Clean Energy Business Council
Middle East & North Africa

مجلس صناعات الطاقة النظيفة
الشرق الأوسط وشمال أفريقيا

Thermodynamic Solar webinar:

Retrofitting hot water systems in hospitality

3 March 2021 | 1 PM GST

Speakers

Hugo Domingues
Representative for Energie ® in the Middle East and the Managing Director at EnerNouva

Yasser Ahmed
Director of Engineering at the Radisson Blu Fujairah, Dibba, United Arab Emirates

Gopakumar Menon
Director of Engineering at the Radisson Blu Deira Creek

Mohamed Abdelwahab
Area Director Middle East for Anantara hotels.

WWW.CEBCMENA.COM CEBCMENA @CEBC2

Domestic Hot Water in Hospitality

- Hotel operation
  - Bathrooms
  - Washrooms
  - Kitchen
  - Laundry (non-steam)
- Bacteria (Legionella)
- Avg. 20% of total water

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Common hot water sources in Hospitality

- Electrical heaters/calorifiers

- Boiler
  - Diesel
  - LPG
  - SNG
  - Natural Gas

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Why retrofit?

- Electrical heaters/calorifiers
  - Most inefficient heat source for DHW
  - High OpEx
  - High Maintenance/replacement
  - Electrical Load

- Boiler
  - Low efficiency
  - High OpEx
  - High Carbon Footprint

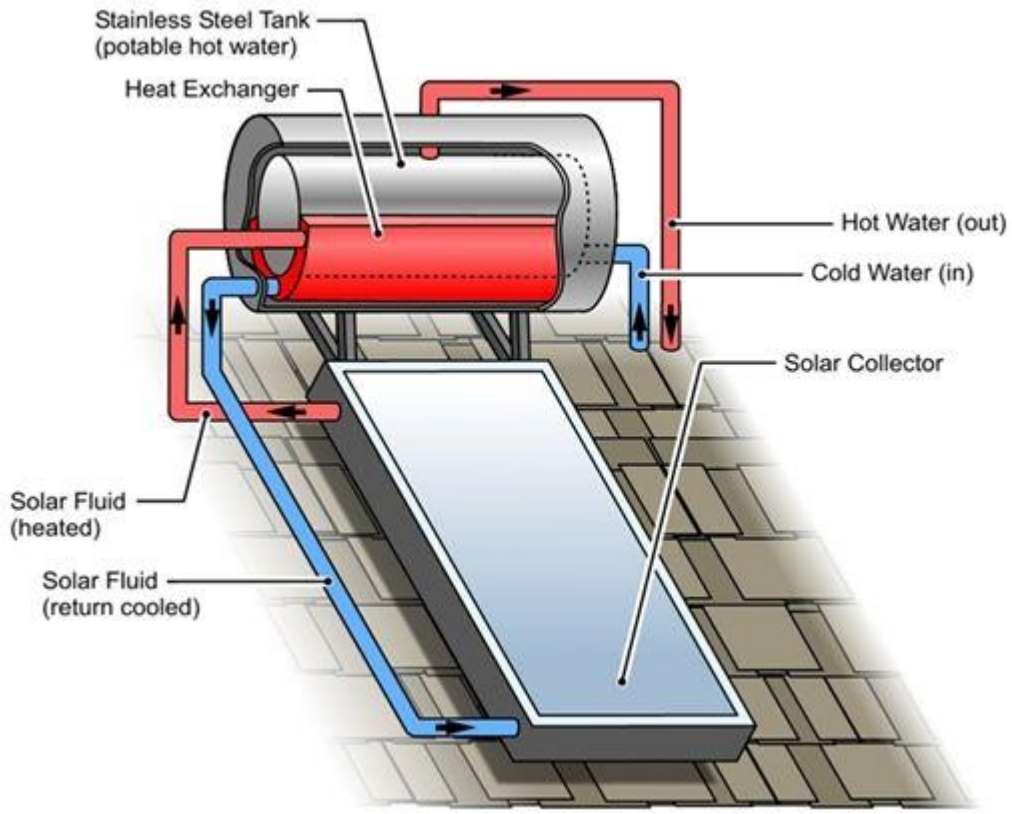
- Green Corporate strategy & CSR
- UAE's 2030 Vision

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Alternatives – renewable energy

- Solar Thermal panels
  - Advantages
    - Low operation cost
    - Good performance
  - Disadvantages
    - Space constrain
    - Limited operation
    - Overheating
    - Medium maintenance
    - Cleaning
    - Medium Life Span

