

# *Al Sa'fat – Dubai Green Building System*

Executive Brief for Building Owners



## Executive Summary

Al Sa'fat is Dubai's Green Building Evaluation System, a regulatory framework designed to promote sustainable building practices. This system is of paramount importance due to Dubai's commitment to environmental sustainability and its vision to become a global leader in green building initiatives. Al Sa'fat mandates minimum green building standards for new constructions, significantly impacting developers, investors, and building owners. This executive brief outlines the system's key aspects, financial implications, and strategic advantages for building owners.

## Regulatory Framework

The Al Sa'fat system employs a tiered approach:

- **Silver:** The mandatory minimum standard for all new buildings in Dubai.
- **Gold & Platinum:** Higher tiers representing enhanced sustainability performance, offering potential incentives and recognition.

Compliance with Al Sa'fat is directly linked to the building permit and completion certificate issuance process. Non-compliance can result in delays and increased costs, making adherence crucial for timely project completion.

## Core Technical Requirements

### Energy Efficiency:

- High-performance building envelope to minimize heat gain.
- Efficient HVAC systems with optimized controls.
- Demand-controlled ventilation (DCV) to optimize air flow.
- Energy-efficient lighting systems (LED).

### Water Efficiency:

- Low-flow water fixtures to reduce water consumption.
- Condensate recovery systems ( $\geq 350$  kW) for HVAC units.
- Efficient irrigation systems with native/drought-tolerant landscaping.

### Urban Heat Island Mitigation:

- High Solar Reflectance Index (SRI) roofing materials (minimum 75%).

### Indoor Air Quality and Materials:

- Use of low-VOC (Volatile Organic Compound) materials for improved IAQ.
- Proper ventilation systems to ensure adequate fresh air supply.
- Material selection focused on recycled content and lifecycle impact.

## Financial Impact on Owners

**Capital Expenditure (CapEx):** Initial investment in sustainable technologies may result in a **10–20%** premium on construction costs.

**Operational Expenditure (OpEx):** Significant operational savings are achievable through reduced energy and water consumption. This translates to lower utility bills and increased Net Operating Income (NOI).

## Revenue & Asset Value Upside

In ESG-conscious markets, Al Sa'fat certification unlocks:

- **Rental Premium:** Green buildings command higher rental rates, attracting premium tenants.
- **Improved Tenant Retention:** Sustainable buildings enhance tenant satisfaction and loyalty.
- **Asset Liquidity:** Green-certified properties are more attractive to investors, improving marketability and liquidity.
- **Valuation Enhancement:** Sustainable features contribute to higher property valuations.

## Strategic Advantages

- **Access to Green Financing:** Many financial institutions offer preferential loan terms and interest rates for green building projects.
- **Alignment with UAE Energy Strategy 2050:** Al Sa'fat compliance supports the UAE's long-term energy and sustainability goals.
- **Reduced Regulatory Risk:** Proactive compliance minimizes the risk of delays and penalties associated with non-compliance.
- **Enhanced ESG Positioning:** Al Sa'fat certification demonstrates a commitment to Environmental, Social, and Governance (ESG) principles, enhancing corporate reputation.

## Risk of Non-Compliance

Failure to comply with Al Sa'fat can result in:

