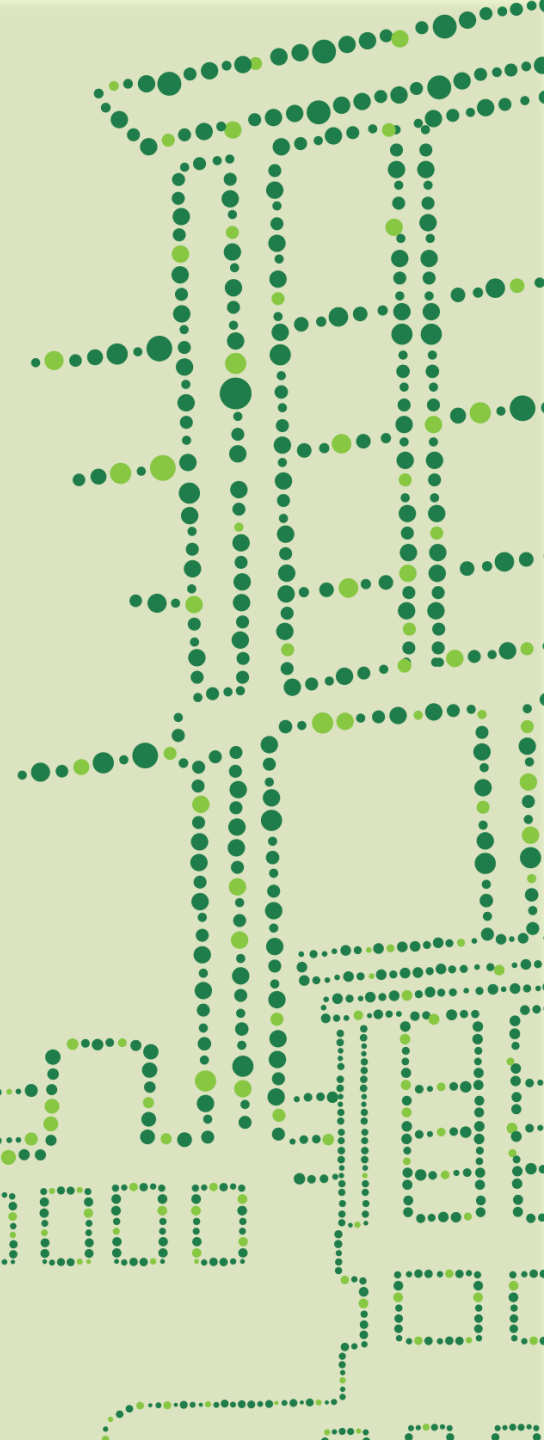




**April 6: 9-11 am (virtual technical workshop)**  
**How to address sustainability performance of an operating building & focus on Energy and IEQ?**

**Francisco Ramalheira – Business Development & Marketing Director**



# Agenda

## Part 1: 9:00-10:00 am (15min each)

1. Introduction
2. Focus on end-user with added IEQ/IAQ services
3. Deep building retrofit (with EPC model)
4. Adding Renewable Energy to the EPC scope

## Part 2: 10:00-10:20 am

Q&A as per received questions through Question function

## Part 3: 10:20-11:00 am

1. Brainstorming Session on sustainability drivers & barriers
2. Wrap-up of webinar

# Introduction

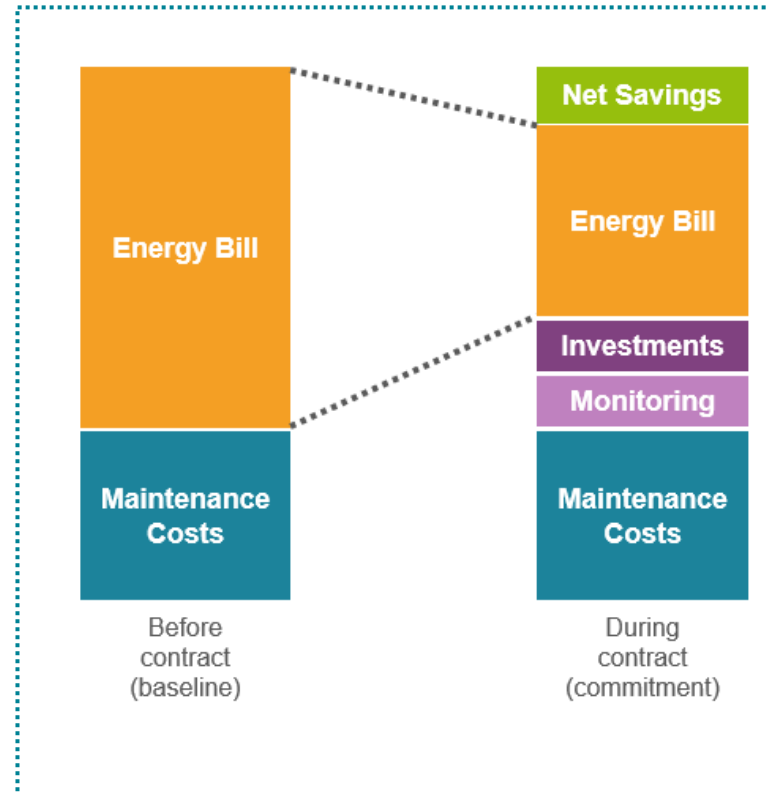
Going beyond a conventional  
FM contract scope

