

COMPANY PROFILE

MEG CONSULTANTS DWC-LLC

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BUILDING TRUST



"Our passion about our practice drives us to build everlasting relations with our clients. Thus, **our biggest asset is the trust we build** in every project. Everything else is supplementary"

Ahmad Maarouf | Partner & CFO

"We deliver our work by enhancing what is a 'good practice' today, while creating new ways of thinking, collaborating, executing, and maintaining solutions. **Our duty is to make yours easier**"

Bilal Maarouf | General Manager



CONTENT

- 1. INTRODUCTION
- 2. SERVICE & CAPABILITIES
- 3. PROJECTS EXPERIENCE
- 4. JOIN VENTURE OPPORTUNITIES
- 5. LICENSE & QUALIFICATIONS
- 6. QUALITY & INNOVATION POLICY
- 7. ORGANIZATIONAL CREDENTIALS & STRUCTURE
- 8. APPENDIX



1 INTRODUCTION

MEG Consultants provides cost effective solutions to reduce the ecological footprint of the built and urban environment. The complexity and opportunities associated with sustainable development is what drives us. Our team shares a common passion to achieve the dream of an economically prosperous, socially developed and environmentally sustainable city. We are therefore familiar with every step of the process and provide practical and reliable advice in achieving sustainability certifications in the most cost effective manner over the life cycle of the project.

MEG Consultants comprises of Green Building Accredited Professionals, Energy Simulation Experts, and Urban Sustainability Specialists. MEG Consultants has extensive experience throughout the Middle East delivering green buildings and communities on a micro and macro scales. To date, we have worked on buildings, villas, and mixed use developments across 12 typologies from concept all the way through to construction and operation in a fully coordinated and streamlined process.

Our local experience is critical to the success of our projects. Below is a list of our core competencies within the team:

- Green building certifications (LEED, Estidama, EHS Trakhees, Al Sa'fat, GSAS);
- Building physics (modeling) using eQuest, IES, Ecotect, Grasshopper (Ladybug / Honeybee);
- Commissioning & Re-commissioning
- Energy efficiency services;
- Environmental planning;
- Energy Auditing, Retrofitting (ESCO), and O&M
- Renewable energy feasibilities;
- Sustainability advisory
- Sustainable materials and waste management:
- Sustainable infrastructure; and
- Sustainability construction management.

Check our website to learn more about MEG Consultants



2 SERVICES & CAPABILITIES

OVERVIEW

We specialize in green buildings, sustainability, energy efficiency, and MEP design. Our capabilities, unique qualifications, and the "can-do" attitude make us a great choice for your projects.

BUSINESS MODEL

We operate with a unique model that enables us serve clients across different countries to deliver quick and high quality services at very competitive rates.

WHY MEG CONSULTANTS?

MEG Consultants integrate analysis, economics, and engineering to assure that meaningful end results are delivered. We offer services that are accurate and bespoke, which add high value to your projects.

Our operations are unique, unconventional, and innovates the sustainability consulting practice. Working with us will help your projects become economically profitable and socially impactful.

EXPERTISE

We facilitate end-to-end resources, planning and partnerships to deliver design, sustainability and energy projects across new construction and existing building typologies such as:

- Commercial Infrastructure Rail
- Education Institutional Retail
- Hospitality
 Leisure
 Residential
- Industrial
 Mixed Use
 Sports

Our accredited global team affiliates and provides full services in compliance but not limited to:

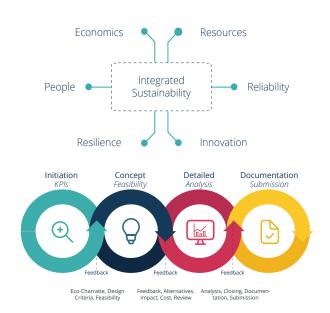




MEG Consultants Profile & Pre-Qualification

OUT PRACTICE

Our High Performance Buildings & Cities team works via an Integrated Sustainability Framework. This work is conceived through a collaborative and integrated process that involves the Client, Vendors, Consultants, and Contractors. This also ensures that all scopes and ideas are understood, analyzed and integrated to the greatest effect.