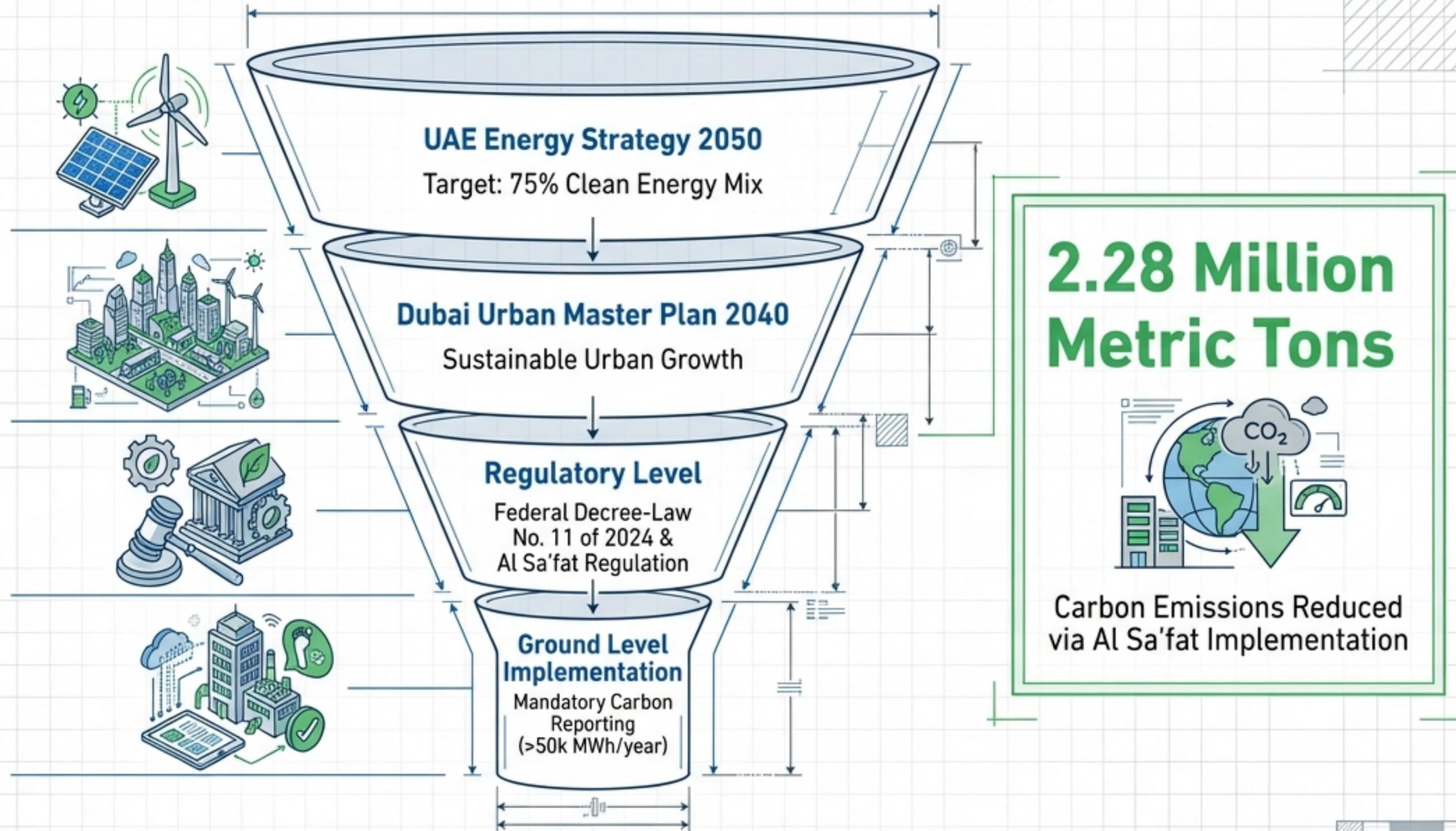
- **Delays in Permits:** Non-compliant buildings may face significant delays in obtaining necessary permits.
- **Redesign Costs:** Retrofitting buildings to meet Al Sa'fat standards can be expensive and disruptive.
- **Reputational and Commercial Disadvantages:** Non-compliance can damage a company's reputation and negatively impact its commercial prospects, especially as ESG considerations grow in prominence.

## Conclusion

Al Sa'fat should not be viewed as a mere compliance burden, but rather as a strategic opportunity to enhance asset value, attract premium tenants, and contribute to a sustainable future. By embracing Al Sa'fat, building owners can unlock significant financial and reputational benefits, positioning themselves as leaders in Dubai's green building sector. Investing in Al Sa'fat is an investment in the future.

