water treatment

12 % water

10% air

9% research and consulting

1,100 patents registered in 2011

3 universities, R&D centers and facilities with 3,500 employees

4 company incubators

4 Innovation hubs:

Enermhy,

Polibre

Polight

Polo innovazione del Lago Maggiore



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Sustainable City for a Sustainable World

Aarhus City - DENMARK
Masdar City - UAE

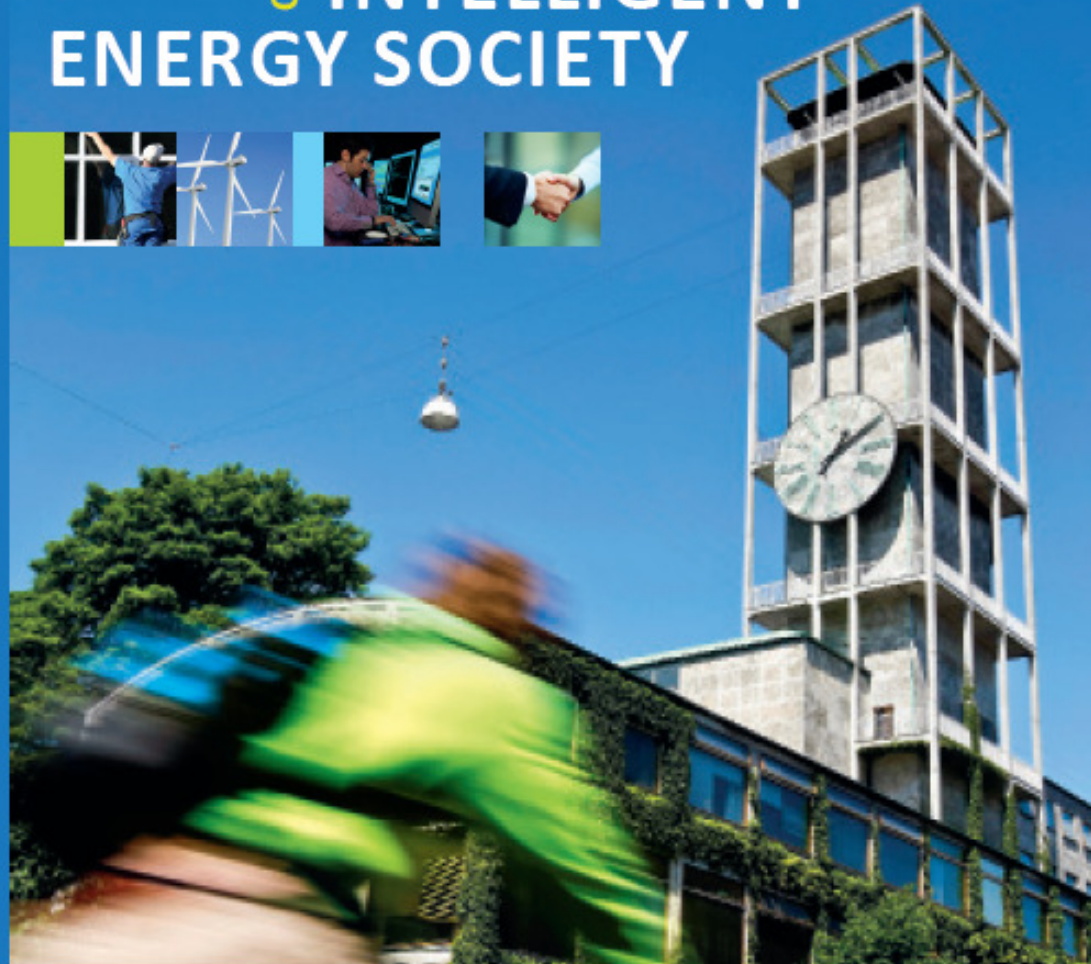


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CLIMATE PLAN 2012-2015

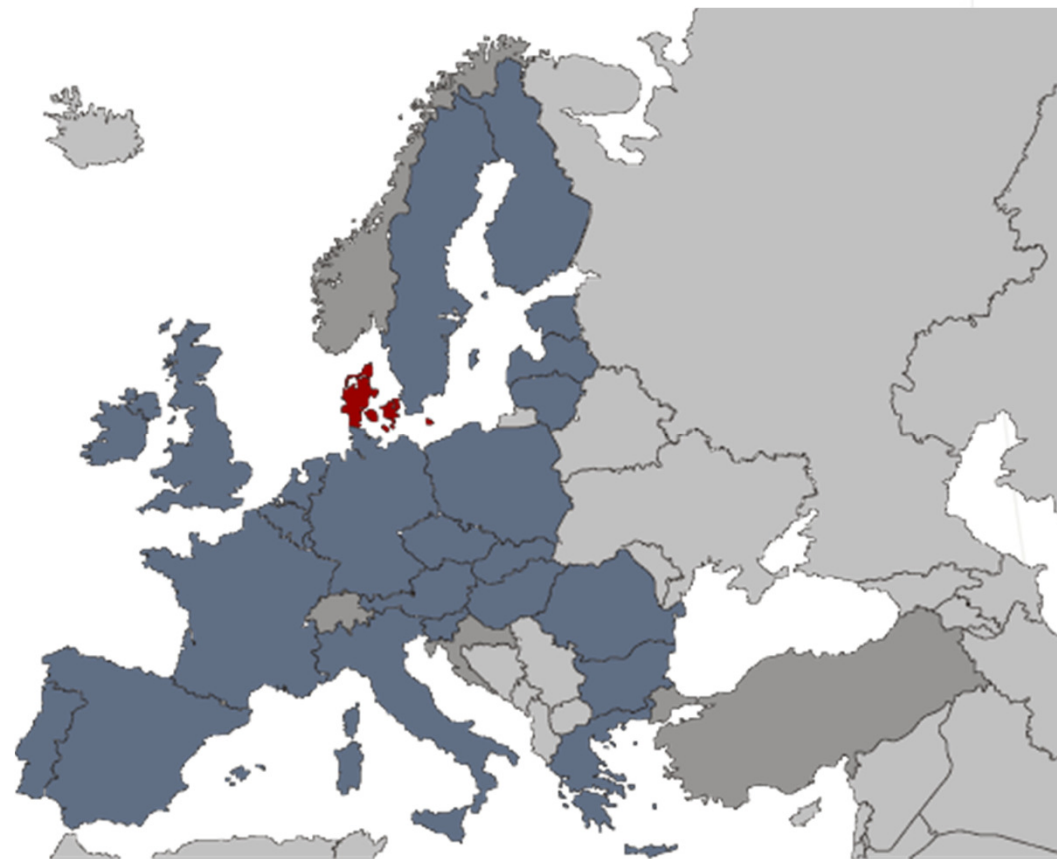
THE INTELLIGENT ENERGY SOCIETY



CITY OF AARHUS



Denmark in Europe



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The Second-largest City in Denmark

- 319.094 citizens (jan 1, 2013)
- Denmark's youngest city.
- East Jutland- metropolitan area with 1.2 mio inhabitants



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Aarhus = river mouth