# How to enhance the FM scope to an integrated & holistic offer

## Indoor Environmental Quality

- **Indoor Air Quality (IAQ):**
  - ✓ CO2 levels
  - ✓ Hygrometric conditions
  - ✓ Pollutants (VOC, PM, ...)
- **Lighting:**
  - ✓ Lighting levels
  - ✓ Lighting quality
- **Other factors:**
  - ✓ Noise level
  - ✓ Visual comfort

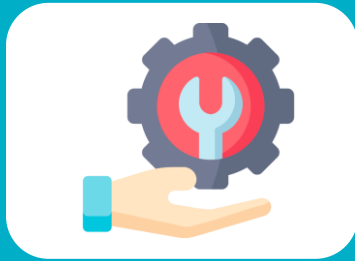
## Energy Performance Contracts



## Renewable Energy



# Advantages of a strategic partnership with an integrated & holistic offer



## Technical know-how

Technically sound,  
replicable and  
industrialized solutions



## Value creation

Access to project financing which  
fosters the economy as a whole  
through value creation



## Sustainability

Continuous improvement through a wide  
range of solutions addressing  
economical, social and environmental  
performance

# Chapter 1

Focus on end-user with  
added IEQ/IAQ services

# End-user focus: Indoor Environmental Quality (IEQ) optimization

- **Indoor Air Quality (IAQ):**
  - ✓ CO2 levels
  - ✓ Hygrometric conditions
  - ✓ Pollutants (VOC, PM, ...)
- **Lighting:**
  - ✓ Lighting levels
  - ✓ Lighting quality
- **Other factors:**
  - ✓ Noise level
  - ✓ Visual comfort

*“MENA residents spend up to 90% of their time indoors.”*





[Poll 1]

Which IEQ solutions are most valuable to building owners?



# Indoor Air Quality Models: MENA Success Stories

## Pilot 1: Sheraton, Mall of the Emirates (2017)

### Approach: ongoing monitoring & adaptation

- + reactive and flexible
- + holistic approach
- higher preparation time, initial investment needed
- > **best for:** constantly unpredictably changing environments, such as hotels or malls



## Pilot 2: VOX Cinema, City Centre Deira (2019)

### Approach: audit-implementation-audit

- + fast turn-around
- + cost-efficient, quick ROI
- one-off action, potentially need to be repeated
- > **best for:** controlled environment with predictable occupation, such as cinemas, school auditoriums