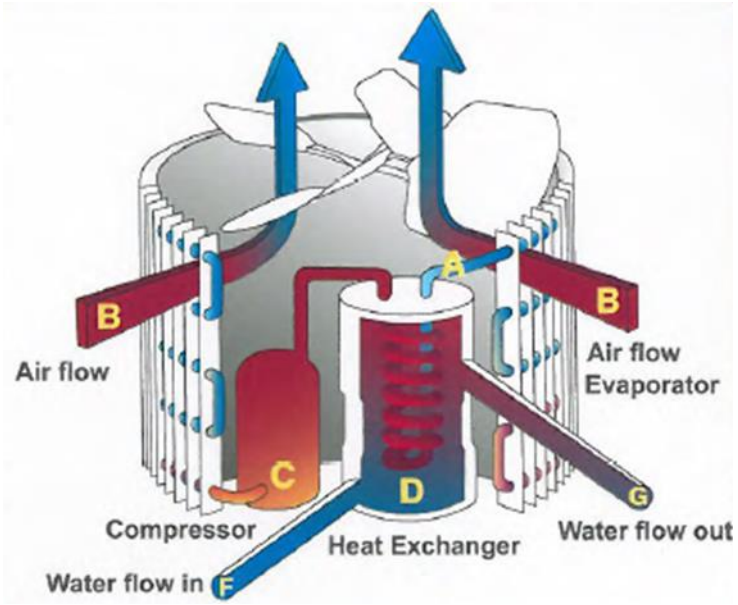


ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Alternatives – renewable energy

- Heat Pumps
  - Advantages
    - Medium/low operation cost
    - Decent performance
    - Standalone system
  - Disadvantages
    - High maintenance
    - Low life span
    - Require some electrical load
    - Limitation on outdoor temperature



ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Alternatives – renewable energy

- Thermodynamic Solar

Hot water production for domestic use and swimming pool heating, using the sun radiance, wind and environment temperature.

Providing more hot water with less storage capacity, less panels, 365 days per year, whether is sun, cloudy, sandstorm or even night.

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Alternatives – renewable energy

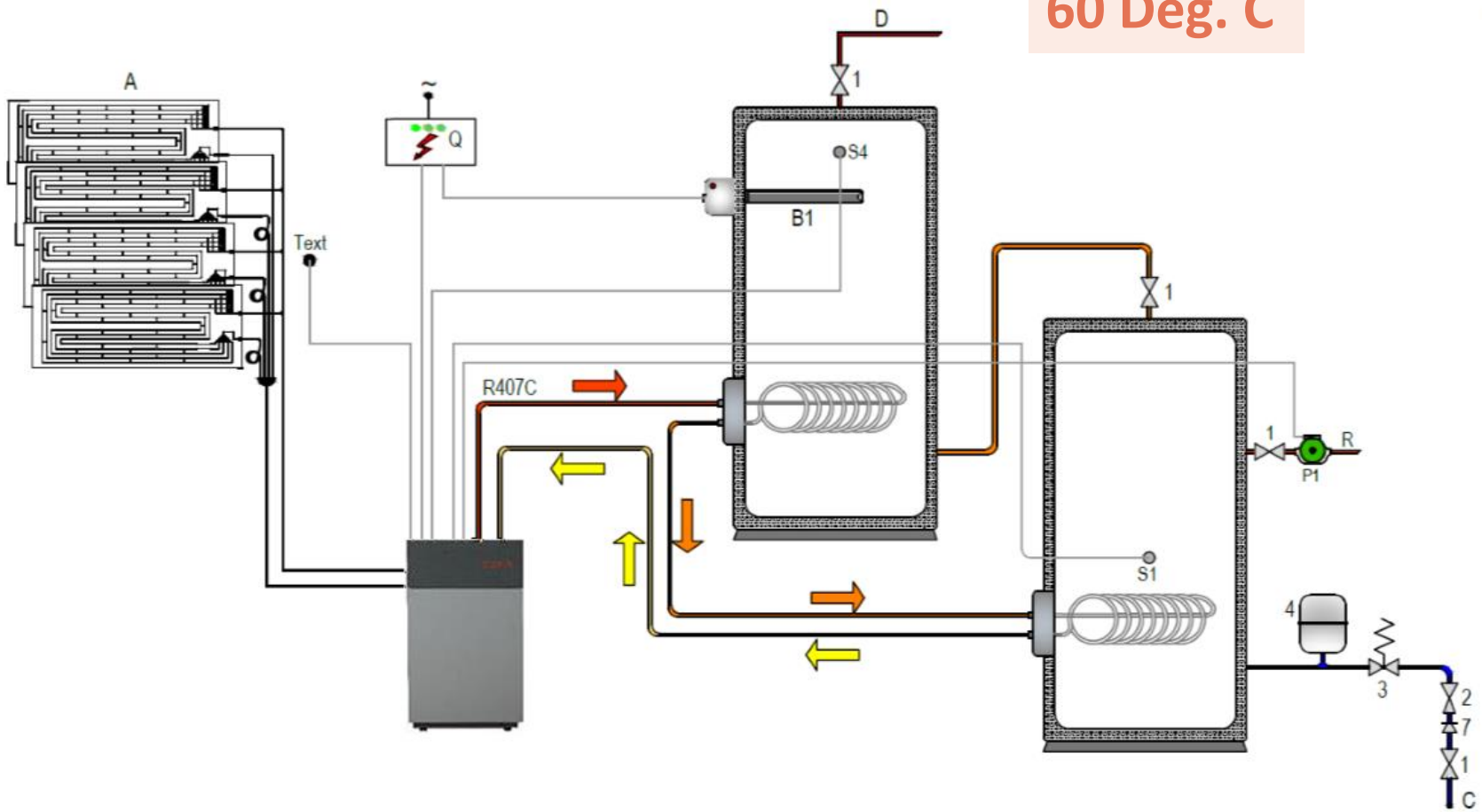
- Thermodynamic Solar
  - Advantages
    - Highly Performed
    - No Overheating
    - Protected from corrosion
    - No cleaning is required
    - Minimal Maintenance
    - 80% less space required
    - Flexible installation
    - Operation per demand
    - Low running cost