The original city grew up around the mouth of the river. Here the vikings decided to settle..



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Why focus on climate?



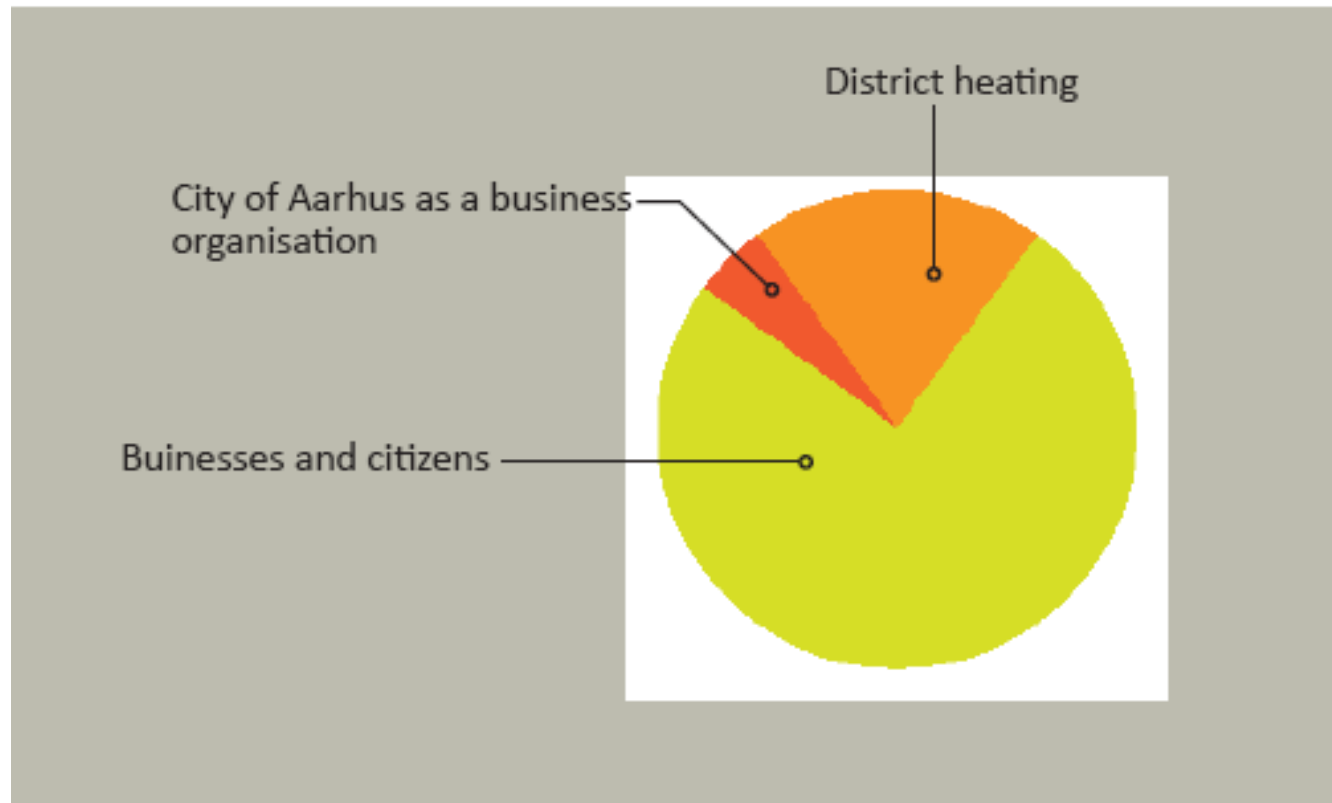
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Controlling only 25%



CO₂ EMISSIONS IN CITY OF AARHUS 2010



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Growth 2030

- 50,000 new jobs
- 10,000 – 15,000 new students
- 50,000 new homes
- 75,000 new inhabitants



Energy Consumption in Aarhus Municipality

20% decrease in net energy consumption from 2009 to 2030

23 % increase in electricity consumption from 2009 to 2030

52 % decrease in CO2 emissions from 2009 to 2030



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City of Aarhus – climate vision

Intelligent climate solutions for the benefit of the environment, citizens and the business community

Aarhus will spearhead climate efforts to develop a sustainable city.