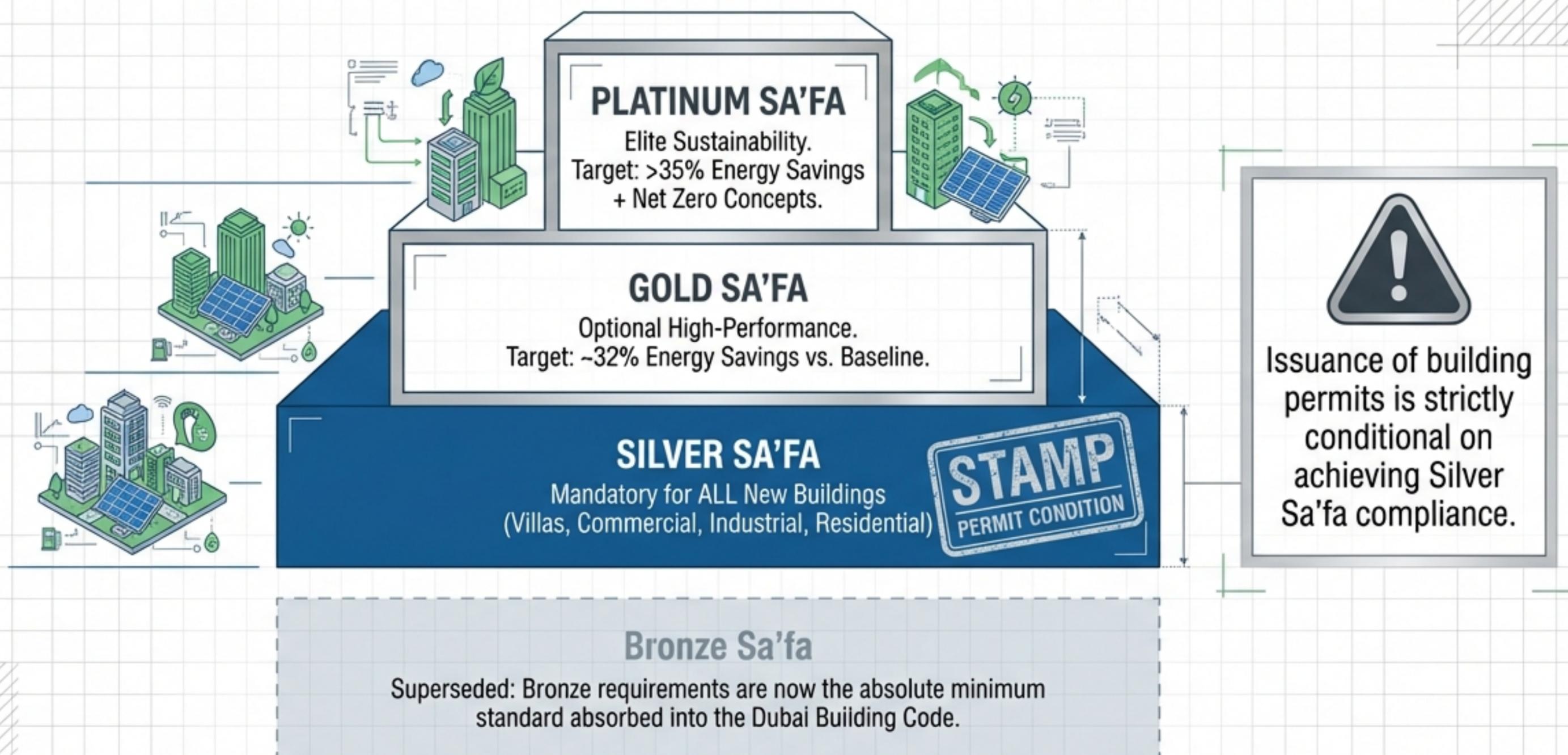


# ALIGNING WITH THE 2050 STRATEGIC VISION



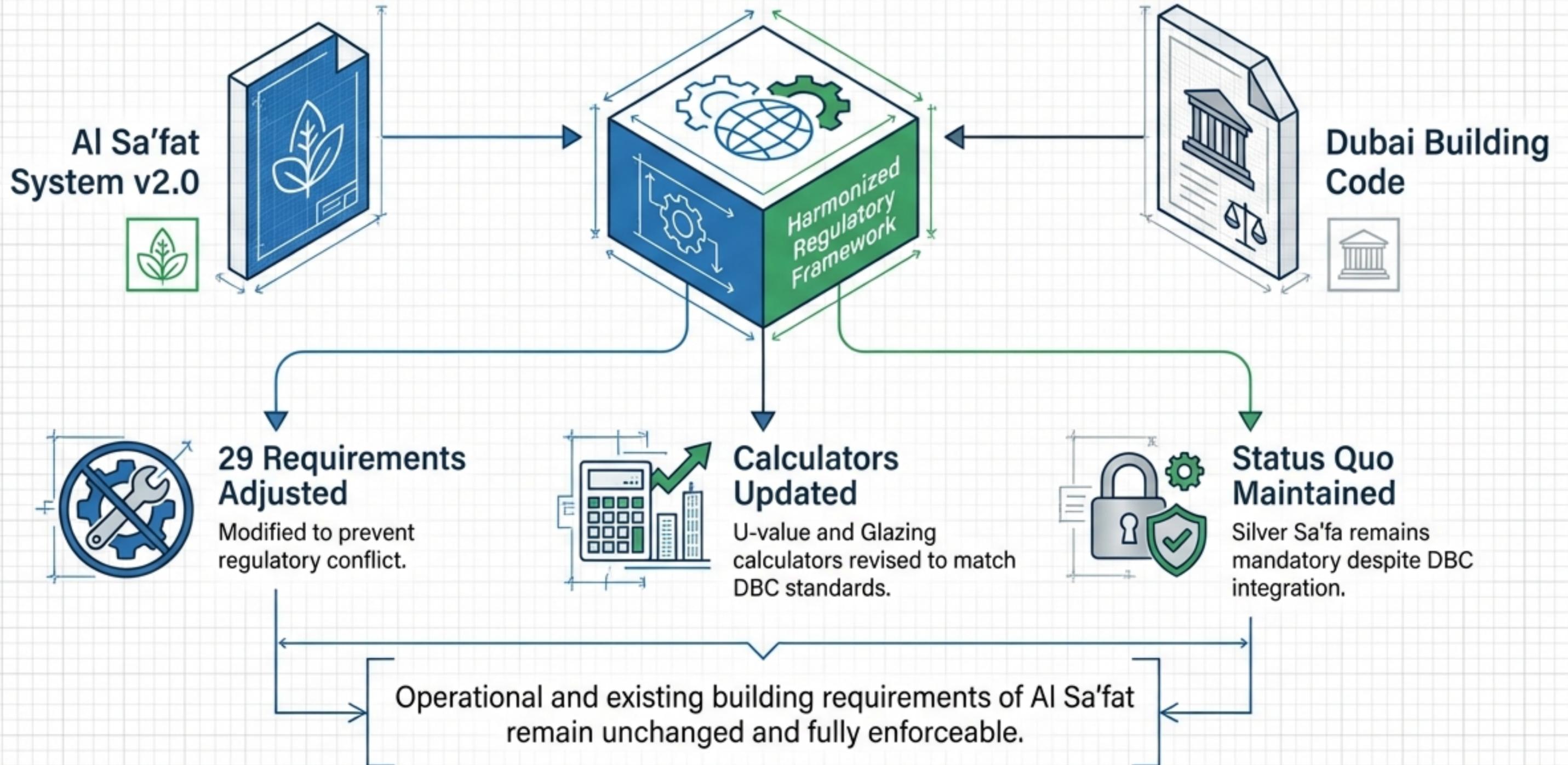
**Context:** The regulatory environment has shifted from voluntary guidelines to mandatory climate accountability.

# THE NEW BASELINE: UNDERSTANDING THE SA'FA TIERS



**Context:** Superseded: Bronze requirements are now the absolute minimum standard absorbed into the Dubai Building Code.