LEVERAGING TECHNOLOGY

- Autodesk AutoCAD / Revit (Arch & MEP)
- Autodesk Simulation CFD & Flowdesign
- Autodesk Ecotect, Insight 360, Solon
- IES-VE, eQuest, BEpot, Sefaira
- Rhino & Grasshopper, Ladybug Tools
- HAP, MATLAB
- TSOL Pro, SAM, RETScreen Pro
- Adobe InDesign, Illustrator, Photoshop

2 SERVICES & CAPABILITIES

LIST OF SERVICES

GREEN BUILDING CERTIFICATION

- Rating System Certification:
 - LEED BD+C Estidama ISO 50001
 - LEED ID+C DGBR BREEAM
 - LEED O+M Al Sa'fat WELL
 - Trakhees GSAS EDGE
- Sustainability KPIs & Advisory
- Specifications Writing & Review
- Design Commissioning (CxA, ICA)
- Submission Compliance & Completeness

RENEWABLE ENERGY

- Net Zero (nZEB/ZCB) Buildings
- Solar (PV / Thermal / CSP) Analysis & Sizing
- Solar Systems Preliminary Design
- Solar Absorption Cooling Systems
- Energy Storage (Battery / Thermal) Calculation
- Renewable Energy System Feasibility Studies
- Integrating Renewable Energy & MEP Systems

CITY & URBAN STUDIES

- Urban CFD Simulations Studies
- Urban Thermal & Wind Studies
- Urban Walkability Assessment
- Urban Comfort & Views Assessment
- Urban Energy Planning
- Urban District Cooling Planning

ENVIRONMENTAL & WASTE

- Waste Management Planning
- Waste Reduction & Diversion Strategies
- Waste Management Infrastructure
- Environmental Impact Assessment (EIA)
- Environmental Site Assessment
- GHG Accounting & Carbon Assessment

BUILDING PHYSICS

- Energy Modeling: Concept (Passive Design)
- Energy Modeling: Schematic (Analysis)
- Energy Modeling: Detailed (Certification)
- Daylight, Glare, and Shading Studies
- Thermal Comfort, Acoustics, and IAQ Studies
- Microclimate Analysis & Site Studies
- Energy Modeling Troubleshooting & Advisory
- ASHRAE Level III Energy Modeling
- Energy Auditing Data Analysis & Regression

MEP DESIGN

- HVAC Load Calculation & Equipment Sizing
- HVAC Design (Ducting, Piping, Sizing)
- Plumbing Calculation (Water Supply, Drainage)
- Plumbing Design (Piping, Fixtures, Sizing)
- BMS, Controls, Monitoring, and Metering
- Electrical ELV / LV Design
- Electrical Load Calculation & Distribution

ENERGY AUDITS & EXISTING BUILDINGS

- Energy Auditing: Level I, II, and III
- Energy & Water Saving Measures
- ESCO Retrofitting & Financial Engineering
- LEED EBOM Certification
- M&V and O&M Planning
- Commissioning & Re-Commissioning

ADVANCED SERVICES

- Multi-objective Optimization (Galapagos)
- Computational & Parametric Design
- CFD Simulations (Flow + Thermal)
- Client Project Management & Budgeting
- Research & Development
- Training and Workshops

See appendix for sample simulation and advanced modeling works!

Looking for something else? Get in touch with us!

MEG Consultants Profile & Pre-Qualification

3 PROJECTS EXPERIENCE

PROJECTS CONTRIBUTION











12 Energy Audits 6 DGBR / Al Sa'fat 17 Estidama 7 LEED

3 EHS Trakhees 5 GSAS

LIST OF PROJECTS - BUILDINGS (DESIGN & CONSTRUCTION)

The projects below were executed in conjunction with the lead consultant, Khatib & Alami:

JVC Vakson Towers, Dubai, UAE

Type: Residential

Rating System: EHS Trakhees (LEED Gold)

Scope: Certification & Energy Modeling

MAF Zahia Mall, Sharjah, UAE

Type: Mall & Retail

Rating System: LEED Gold

Scope: Certification & Energy Modeling

Emaar Opera Grand, Dubai, UAE

Type: Residential & Hospitality

Rating System: DGBR

Scope: Certification & Design Coordination

Emaar A2A3 Towers, Dubai, UAE

Type: Residential & Hospitality

Rating System: DGBR

Scope: Certification & Design Coordination

Sindi Villas, Dubai, UAE

Type: Residential

Rating System: DGBR

Scope: Certification & Design Coordination

ADNEC Tower, Abu Dhabi, UAE

Type: Residential

Rating System: Estidama PBRS 1 Pearl

Scope: Certification & Energy Modeling

Marina Mall Extension II, Abu Dhabi, UAE

Type: Mixed Use (Mall, Offices, Residential)

Rating System: Estidama PBRS 2 Pearls

Scope: Certification & Energy Modeling

ROP Officers Club, Muscat, Oman

Type: Mixed Use (Hospitality and Leisure)

Rating System: LEED Certified

Scope: Certification & Energy Modeling

ANSAM Development, Abu Dhabi, UAE

Type: Mixed Use (Retail, Mosque, Residential)

Rating System: Estidama PBRS, PCRS, PVRS

Scope: Certification & Energy Modeling

The projects below were executed in conjunction with the lead consultant, KEO:

FIFA Lusail Stadium, Doha, Qatar

Type: Sports (Stadium & Precinct)

Rating System: GSAS Sports

Scope: Certification & Design Coordination

Doha Metro Underground, Doha, Qatar

Type: Rail & Infrastructure

Rating System: GSAS Rail

Scope: Certification & Design Coordination

3 PROJECTS EXPERIENCE

LIST OF PROJECTS - BUILDINGS (DESIGN & CONSTRUCTION) (continued)

MAF Masdar City Center, Abu Dhabi, UAE

- Type: Mall & Retail
- Rating System: Estidama PBRS 3 Pearl
- Scope: Design Commissioning & Review

Damac AYKON City Towers, Dubai, UAE

- Type: Residential & Hospitality
- Rating System: DGBR
- Scope: Certification & Design Coordination

LIST OF PROJECTS - CITIES (DESIGN)

The projects below were executed completely in-house at MEG Consultants:

Urban Planning & Optimization

Dubai, UAE

- Type: Urban Masterplanning
- Scope:
 - 1. Multi-objective genetic simulation that adjusts multiple building massing in a district to reduce thermal radiation, increase daylight access, and increase walkability score through reducing car usage.
 - 2. Explore multiple solution scenarios by cost/benefit analyses
 - 3. Aggregate data of 10'000 iteration runs and recommend most optimal solution

District Cooling Planning & OptimizationDubai, UAE

- Type: Energy Infrastructure
- Scope:
 - 1. Multi-objective parametric simulation that selects the most efficient location of a district cooling plant which reduces CapEx and OpEx as well as district chilled water network thermal losses.
 - 2. Recommend a location that does not conflict with livability and public realm criteria
 - 3. Analyze and size district wide thermal energy storage that optimizes chilled water production and distribution

The projects below were executed in conjunction with other lead project consultants:

AUS RTI Park, Sharjah, UAE

Lead Consultant: Khatib & Alami

- Type: Masterplanning, Smart Cities
- Scope:
 - 1. Development of Smart Cities Concept Plan for the American University of Sharjah Research and Technology Park
 - 2. Undergo feasibility and research of ICT Infrastructure Integration, IoT, and Community Scale interconnectivity of residents, buildings, and streets.

Al Nareel Island, Abu Dhabi, UAE

Lead Consultant: KEO

- Type: Infrastructure
- Rating System: Estidama PCRS
- Scope: Construction Sustainability Specialist

3 PROJECTS EXPERIENCE

LIST OF PROJECTS - BUILDINGS (ENERGY AUDITS)

The energy audit projects below were executed completely in-house at MEG Consultants:

Sheraton Grand, Dubai, UAE

- Rating: 5 Stars
- Size: 654 Rooms
- Scope: Energy Auditing & Reporting

First Central Hotel Apts., Dubai, UAE

- Rating: 4 Stars
- Size: 524 Rooms
- Scope: Energy Auditing & Reporting

Rove City Centre, Dubai, UAE

- Rating: 3 Stars
- Size: 270 Rooms
- Scope: Energy Auditing & Reporting

Auris Hotel Apts., Dubai, UAE

- Rating: 3 Stars
- Size: 210 Rooms
- Scope: Energy Auditing & Reporting

Sheraton Dubai Creek Hotel, Dubai, UAE

- Rating: 5 Stars
- Size: 268 Rooms
- Scope: Energy Efficiency Advisory

Le Royal Meridien Beach Resort, Dubai, UAE

- Rating: 5 Stars
- Size: 1,254 Rooms
- Scope: Energy Efficiency Advisory

St. Regis Saadiyat Island, Abu Dhabi, UAE

- Rating: 5 Stars
- Size: 376 Rooms
- Scope: Energy Auditing & Reporting

Fairmont, Ajman, UAE

- Rating: 5 Stars
- Size: 252 Rooms
- Scope: Energy Auditing & Reporting

Radisson Blu Deira Creek, Dubai, UAE

- Rating: 5 Stars
- Size: 288 Rooms
- Scope: Energy Auditing & Reporting

Radisson Blu Yas Island, Abu Dhabi, UAE

- Rating: 4 Stars
- Size: 397 Rooms
- Scope: Energy Auditing & Reporting

Park Inn by Radisson, Abu Dhabi, UAE

- Rating: 4 Stars
- Size: 204 Rooms
- Scope: Energy Auditing & Reporting

Grosvenor House, Abu Dhabi, UAE

- Rating: 5 Stars
- Size: 9 Rooms
- Scope: Energy Efficiency Advisory

4 JOINT VENTURE OPPORTUNITIES

JV BENEFITS

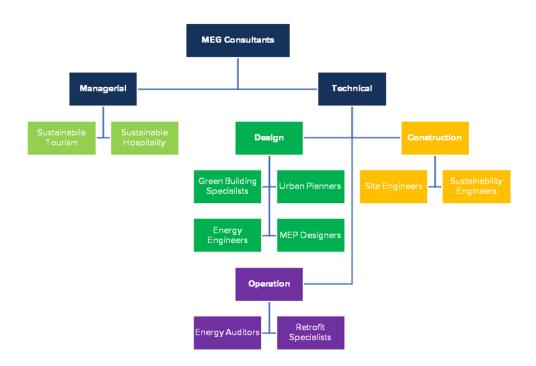
MEG Consultants provides an opportunity to collaborate under a Joint Venture (JV); ensuring you avoid unnecessary costs of establishing an in-house sustainability unit and/or contracting external sub-consultants. With JV contracts, MEG Consultants will become your sole sustainability specialist at an agreed competitive contract.

5 ORGANIZATIONAL CREDENTIALS & STRUCTURE

PROFESSIONAL ACCREDITATIONS

MEG Consultants engineers and designers have the following qualifications:

- Masters Degree
- LEED AP (BD+C, O+M, ID+C)
- PQP (PBRS, PCRS)
- Certified Energy Managers
- Certified Measurement & Verification Professional
- Certified Building Commissioning Professional
- Autodesk BPAC (Building Performance Analysis Certificate)



6 COMPANY LICENSE





رخصة

License

License No: رقم الرخصة: 6994 Registration 6620 6620 رقع التسجيل: MEG Consultants DWC-LLC ام ني جي الإستشارات دي دبايو سي ش.ذ.م.م Licensee: صلعب الرخصة Operating Name: MEG Consultants DWC-LLC ام ني جي الإستشارات دي دبايو سي ش ذرم،م الإسم التجاري: الشكل القالوني: Legal Frame: DWC-LLC شركة ذات مسؤوقية محدودة Business Center Address: مركز الأصال الطوان: مرمر بركس دبي وراد سنترال صرب: 712444 دبي- الإمارات العربية المتحدة Dubai World Central P. O. Box: 712444 Dubai - UAE Activities: الأنشطة 1. استشارات الأبنية الخضراء 2. خدمات كاماءة الملعة في الدياني 3. الاستشارات العلمية و التعنية 4. استشارات العبيزات الفنية والتعنية 5. خدمات إدارة المشاريع 1. Green Building Consultant Buildings Energy Efficiency Services
 Science & Technology Consultancy
 Technical Installations Consultancies
 Project Management Services Bilal Ahmad Maarouf بلال لحد معروف Manager: العدين Issue Date: 09-Aug-2017 تتريخ الإصدار: Amendment Date: 18-Feb-2018 تتريخ التعيل:



08-Aug-2019

Expiry Date:

تنزيخ الإنتهاء

7 OPERATIONAL POLICIES

QUALITY CONTROL POLICY

We are committed to delight customers by providing energy management and sustainable building design solutions and build a sustainable future to conserve energy and make this world a more sustainable place meeting present needs and also needs of the future generations. We abide by that by:

- Influencing policy and regulation related to sustainable building environment.
- Providing good quality products / acceptable service with timely delivery and operational excellence.
- Ensuring continual improvement in our processes & operations.
- Providing growth oriented work environment to our employees.
- Complying with applicable legal & statutory requirements.
- Establishing & maintaining symbiotic relationship with stake holders.

All employees are responsible for implementing and maintaining the above in our company with a commitment to Quality Management System

INNOVATION POLICY

We are committed to provide bespoke solutions to both complex and trivial project types. This is done via an innovative solution methodology. We abide by that by:

- Proposing multiple possible solutions to the same problem via iteration
- Advising on out-of-the-box approaches to tackle project challenges
- Recommending advanced design tools to explore complex alternatives
- Assisting in sourcing suitable vendors for product selection based on network experience
- Highlighting risks and opportunities of the full life-cycle of a design package

All employees are responsible for implementing and maintaining the above in our company with a commitment to Quality Management System

ENVIRONMENTAL POLICY

With the goal of advancing green buildings and cities principles that help protect the environmental and foster the society, MEG Consultants is committed to a policy of continual improvement in performance of our Environmental Management System for our services. We abide by that by:

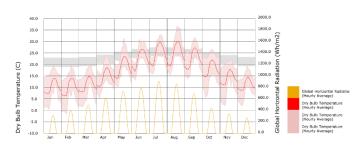
- Identifying the aspects and related impacts, and implementing mitigating action(s) thereby preventing any accidents/incident, environmental pollution resulting from the company's activities.
- Complying with the legal and other requirements to improve the effectiveness of the Environmental Management System.