We will work actively to reduce our own energy consumption and influence national legislation.

Together with businesses and knowledge environments, we will develop intelligent solutions.

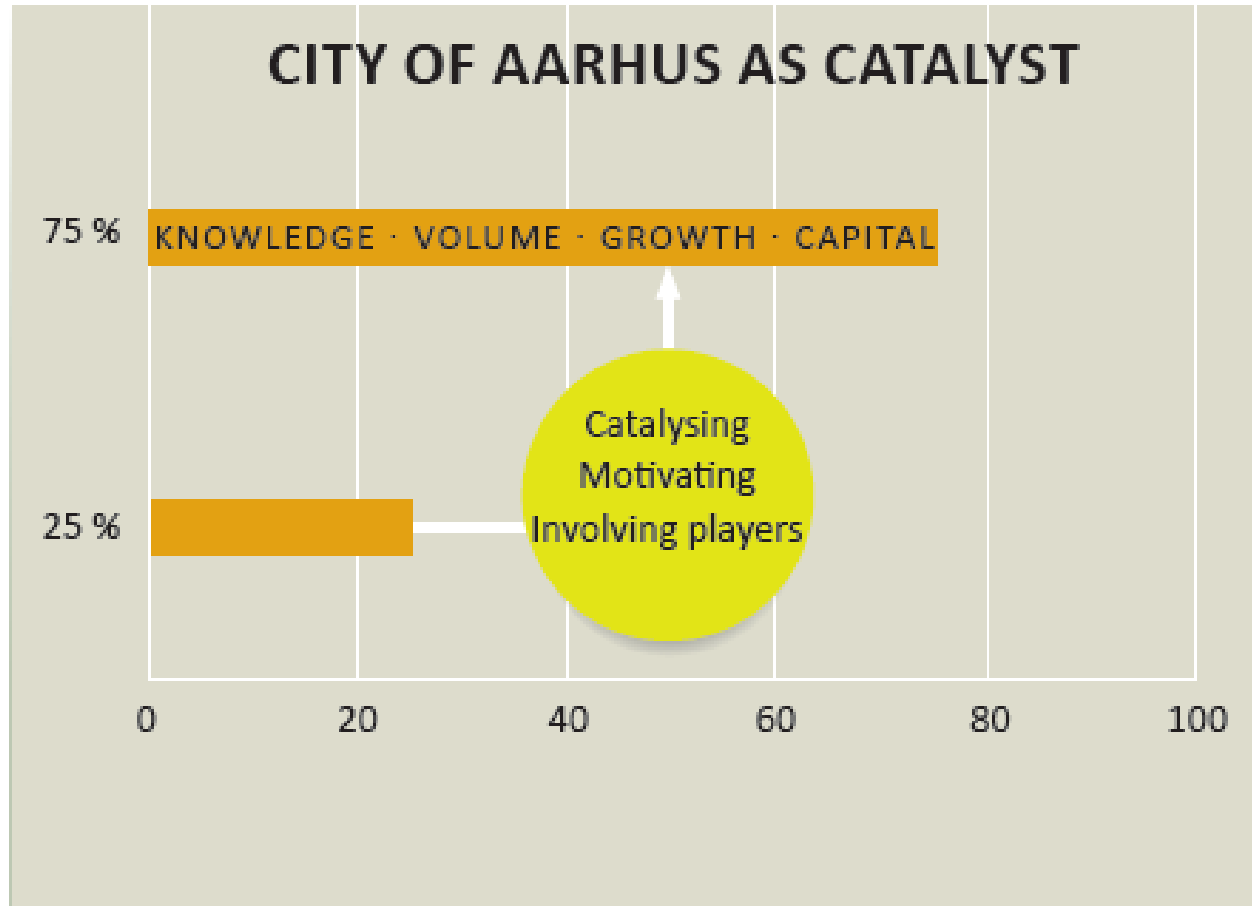
The solutions must create business opportunities, as well as making it easier for citizens and businesses to cut their energy consumption and to do so based on fossil-free energy sources.