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

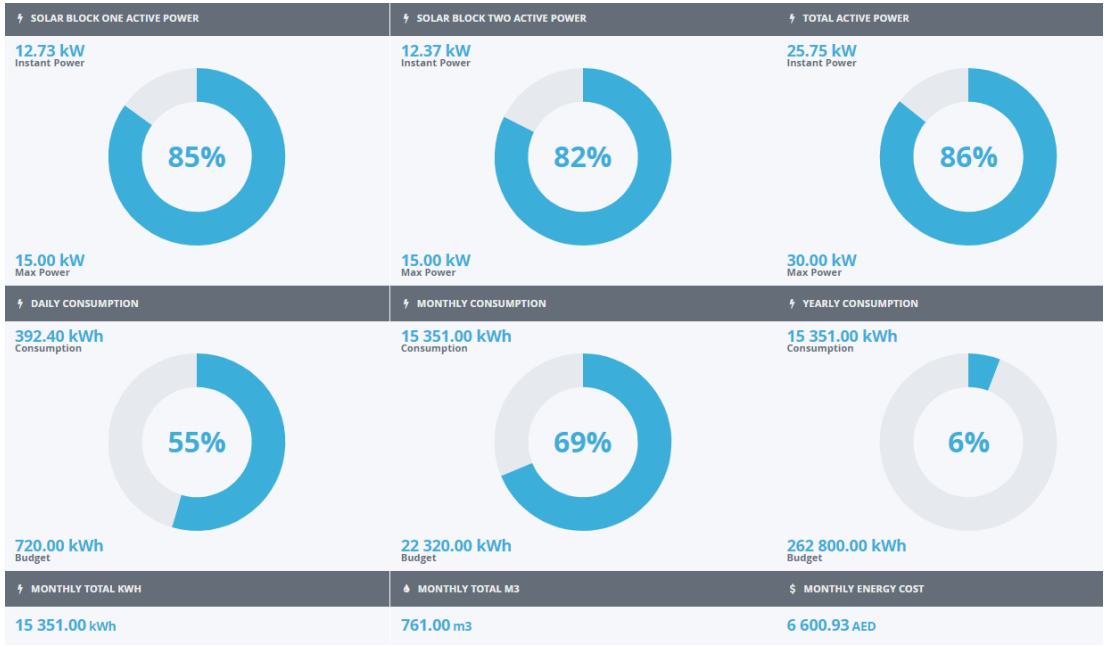
Working schematic

60 Deg. C



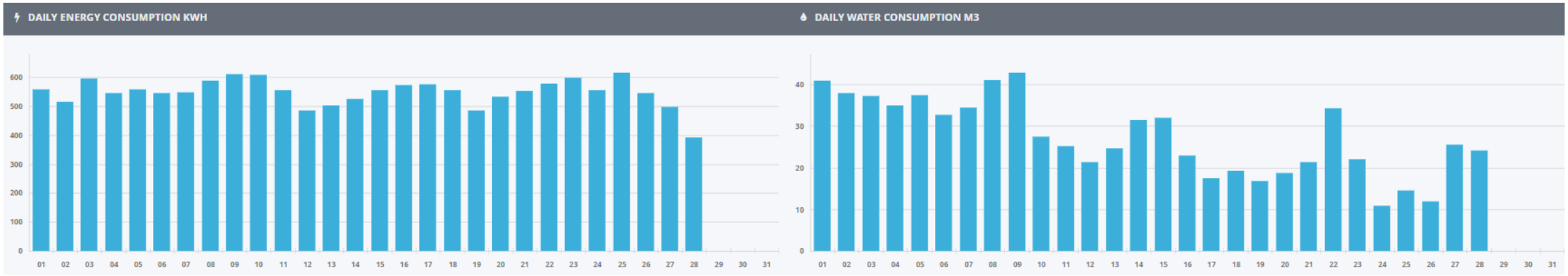
ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY



Monitoring system

- ✓ Real Time online mode
- ✓ Measure consumption, flow and temperatures
- ✓ More and better data
- ✓ Transparency
- ✓ Enables fine tuning, better maintenance and detect issues



ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

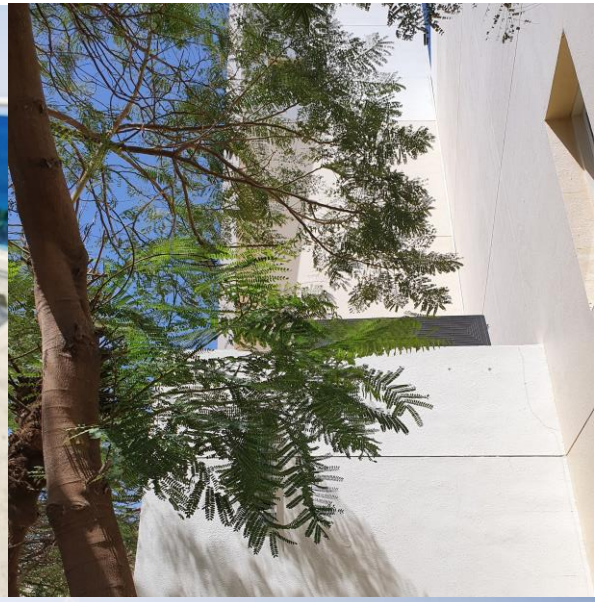
DHW in Hotels

2020 MENA Green Building AWARDS WINNER

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

DHW in Hotels



ENERNOUVA
Smarter green energy

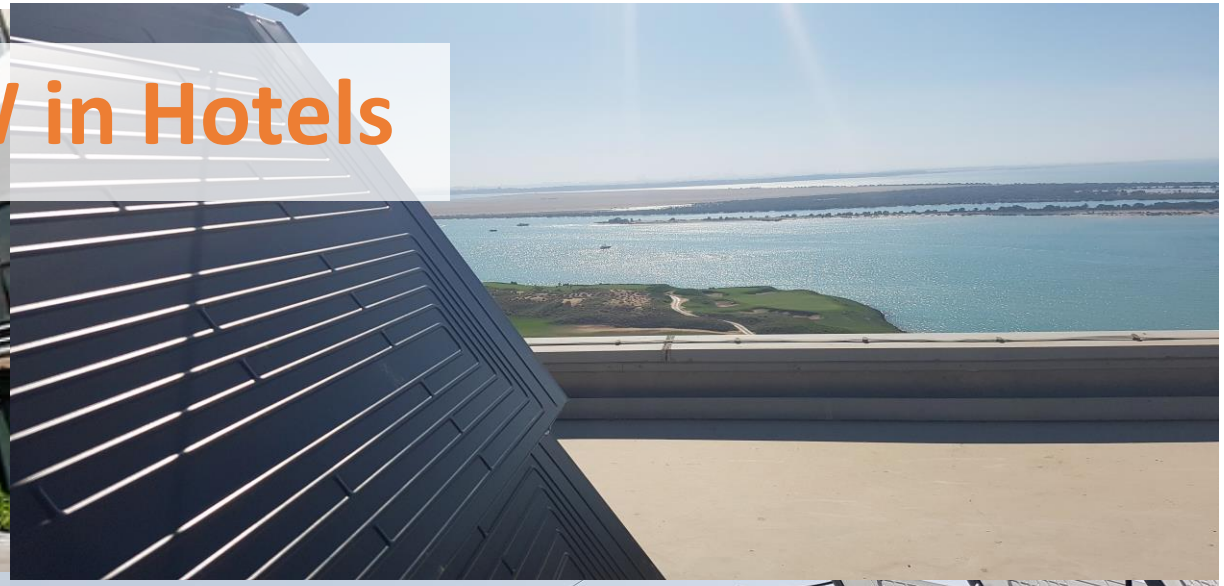
ENERGIE
THERMODYNAMIC SOLAR ENERGY

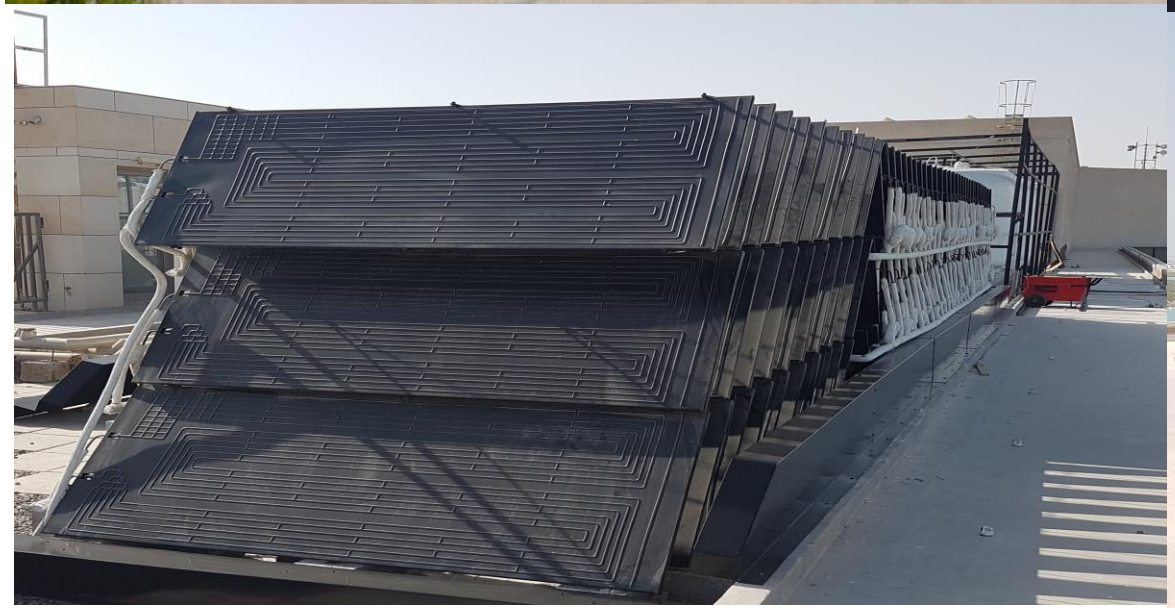
DHW in Hotels

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

DHW in Hotels





ENERNOUVA
Smarter green energy

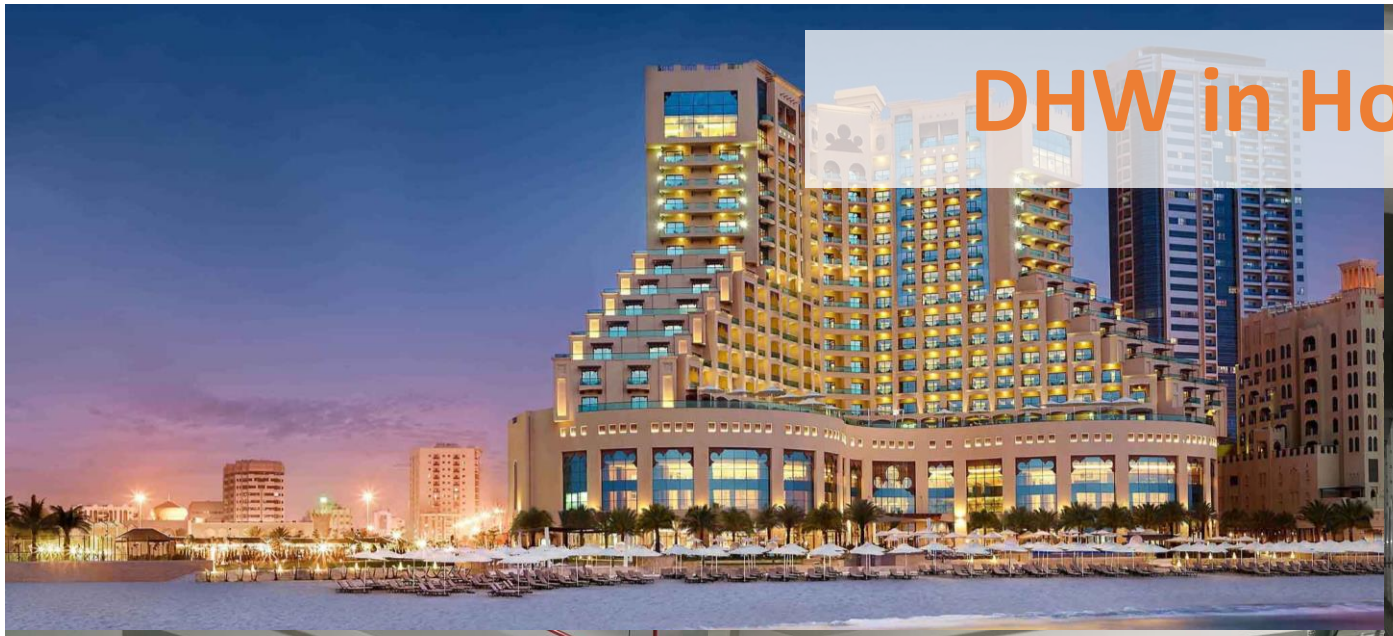
ENERGIE
THERMODYNAMIC SOLAR ENERGY

DHW in Hotels

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

DHW in Hotels



ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Retrofit Phases

- Analysis/Sizing

  - ✓ Infrastructure
  - ✓ Historical Data
  - ✓ Engineering team
  - ✓ Value proposition

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Retrofit Phases

- Implementation/ Deployment

  - ✓ Quality of materials and accessories