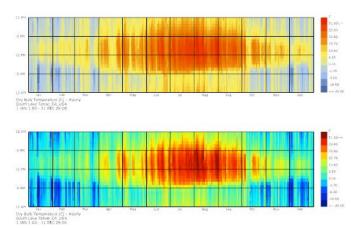
All employees are responsible for implementing and maintaining the above in our company with a commitment to Quality Management System

PART 1. MULTI-ENVIRONMENTAL MODELING

CLIMATE

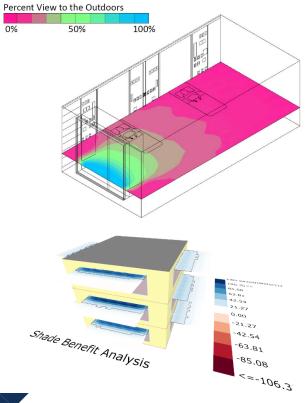
• Data interpretation via variety of 2D and 3D charts

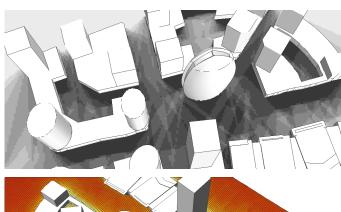


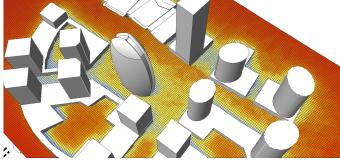


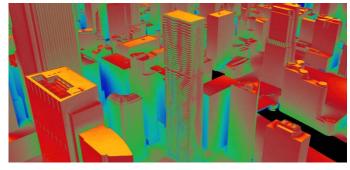
SOLAR / SHADE / VIEWS

- Meaningful Solar Diagrams
- Understanding where the sun is shining
- Animations of what sees the sun at different times
- See where and when the sun shines
- Finding buildable volumes to maintain solar access
- Quantify solar energy falling on your geometry
- Shad Benefit Analysis
- Measure the visual connection to the outdoors





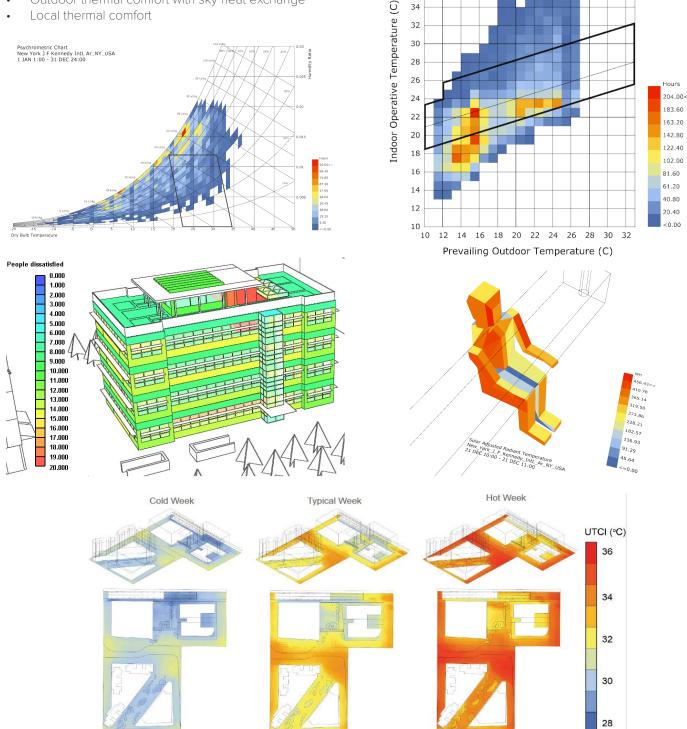




PART 1. MULTI-ENVIRONMENTAL MODELING

THERMAL COMFORT

- Psychometric Charts
- Adaptive Comfort Charts to evaluate passive designs
- Outdoor thermal comfort with sky heat exchange



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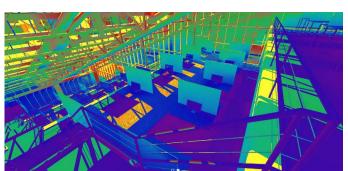
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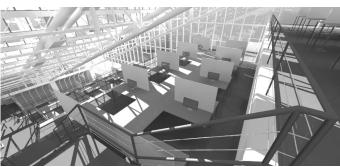
PART 1. MULTI-ENVIRONMENTAL MODELING