# Indoor Air Quality Journey





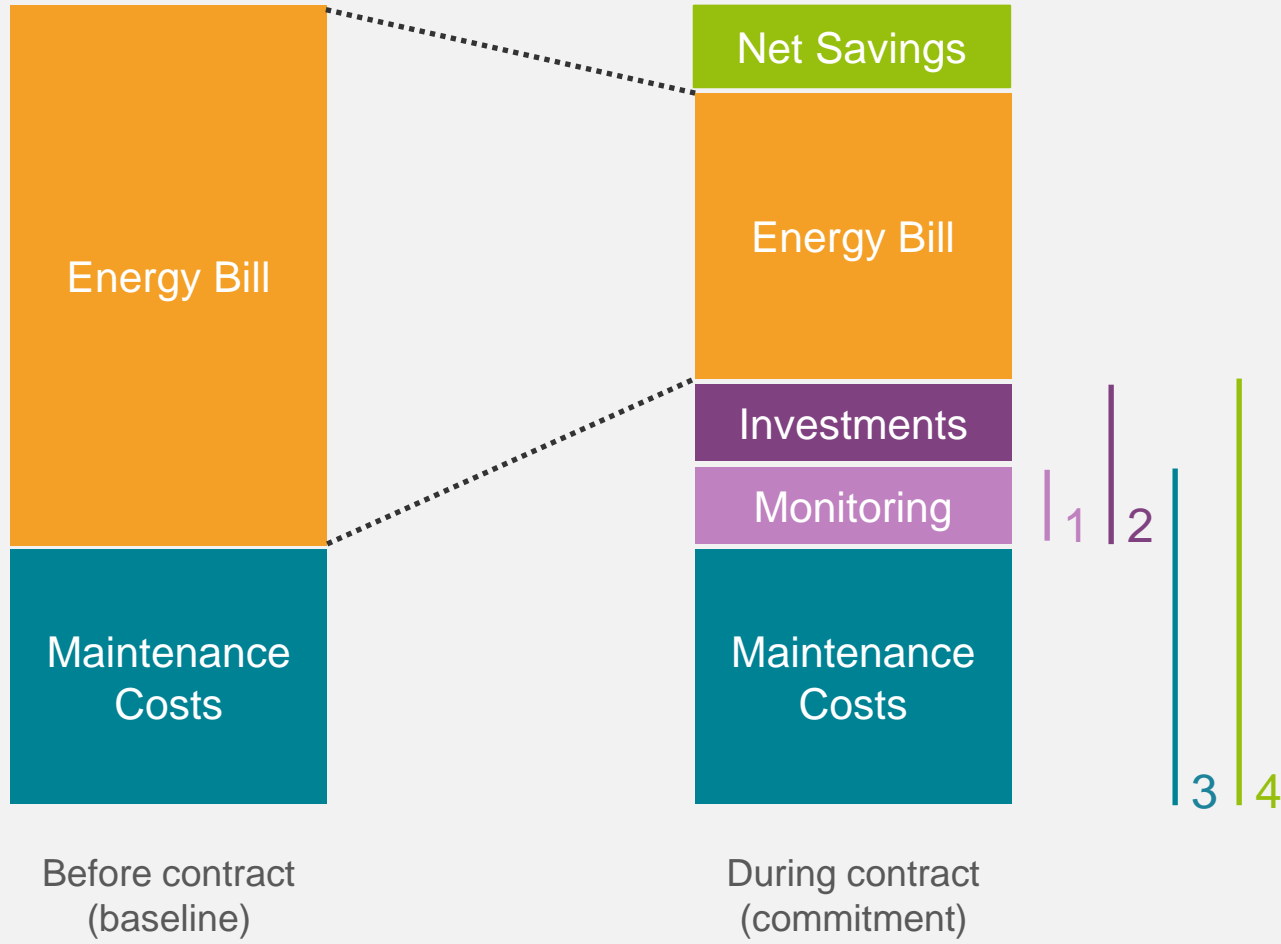
[Poll 2]

Could IEQ/IAQ solutions be a driver for outsourcing FM to a specialized expert ?

# Chapter 2

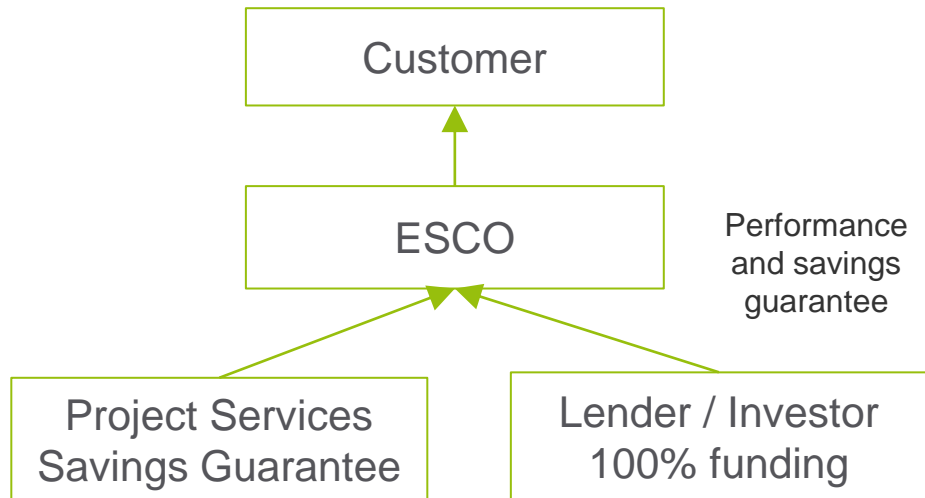
## Deep building retrofit (with EPC model)