  - ✓ Low impact on operation
  - ✓ Low impact on design
  - ✓ Enhance energy efficiency and lifespan
    - Insulation
    - Shading
    - Collateral cooling
    - HWR

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Retrofit Phases

- Operation/Maintenance

  - ✓ Tuning
  - ✓ Monitoring
  - ✓ After sales service
  - ✓ Marketing

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

References - Institutions

Masdar
A MUBADALA COMPANY
مصدر
إحدى شركات مبادلة

2020 MENA Green Building
AWARDS
WINNER

Radisson BLU

بلدية دبي
DUBAI MUNICIPALITY

Jumeirah

THE SUSTAINABLE CITY
A PROJECT BY DIAMOND DEVELOPERS

Zulekha Hospital
Your Health Matters

Fairmont
HOTELS & RESORTS

مستشفى دانة الإمارات
Danat Al Emarat Hospital
WOMEN & CHILDREN النساء والأطفال

FRASERSUITES

ANANTARA
HOTELS · RESORTS · SPAS

ALDAR

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Our Guests

Gopakumar Menon
Director of Engineering at the Radisson Blu Deira Creek

Yasser Ahmed
Director of Engineering at the Radisson Blu Fujairah, Dibba, United Arab Emirates

Mohamed Abdelwahab
Area Director Middle East for Anantara hotels.

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Our Guests

Gopakumar Menon
Director of Engineering
at the Radisson Blu
Deira Creek

Radisson BLU

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Our Guests

Yasser Ahmed
Director of Engineering at the Radisson Blu Fujairah, Dibba, United Arab Emirates

Radisson BLU

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

Our Guests

ANANTARA
HOTELS · RESORTS · SPAS

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

ENERNOUVA
Smarter green energy

ENERGIE
THERMODYNAMIC SOLAR ENERGY

We hope this webinar was insightful. We remain at your complete disposal for any further clarifications or details you may require

info@energiegcc.com - +971526041977

Thank you

ENERNOUVA
Smarter green energy

ENERGIE®
THERMODYNAMIC SOLAR ENERGY