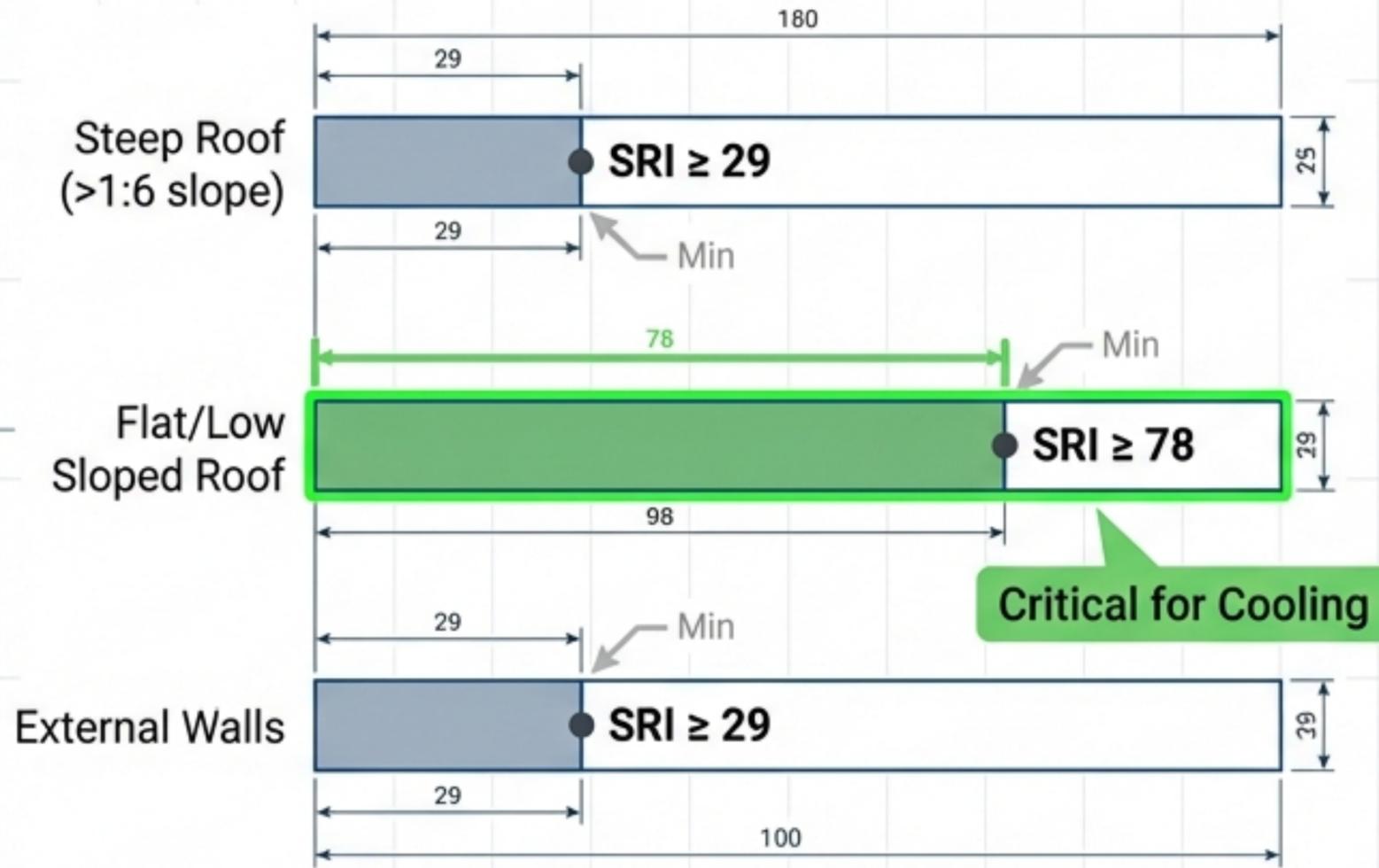
# INTEGRATION WITH THE DUBAI BUILDING CODE (DBC)