# Energy Performance Contract (EPC): the concept



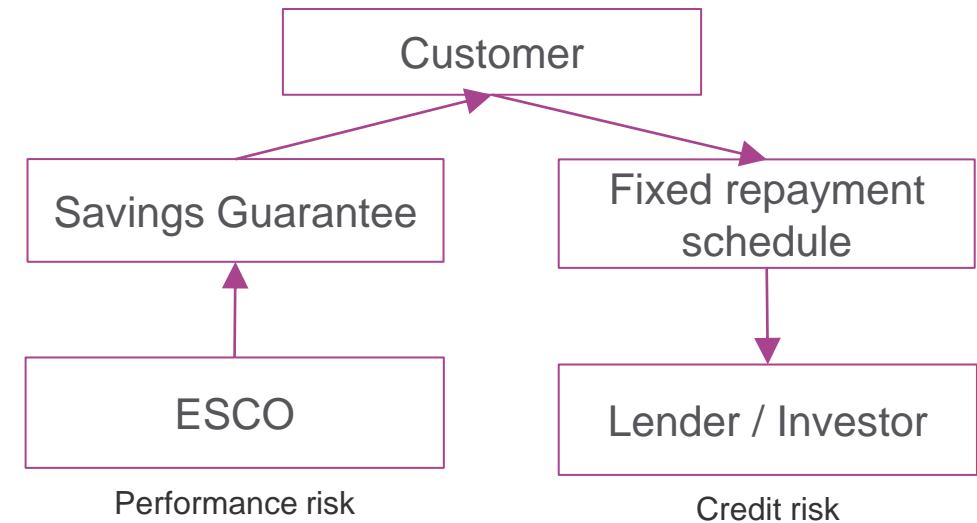
# Energy Performance Contract (EPC): the models

## Shared Savings Model



Usually, the guarantee covers the cost of energy saved. The cost savings are split over the length of time. There is no 'standard' split as it depends on the cost of the project, the length of the contract and the risks taken by the ESCO and the customer.

## Guaranteed Savings



The guarantee is over the level of energy saved. During the contract, the ESCO shields the client from any performance risk. However the credit risk will remain with the client as the project lending has been secured by the customer.

# Energy Performance Contract (EPC): the models

## Shared Savings



- Investment – Enova
- Mechanism – Bank or alternative financing
- ROI – Monthly set amount from Client
- Pros:
  - No capital investment by customer
- Cons:
  - Annual financing fee for utilizing Enova (banks funds)
  - Increases payback period due to extra cost
  - Loan sitting on Enova's balance sheet

## Guaranteed Savings



- Investment – Customer
- Mechanism – Upfront payment (similar to p6)
- ROI – Through savings, Hubgrade monitored
- Pros:
  - Cost effective for the customer
  - If savings not met Enova pays difference
  - Additional savings about guarantee are shared 50/50
- Cons:
  - Availability of \$\$\$