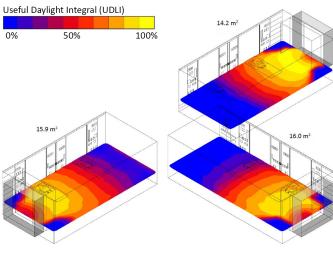
DAYLIGHT / GLARE

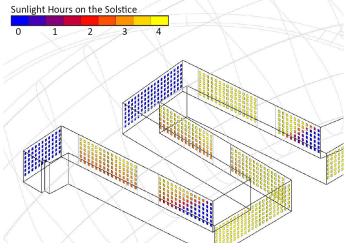
- Annual Daylight Studies
- Annual Sun Exposure (ASE)
- Radiance Renderings
- Photorealistic Images
- Luminance falscolor maps
- Illuminance contour overlays
- Glare Analysis
- Visual Discomfort
- Daylight Glare Probability (DGP)

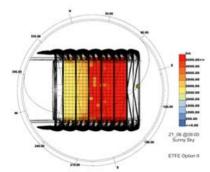


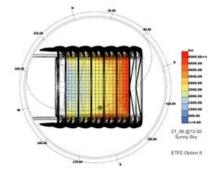


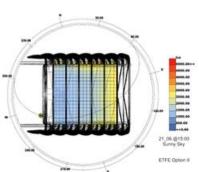










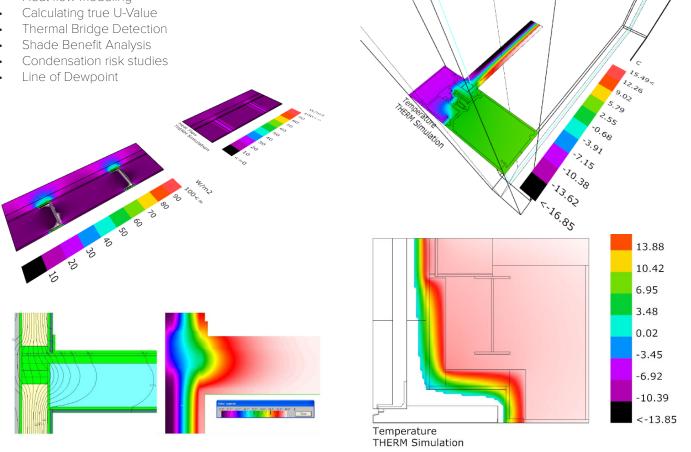


PART 1. MULTI-ENVIRONMENTAL MODELING

ACOUSTIC Acoustic Rays & Particle Simulation Reverberation Times Acoustic Response

BUILDING MASS & ENVELOPE

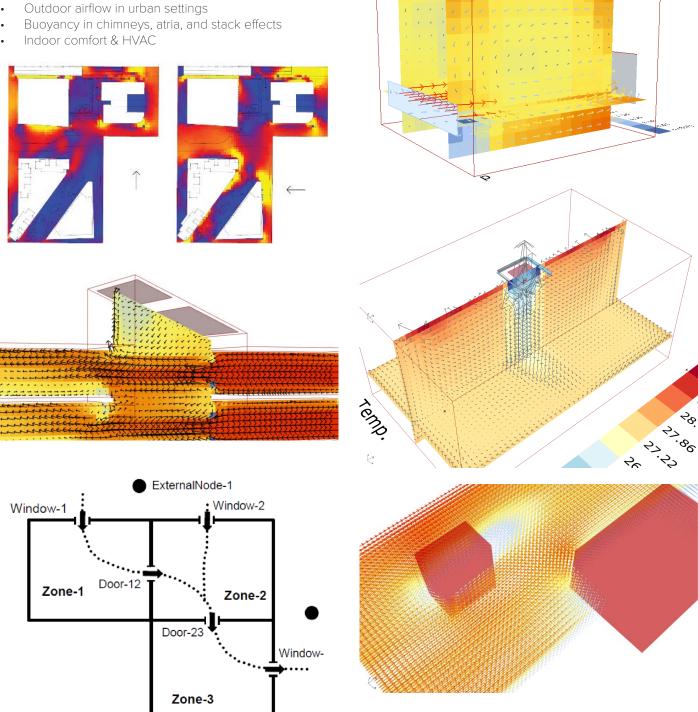
- Heat flow modeling



PART 1. MULTI-ENVIRONMENTAL MODELING

CFD / WIND / FLOW

- Indoor wind-driven airflow to assess ventilation eff.