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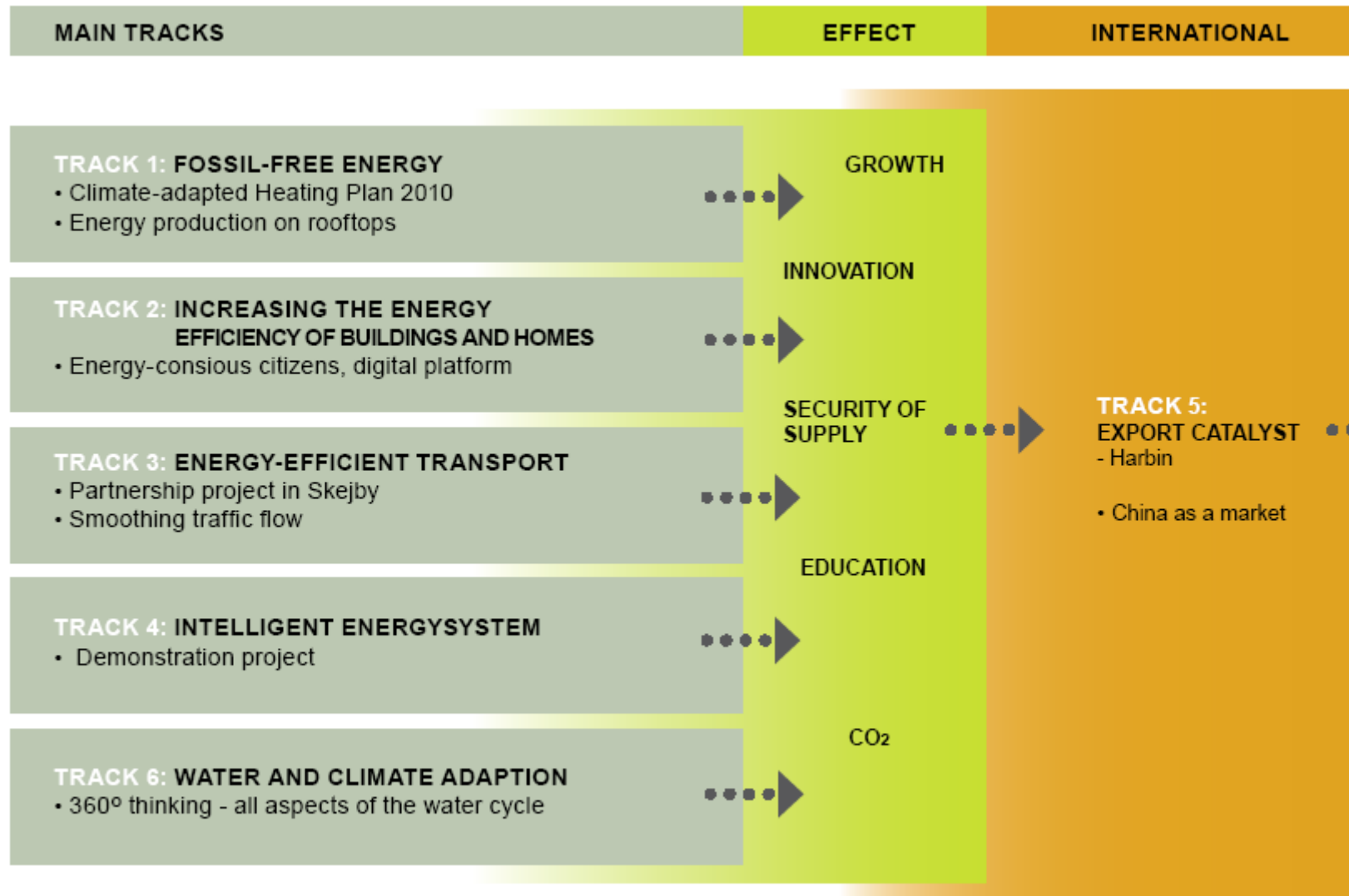
A unique chance for growth



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Strategic main tracks



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Businesses are ready

"It is a fact of life that new ideas stand a greater chance of making it to the top of the agenda if they hold out some business potential. Solving the climate challenge therefore calls for commercial thinking."

Søren Adamsen, Regional Director, COWI

"We expect to be inspired by the City of Aarhus and the other climate partners and to engage in good and fruitful collaboration on reducing emissions of greenhouse gases."

Jakob Larsen, Senior Vice President, Vestas

"We are joining in because we believe that an improved infrastructure based on climate-friendly solutions will positively impact our construction and operating budgets."

Frank Skriver Mikkelsen, Project Manager, The New University Hospital in Skejby

"The City of Aarhus and the business community must get together to create the necessary framework."

Bjarne Langdahl Riis, Innovation Manager, Agro Food Park

"The City of Aarhus's ambitious target of achieving CO₂ neutrality by 2030 definitely calls for close collaboration between the authorities and the local business community."

Peter Ejsing, Department Manager, Alectia



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Snapshots from Aarhus 2015: The intelligent energy society



Energy production on rooftops



Multi-modal transport



Husets Web v.2



Navitas innovation environment



Energy-efficient transport



District heating from biomass



Light railway in Aarhus



Electricity from wind power



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Fossil-free energy

Solar energy production



Participants

- Climate Secretariat,
- Department of Planning and Building in the City of Aarhus
- Public and private enterprises with an interest in this field

Project: Climate-adapted Heating Plan 2010

Participants

- AffaldVarme Aarhus
- DONG Energy



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Increasing energy efficiency

Energy-conscious citizens

Participants

- Climate Secretariat, City of Aarhus
- AffaldVarme Aarhus
- Other public and private enterprises with knowledge in this field



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Climate pays off

In 2010, the City of Aarhus granted DKK 5.6 million to energy-renovate flats.

Result: Additional revenue of DKK 23 million for businesses – and lower energy consumption for the flats.