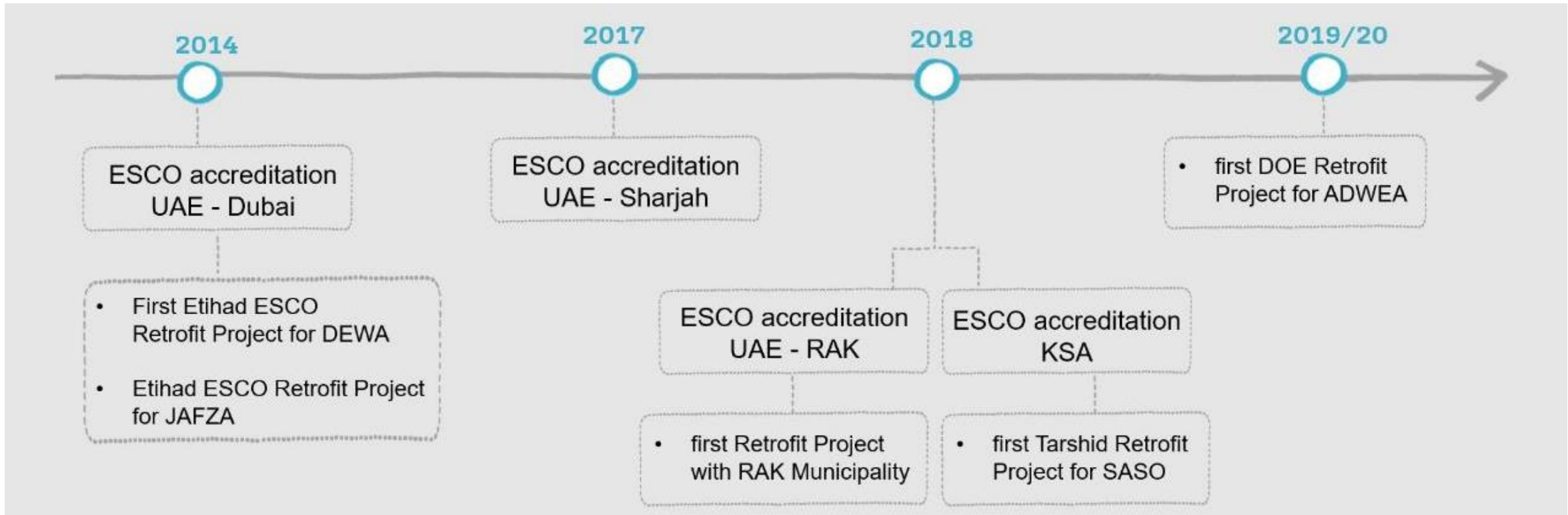


[Poll 3]

What are the main barriers for building owners to commit to an EPC?



# EPC boost through governmental ESCO programs



# MENA Success Stories

## RAK Municipality, UAE (2018)

- ✓ **First ever** retrofit project awarded in RAK
- ✓ **10,000 sqm** of occupied building space
- ✓ **31.3%** guaranteed energy & water savings
- ✓ **12** different ECMS implemented

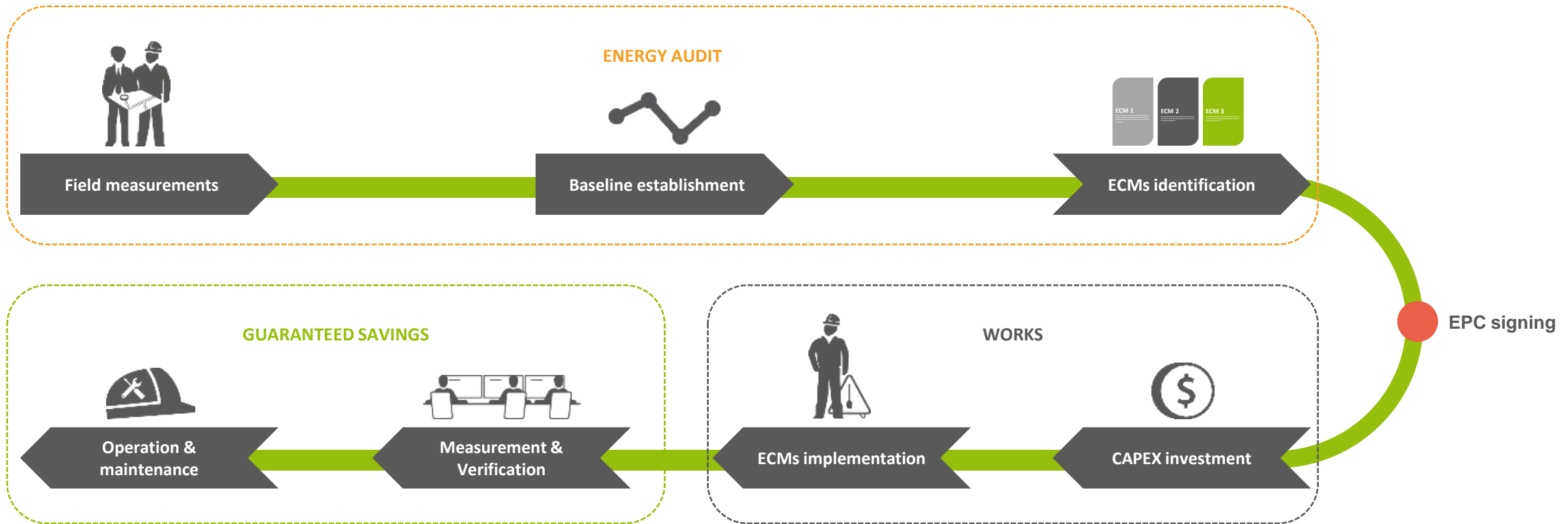


## SASO, KSA (2020)

- ✓ **First ever** retrofit project awarded by Tarshid
- ✓ **11** buildings retrofitted
- ✓ **Over 30%** of guaranteed energy reduction
- ✓ Saved carbon emissions equivalent to **1000** passenger vehicles driven for a full year



# Energy Performance Contract (EPC): the journey



# Types of Energy Conservation Measures (ECMs)

## Capex-intense ECMs

High energy savings can be achieved through the retrofit or implementation of ECMs on some key assets in a building. These ECMs require an investment that will be paid back depending on the level of generated savings.