# ECOLOGY & PLANNING: MITIGATING THE URBAN HEAT ISLAND

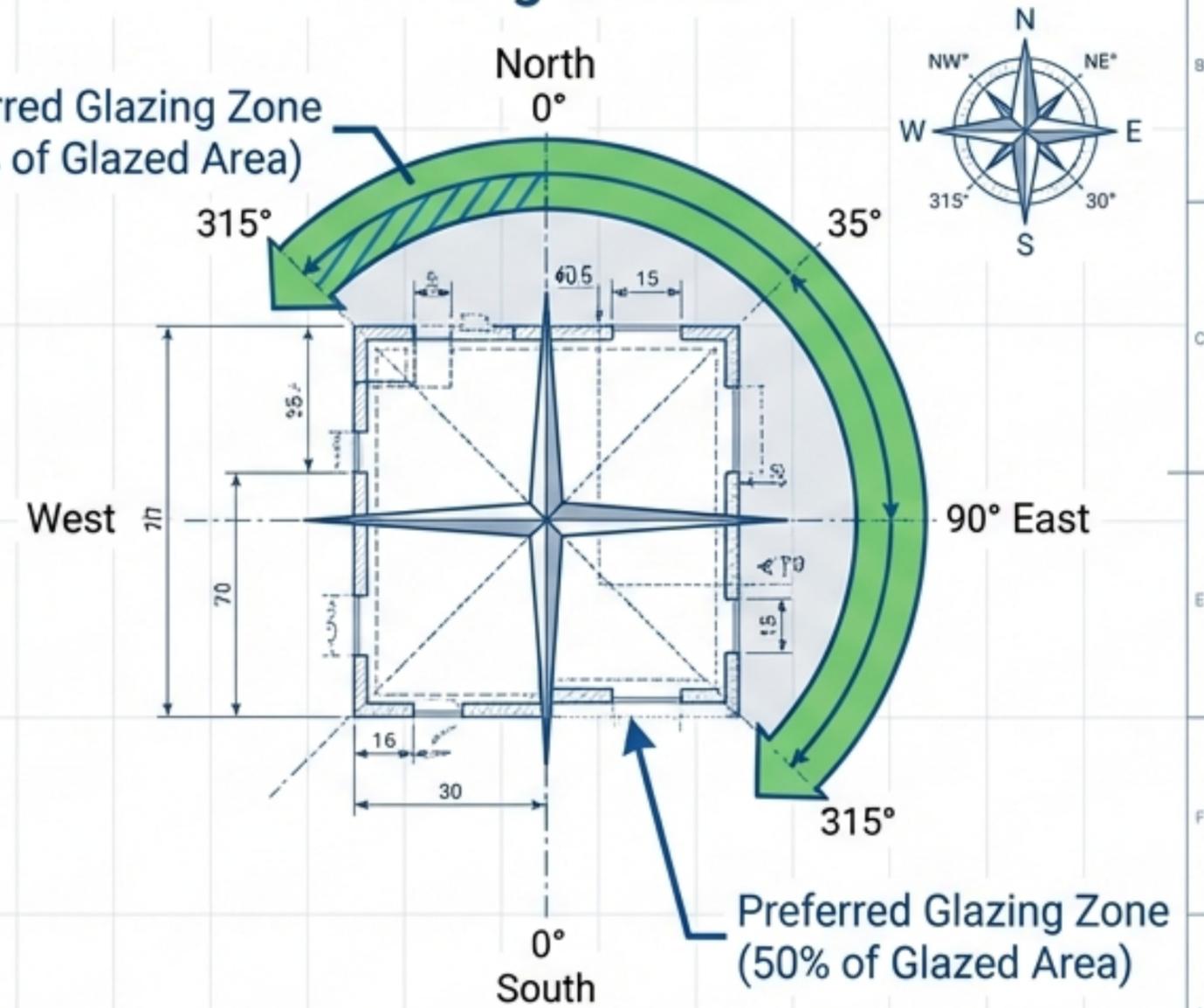


## Solar Reflectance Index (SRI) Requirements



## 135-degree Rule

Preferred Glazing Zone  
(50% of Glazed Area)



Landscaping Mandate: 25% of planted area must utilize local/adapted species.