Energy-efficient transport

Smoothing traffic flow

Participants

- City of Aarhus, Department of Traffic and Roads



Partnership project in Skejby

Participants

- Climate Secretariat and the Department of Traffic and Roads, City of Aarhus
- The New University Hospital
- Vestas Wind Systems A/S
- Rambøll Danmark A/S
- Sondrup Bilcenter A/S
- VIA University College
- Alexandra Institute
- Gronmij
- NRGi a.m.b.a
- Agro Food Park
- Midttrafik
- Siemens A/S
- IKEA Systems A/S

Intelligent energy system



Demonstration projects

Participants

- Climate Secretariat and Business Aarhus, City of Aarhus
- Aarhus Vand
- Public and private enterprises with knowledge in this field



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Climate pays



The LOGSTOR group signs contract on district heating systems with Aarhus's friendship city Harbin. Contacts were established via the City of Aarhus.

Result: An order worth more than DKK 3 billion.



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Doing our bit

Target

The City of Aarhus wants to reduce the energy consumption of its properties by 2% a year.



The Multimedia House at the port of Aarhus will have one of the largest solar power installation in northern Europe.



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Read more

AARHUS KOMMUNE

Gå til aarhus.dk

SØG

DIT KLIMABIDRAG | KLIMAPARTNERE | KLIMAINDSATSEN | NYHEDER | OM CO2030 | ENGLISH

DET INTELLIGENTE ENERGISYSTEM

Klimapartnere
Visionen om et CO2-neutralt Aarhus er sat i søen af kommunen og realiseres i samarbejde med nytænkende virksomheder og stærke uddannelsesinstitutioner.

Klimaindsatsen
Et enigt byråd vedtog 26. oktober 2011 Aarhus Kommunes Klimaplan 2012-2015, som er en 4-årig ramme for en ambitiøs klimaindsats.

Klimaplan 2012-2015
Klimaplanen understøtter retningen mod CO2-neutralitet, forsyningsikkerhed, tilpasning til klimaforandringer - og ikke mindst grøn vækst.

Klimasekretariatet · Teknik og Miljø, Grandalsvej 1, 8260 Viby J TH +45 89 40 20 00 · E-mail: co2030@aarhus.dk



www.CO2030.dk



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Questions ?



Aarhus

Danish for progress

innovate
with
Aarhus

| | | |
|--|---|---|
| connect with Aarhus <small>Danish for progress</small> | study with Aarhus <small>Danish for progress</small> | rethink with Aarhus <small>Danish for progress</small> |
| come home with Aarhus <small>Danish for progress</small> | share with Aarhus <small>Danish for progress</small> | spot the music with Aarhus <small>Danish for progress</small> |

..... thanks for your attention



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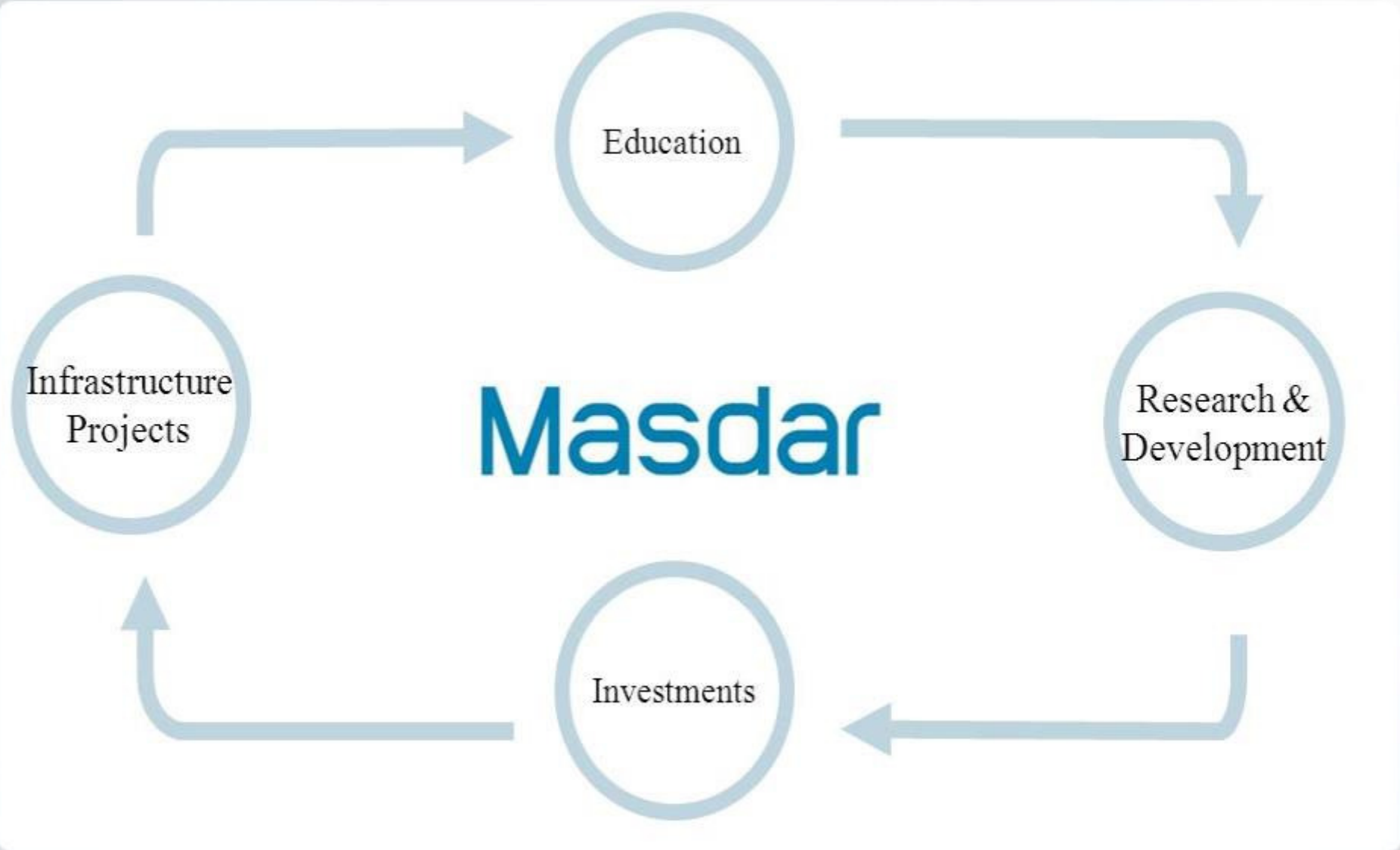
Masdar
A MUBADALA COMPANY