- Replacement of conventional lighting with LEDs
- Installation of water saving devices
- Replacement of chillers/pumps



## Connection to Hubgrade

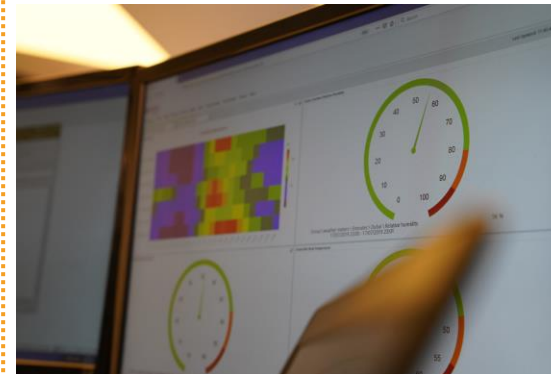
Enova's global hypervision platform enables the team of experts to:

- Collect, monitor, analyze and control energy, water and waste flows;
- Give full transparency and traceability;
- Identify areas of optimization and predictive maintenance.



## Zero Capex

These fully digital ECMs are also powered by Hubgrade. Once the system is set-up, energy savings can be achieved without any investment cost. The savings pay for the performance. This new approach is being pioneering by Enova with pilots conducted in 2020/21.



## Renewable energy as booster

While the ROI on on-site solar PV plants is often seen as a barrier, the added value is immense as the panels generate power and therefore savings on the long-term. In addition, they are a nice-looking refurbishment for dusty carparks that make parkings more attractive while raising sustainability awareness of occupants and visitors.





[Poll 4]

How can the EPC programs be better promoted for higher interest and implementation?

# Going beyond the Energy Performance Contract

## Additional Opportunities:

- **Looking at the bigger picture**
  - Tailor-made solutions based on the client's and its customers' needs and requirements
  - Focus on end-user comfort and well-being
  - Holistic and integrated approach for the long-term
- **Going digital and smart**
  - Transparent real-time information for optimized O&M and increased client and end-user awareness
  - Access to information at any time and anywhere
  - Smart tools & solutions for additional efficiency and safety
- **Adding renewable energy to the mix**
  - Bring EPC to next level with energy generation in addition to ECMs and energy efficiency
  - Proactive solution to prevent impact of increased energy prices



# Chapter 3

## Adding Renewable Energy to the EPC scope

# Tailored business models

## Solar PV plant ownership

The client covers the full investment necessary for the Design Build and Operation (DBO) of the solar PV plant, and is therefore the owner of the solar facilities and the energy produced.



## Solar lease

The client pays installments to Enova for the DBO of the solar PV plant, and becomes the owner of the facilities at the end of the Energy Performance Contract.



## Power Purchase Agreement

Enova owns and operates the facilities, and sells the energy produced at a discounted price from the existing tariff to its client.







### [Poll 5]

What are the main barriers preventing building owners from committing to on-site Solar PV plants?

# Regional Solar Success Stories: 4 malls across Egypt (2019-20)





[Poll 6]

What could help propel openness for Solar solutions?

# Open Brainstorming Session

## Sustainability in MENA:

What's going well and what's blocking the development ?

- Session 1: Drivers (2 min + vote)

>> *submit your ideas as Questions*



# What is moving sustainability in MENA forward?



## Topic 1

Add text here

## Topic 2

Add text here

## Topic 3

Add text here

## Topic 4

Add text here

## Topic 5

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## Topic 6

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## Topic 7

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## Topic 8

Add text here

# Open Brainstorming Session

## Sustainability in MENA:

What's going well and what's blocking the development ?

- Session 2: Barriers (2 min + vote)

>> *submit your ideas as Questions*



# What is slowing sustainability in MENA down?

## Topic 1

Awareness of the clients and general public of the green building industry.

## Topic 2

Importance/Awareness of role of buildings on GHG.

## Topic 3

Lack of incentives

## Topic 4

Limited regulations related to improving buildings performance.

## Topic 5

Low cost of energy/water

## Topic 6

Lack of technical knowledge/expertise

## Topic 7

Limited natural resources

## Topic 8

Lack of existing building rating schemes/building performance



# Thank You!

Francisco Ramalheira – Business Development & Marketing Director