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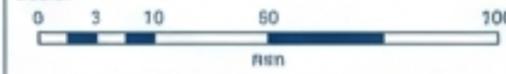
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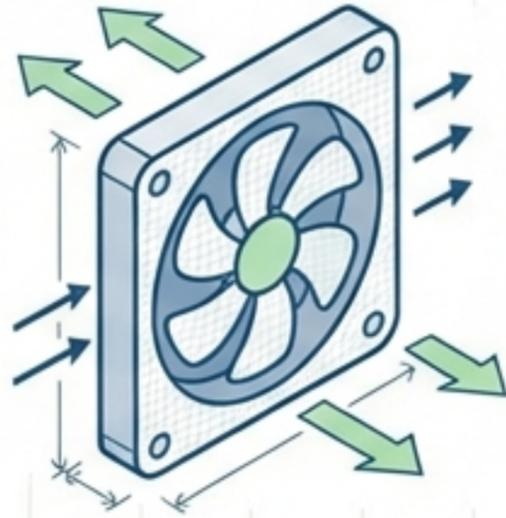
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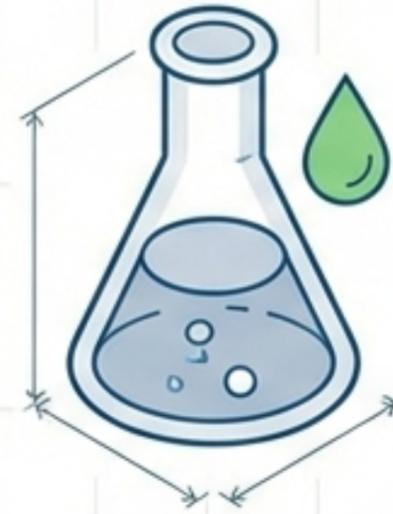
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# BUILDING VITALITY: INDOOR ENVIRONMENTAL QUALITY (IEQ)



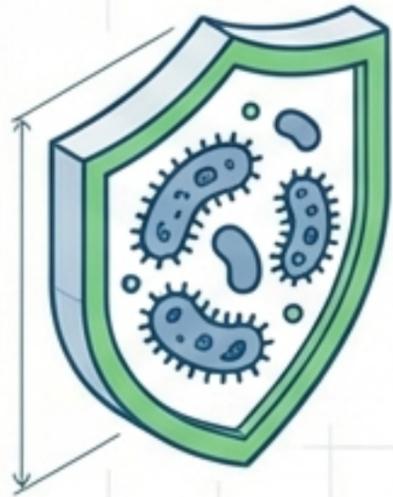
## Ventilation

Must meet ASHRAE 62.1 standards. Air inlets must be positioned to prevent recirculation (Sand trap louvers required).



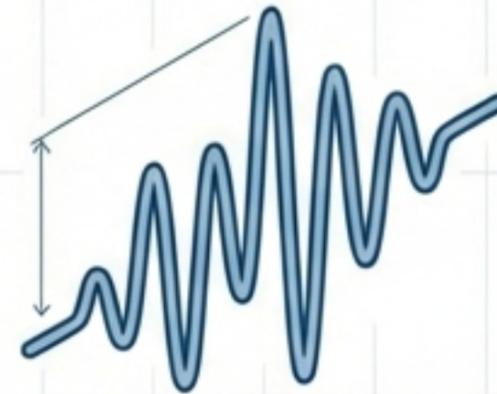
## Air Quality (IAQ)

Strict limits on Low Emitting Materials (paints, coatings, adhesives). IAQ testing mandatory prior to occupancy.



## Legionella Control

Mandatory maintenance protocols for all water systems (tanks, fountains, spas) to prevent bacterial growth.



## Acoustics

Compliance with Table 403.01 for internal noise criteria (Residential vs. Commercial limits).