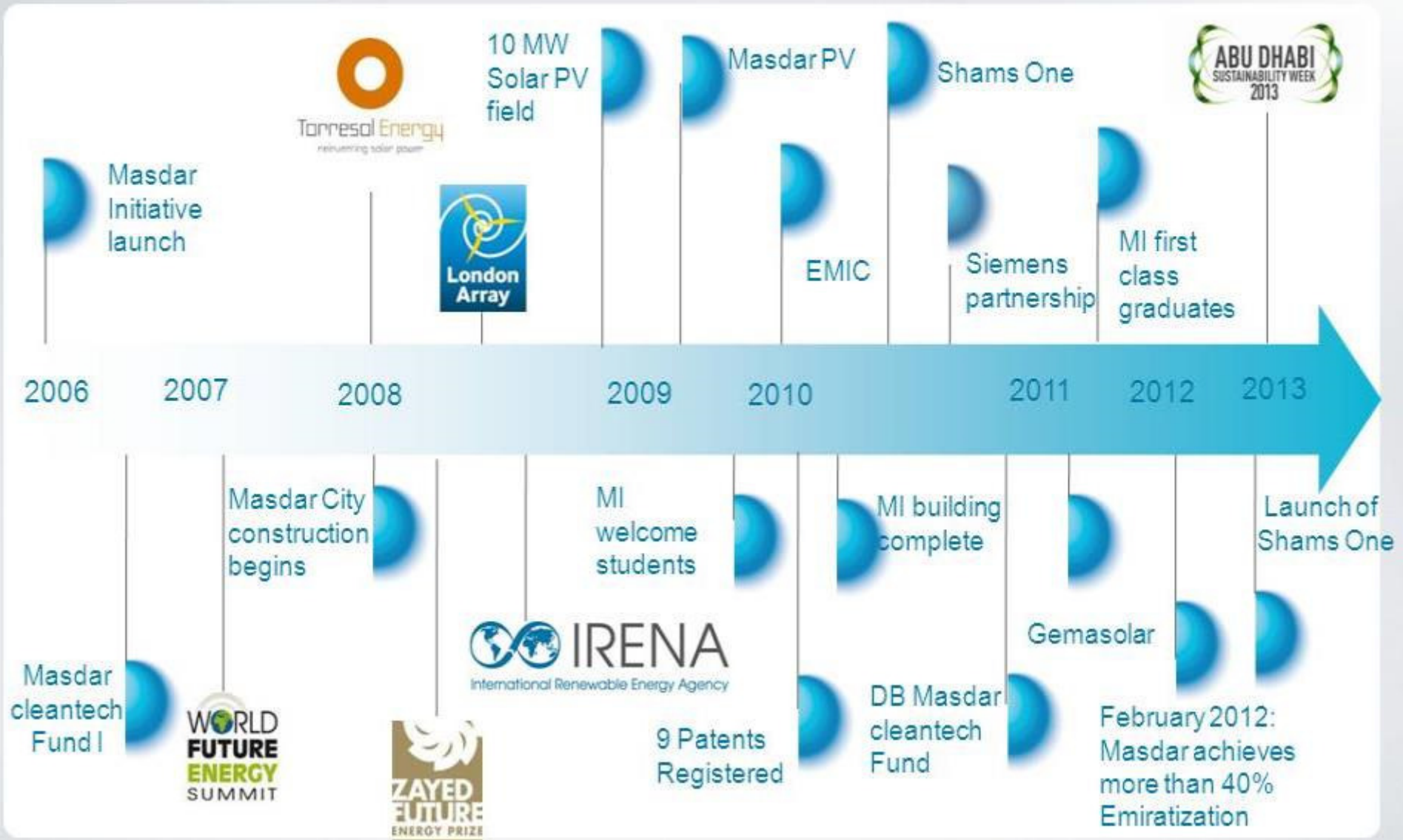
“We must not rely on oil alone as the main source of our national income. We have to diversify the sources of our revenue and construct economic projects that will ensure a free, stable and dignified life for the people.”

