THE BUSINESS CASE FOR SUSTAINABLE DESIGN

Dr. Ali Amiri
Head of Department for Sustainability – Ramboll (Middle East & Asia)
IT’S NOT JUST ABOUT SAVING THE PLANET . . .

- **≈90%** of our time is indoors
  - Levels of pollutants could be 2-5 times higher than outdoor
- Investors and end-users awareness results in:
  - Green Buildings increasingly attracting tenants, with premium/higher rents and sale prices
    - Enhanced daylighting, better thermal comfort, improved views, reduced glare . . .
    - Increased employee retention, reduced absenteeism
    - Enhanced occupant morale, health, well-being & productivity
  - **Brown Discounts** are emerging
ENHANCED EFFICIENCY & VE

• Building green does not necessarily cost more
  • Sustainability requirements to be considered and planned for right from the beginning
  • Optimised/VE design typically results in reduced embodied carbon
• Where additional costs envisaged, it is typically not as high as is perceived by the development industry
• Green buildings save money through reduced energy & water consumption and lower long-term operations and maintenance costs.
• Energy savings in green buildings typically exceed design & construction cost premiums within a reasonable ROI period.
  • good commissioning, effective management, and collaboration between owners and occupiers.
CAPITAL VS LCA - CONCEPT
MITIGATING FUTURE RISKS TODAY

- Sustainability risk factors: significant impact on future rental income, value of buildings and ROIs.
  - Changing tenant preferences and investor risk screening may translate into risk of obsolescence for inefficient buildings.
- Regulatory risks: enforcing SDGs and national visions have become progressively apparent in countries and cities around the world and in the region, including laws banning inefficient buildings.
- Extreme weather events: change in weather patterns affect the insurability of assets (resilience of assets).
SUSTAINABILITY THEMES EVOLVE OVER TIME....

- Operational Energy
- Lifecycle Costs
- Circular Economy
- Climate Adaptation
- Social Quality/Liveability
- SDG-Certification
DESIGN PRINCIPLES OF CIRCULAR ECONOMY

- Design-out waste
- Design for resource efficiency and for deconstruction and disassembly
- Maximise use of renewable energy
- Reducing embodied carbon over the whole building lifecycle
- Have a strategy from concept stage, think about end of life options
- Integrated design and stakeholder engagement will facilitate circular processes
- Collaboration with the supply chain is key
- Iterative Circular Economy workshops and review of responsibility matrix/trackers are required as new designs, materials and service models are incorporated

Source: www.designingbuildings.co.uk
# RESOLVE FRAMEWORK - TRANSITION TOWARDS CIRCULAR ECONOMY

| **REGENERATE** | Shift to renewable energy and materials; reclaim, retain, and restore health of ecosystems; return recovered biological resources to the environment |
| **SHARE** | Maximising asset utilisation by pooling the usage of assets; reuse/secondhand; prolong life through maintenance, design for durability, upgradability, etc. |
| **OPTIMISE** | Increase performance/efficiency of the asset; remove waste in production and supply chain; decrease resource usage |
| **LOOP** | Remanufacture products or components; recycle materials and priorities circular materials |
| **VIRTUALISE** | Replacing physical products, services and locations with virtual ones. Use of digital services such as BIM etc. |
| **EXCHANGE** | Replace old with advanced renewable materials; apply new technologies such as 3D printing; enable optimised, flexible and user-focused designs. |
CASE STUDY: The Makers’ District – The Pixel

THE NEW DEVELOPMENT FEATURES RESIDENTIAL BUILDINGS, COMMERCIAL SPACES, VAST OPEN SPACES AND PERFORMANCE VENUES

WATER CONSERVATION
Water savings, reduced irrigation, condensate reuse

CERTIFICATION
Estidama 1 Pearl for Design achieved

ACCESS TO PUBLIC TRANSPORT AND WATER TAXI

PASSIVE DESIGN FEATURES
Buildings are self-shading through overhangs, balconies and pixelated shading devices. Superior building envelope

Public realm and open areas areas are well shaded through trees, pavilions and buildings

ECOLOGICAL ENHANCEMENT
Trees, shrubs and ground cover throughout. Grand majority are native species

SUSTAINABLE CONSTRUCTION MATERIAL
Free of Asbestos and CCA

ACCESSIBLE, WALKABLE COMMUNITY FACILITIES
Open Spaces, Parks, walkways, playgrounds water and beach promenade. Pedestrian routes and cycling tracks provided throughout. Grand majority are shaded and comfortable even during summer month

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Bright ideas. Sustainable change.