PART 2. ENERGY MODELING

CONCEPTUAL ENERGY MODELS

- Explore your energy budget
- Assess passive measures
- Narrow down design decisions
- Explore life cycle costs and performance

SCHEMATIC ENERGY MODELS

- Schematic design stage decisions
- Client feedback and decision making
- Approximate energy break down of enduses
- Iterate designs and produce valuable insights

DETAILED ENERGY MODELS

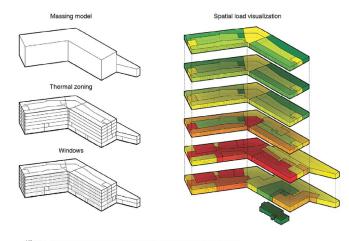
- Whole Building Energy Simulation
- ASHRAE Level III Modeling
- Detailed end-use energy break down
- · Submission package completion and client handover

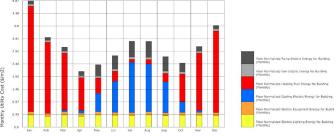
ADVANCED ENERGY MODELS

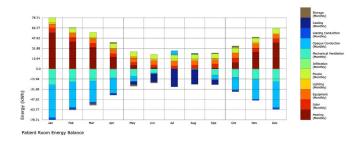
- Best-fit solutions in multi-objective optimization projects
- Modeling complex and unique MEP systems (UFAD)
- Modeling integrated MEP Renewable Energy systems
- Produce alluring reports and digital data representation

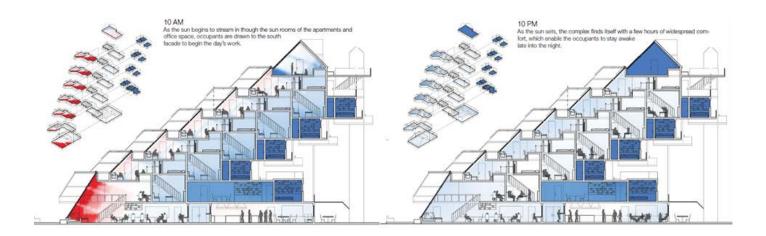
RENEWABLE ENERGY

- Solar PV Systems sizing and analysis
- Solar Thermal Systems (cooling / water heating)
- Solar Pool heating / cooling
- Net-Zero Energy building system modeling & design

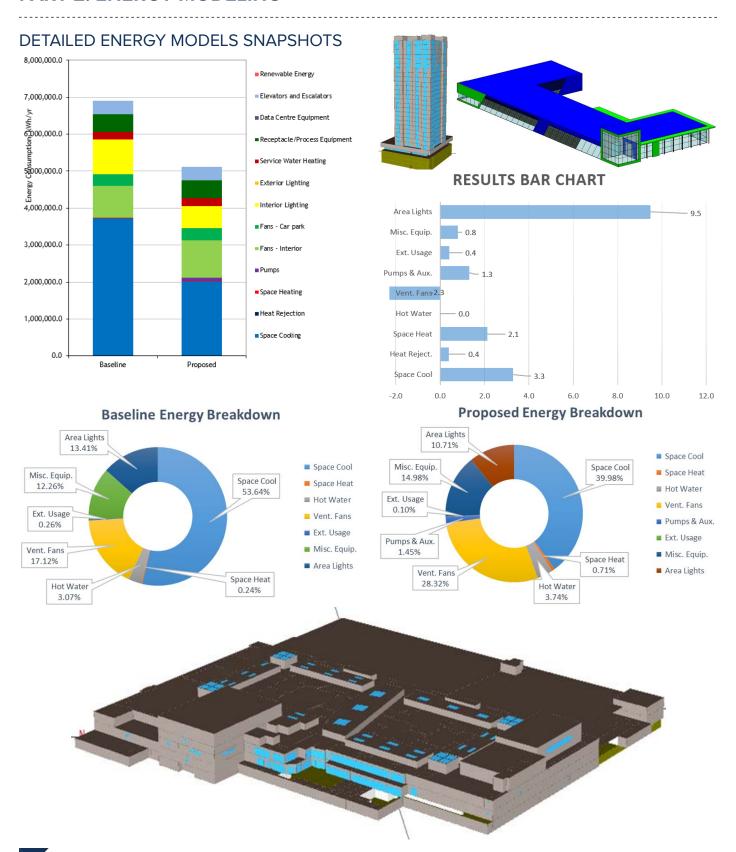








PART 2. ENERGY MODELING

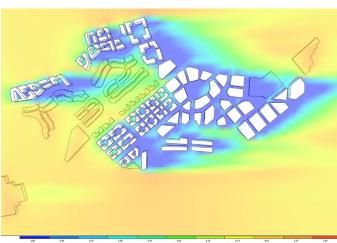


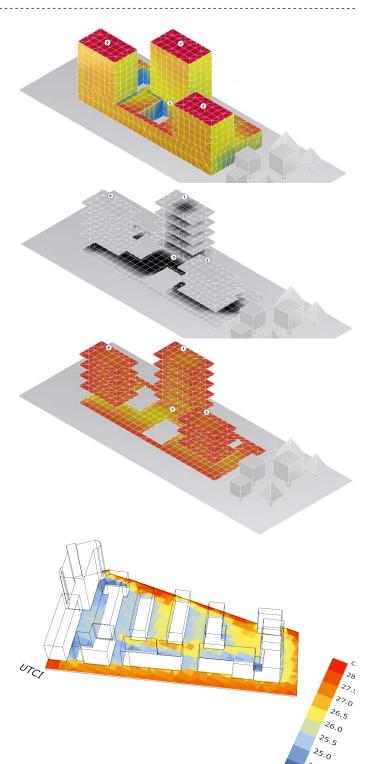
PART 3. URBAN SUSTAINABILITY SIMULATION

URBAN STUDIES

- FAR (Floor-to-Area Ratio)
- Urban Operational Energy
- Urban Embodied Energy
- Buildings Massing, Location, Orientation Optimization
- Urban Design for Accesibility (Walkability & Cycling)
- Urban Daylight. Visual, and Thermal Comfort
- District Cooling Network Optimization