**The late Sheikh Zayed bin Sultan al Nahyan
Founder of the United Arab Emirates**





Masdar's Key Milestones Since Its Establishment in 2006



Masdar City

Profile of Masdar City

Masdar City Fast Facts

Total site area

600 hectares
6 SqKm

Residential

52%

Commercial

38%

Retail

2%

Community

8%

Projected resident
population

40,000

Projected
commuters

50,000

Residential density

140 people /
hectare

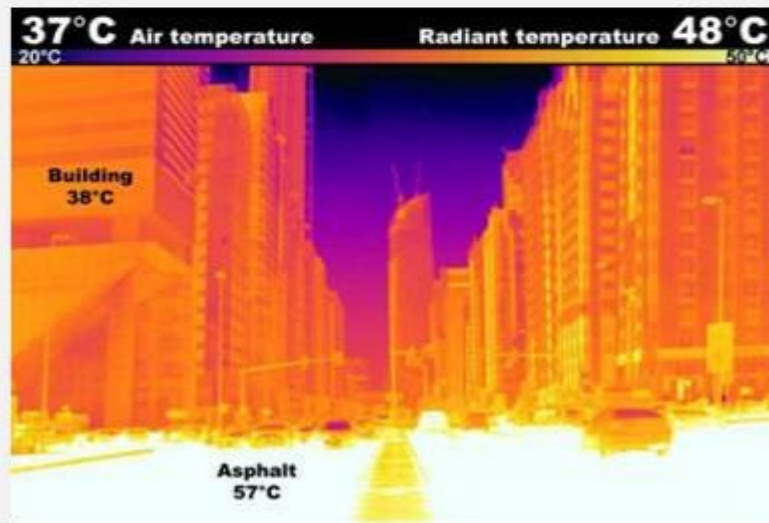


The Masdar City Master Plan plays a central role in enabling the city's success in achieving its sustainability goals. The main components of the city's master plan are:

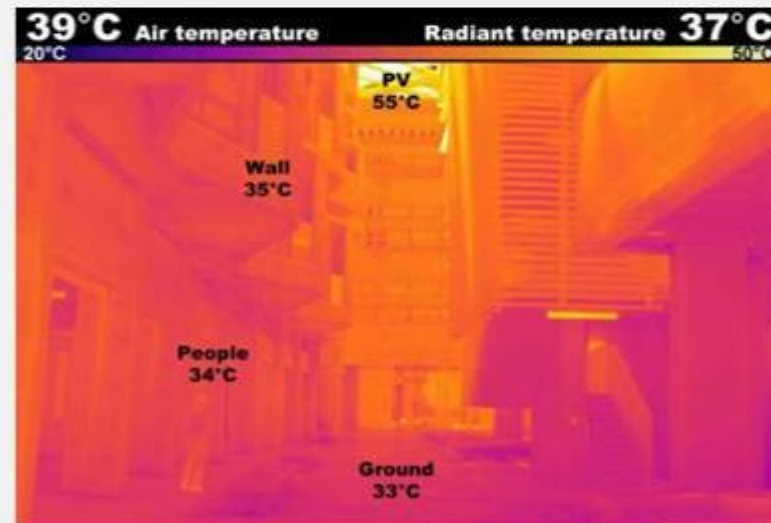
- ☼ **Orientation**
- ☼ **Integration**
- ☼ **Low rise, high density**
- ☼ **Vibrant urban realm**
- ☼ **Pedestrian focused**
- ☼ **High quality of life**

Masdar City – Proof of a sustainable cluster

Typical Abu Dhabi



Masdar City



Masdar City – Progress

Siemens ME HQ



Residential



MI Phase A



Courtyard



Residential



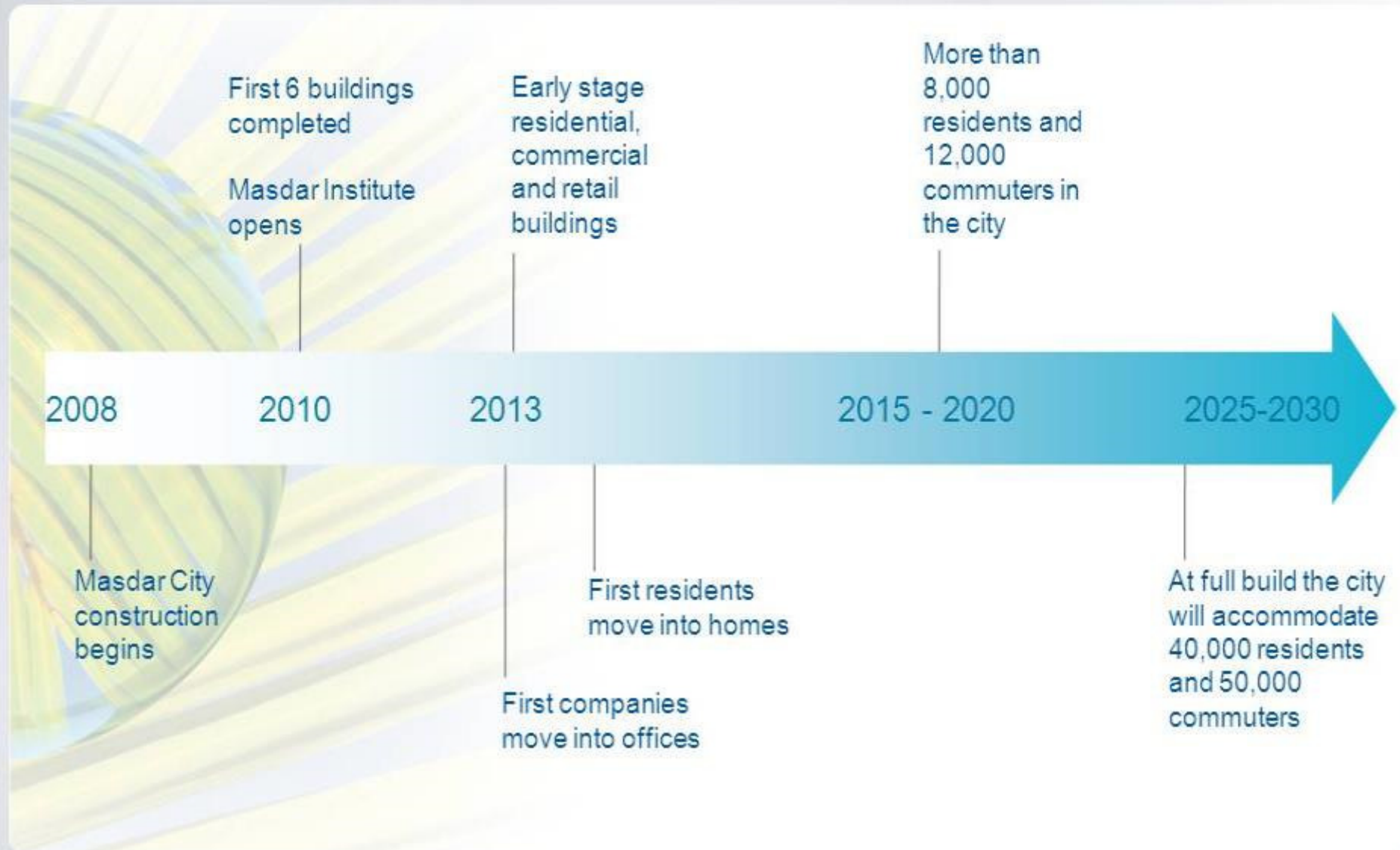
MI Phase B



Masdar X IRENA HQ



Masdar City – Key Milestones towards completion



Masdar Institute

Masdar Institute Fast Facts

What is the Masdar Institute?

Graduate level education in advanced energy and sustainable technologies

Extensive collaboration with Massachusetts Institute of Technology (MIT)

Highly qualified international faculty

Elite student body

Scholarships

Research domains

Energy Systems
Water, Environment and Health
Microsystems & Advanced Materials

Research partnerships

Boeing, UOP/Honeywell, Etihad Airways,
Advanced Technology Investment Company,
Siemens, Emirates Aluminium, Toyota

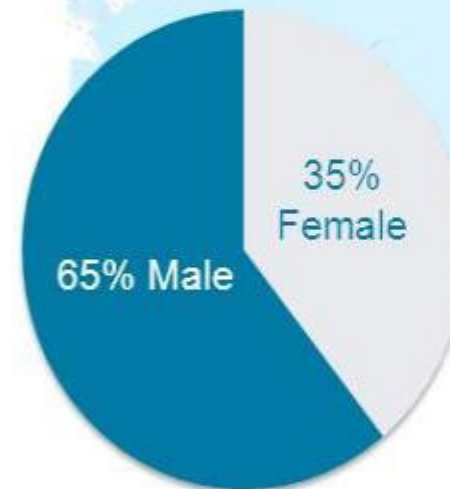
Campus

Sustainable architecture
State-of-the-art open Labs
High-tech Cleanroom



- 336 graduate students from over 50 countries
- 167 new students enrolled for Fall 2012
- 42% UAE nationals
- Aged between 20 and 43 years
- Student body to grow to around 600 over next 5 years

- Low student-faculty ratio of approximately 5:1
- 76 faculty members
- MI faculty are PhD holders from leading universities
- Eight Masters programs
- One interdisciplinary PhD program
- Flexible schedules to accommodate working professionals
- A total of 124 master students graduated from Masdar Institute to date



Masdar Clean Energy

Shams One Fast Facts

The flagship project

One of the world's largest concentrated solar power (CSP) plants and largest in Middle East region

- 120km Southwest of Abu Dhabi City in the UAE
- Extends over an area of 2.5km² with a capacity of 100MW



Profile of Masdar Clean Energy's International projects in Power Production

Major International Projects

- **London Array** - Phase 1 is 630MW with 175 turbines. Set to become world's largest offshore farm
- **Gemasolar** – 20 MW First commercial CSP plant with solar tower tech and thermal storage, even after sun sets
- **Valle 1 & 2** - Two adjacent plants with parabolic trough tech and thermal storage with 50 MW capacity each

International Projects

- **Seychelles onshore wind farm** - The first phase of the project consists of 6MW wind farm with 8 turbines. It will constitute 11% installed capacity of electricity on the main Mahe island.
- **Sheikh Zayed Solar Power Plant in Mauritania**- 15MW solar power project in Nouakchott, the capital city of the Islamic Republic of Mauritania. The plant is the largest utility-scale PV plant in Africa and will deliver 10 per cent of electricity capacity in the country.



Abu Dhabi Sustainability Week



- Abu Dhabi Sustainability Week (ADWS) was launched in June 2012 during the Rio+20 Summit
- ADSW addresses the fundamental issues of energy security and water scarcity, and the relationship between sustainable economic development and poverty eradication
- ADSW is the largest gathering on sustainability in the history of the Middle East
- ADSW is a testament to the commitment the United Arab Emirates has for sustainable development and the new energy economy.



4th IRENA General Assembly



7th World Future Energy Summit

INTERNATIONAL
WATER SUMMIT



2nd International Water Summit



6th Zayed Future Energy Prize Awards Ceremony

Thank You