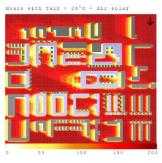
PART 3. URBAN SUSTAINABILITY SIMULATION

URBAN STUDIES SNAPSHOTS (GIS Applicable)

Urban Energy Intensity Mapping Studies

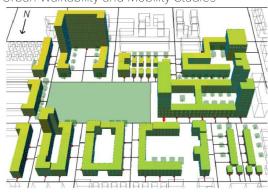


Urban Thermal Comfort Studies (Thermal and Wind)



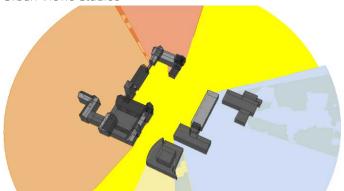


Urban Walkability and Mobility Studies

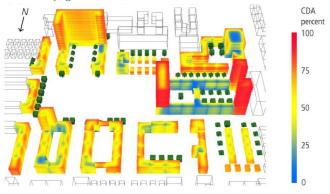




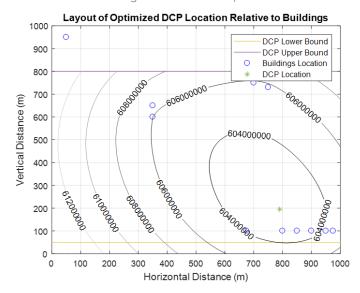
Urban Views Studies



Urban Daylight



Urban District Cooling Plant Location Optimization



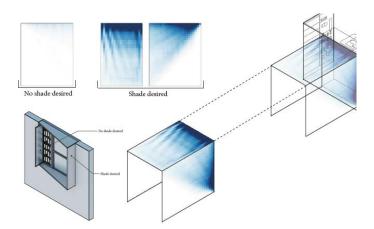
MEG Consultants can tailor Urban and Building studies to each unique project, delivering outstanding level of design decision support and data insights

PART 4. PARAMETRIC DESIGN & EVOLUTIONARY OPTIMIZATION

WHAT IS PARAMETRIC DESIGN?

Parametric design is fundamental when minimizing the effort needed to create and test design variants. Generating an automated process generates numerous solutions with minimal inputs and thus, provides:

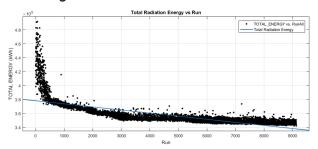
- Multiple possible solutions to complex problems
- Aggregating complex calculations
- High accuracy
- Time and budget savings

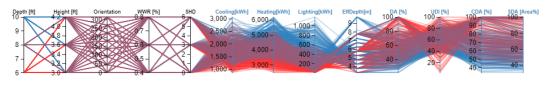


WHAT IS EVOLUTIONARY OPTIMIZATION?

Evolutionary optimization is critical to solve complex problems that are multi-objective, contradicting, and require tens, hundreds, or even thousands of iterations to reach an optimum scenario. Examples of complex problems that MEG Consultants solves with evolutionary optimization:

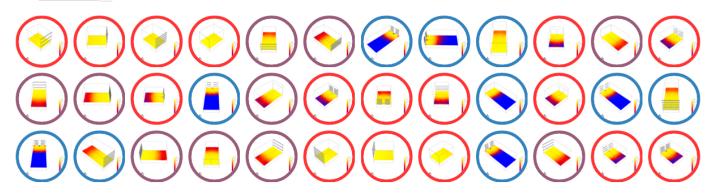
- What is the WWR that achieves maximum daylight and minimum space energy load?
- What is the most optimal HVAC system type that consumes least amount of energy, costs the less, and has the maximum life cycle?
- What is the optimal building massing, location, and orientation that provides maximum visual views, daylight and reduce thermal loads on the building?
- What is the optimal urban morphology distribution to maximize walkability, outdoor thermal comfort, and reduce glare?







Sort by: Lighting[kWh] ▼ •



What can you achieve? The sky is the limit! MEG Consultants will open up tremendous design opportunities and decision power based on professional insights and data.



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