Alternative filtration requires specific Authority approval and does not replace mechanical filtration.



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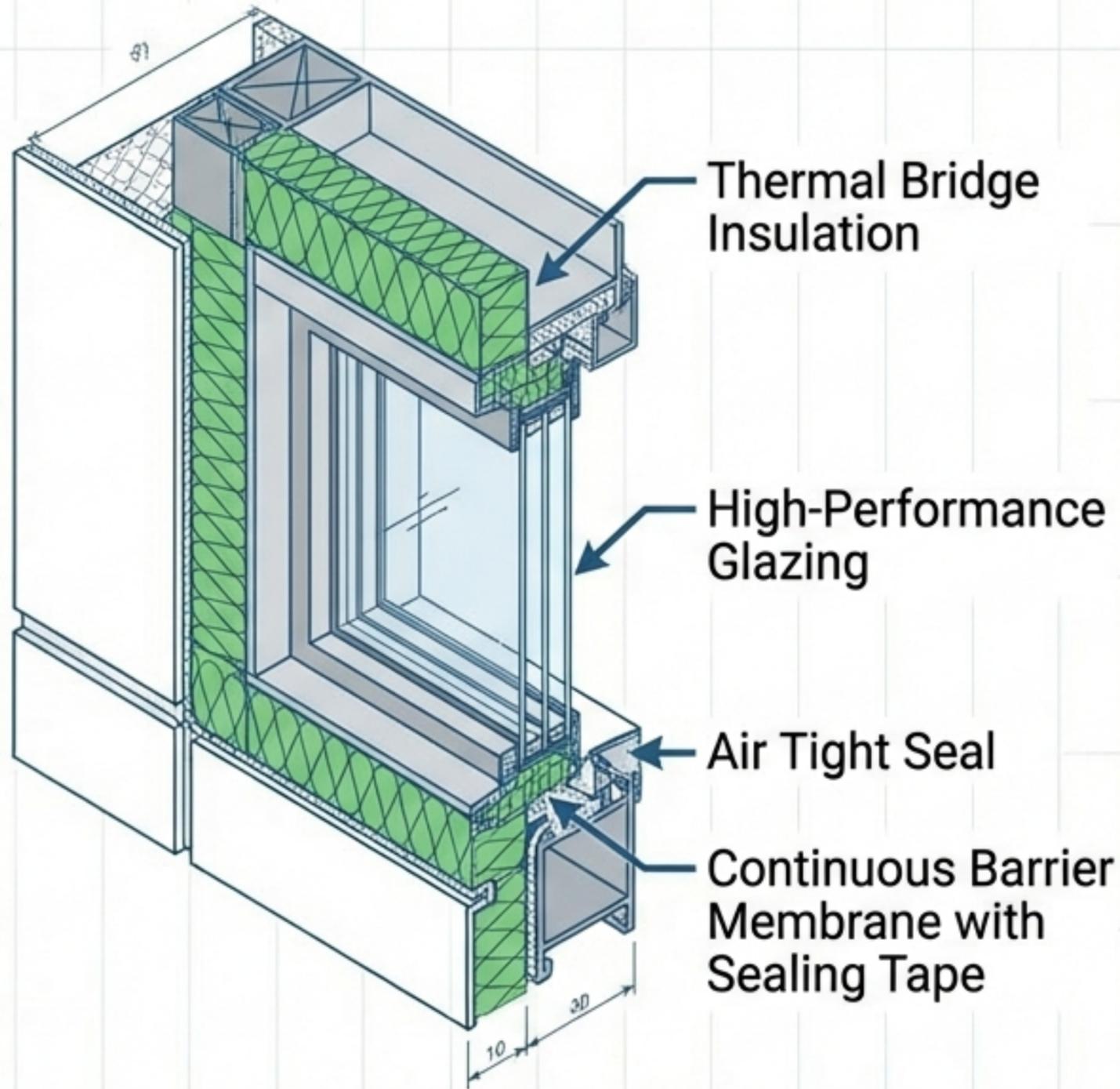
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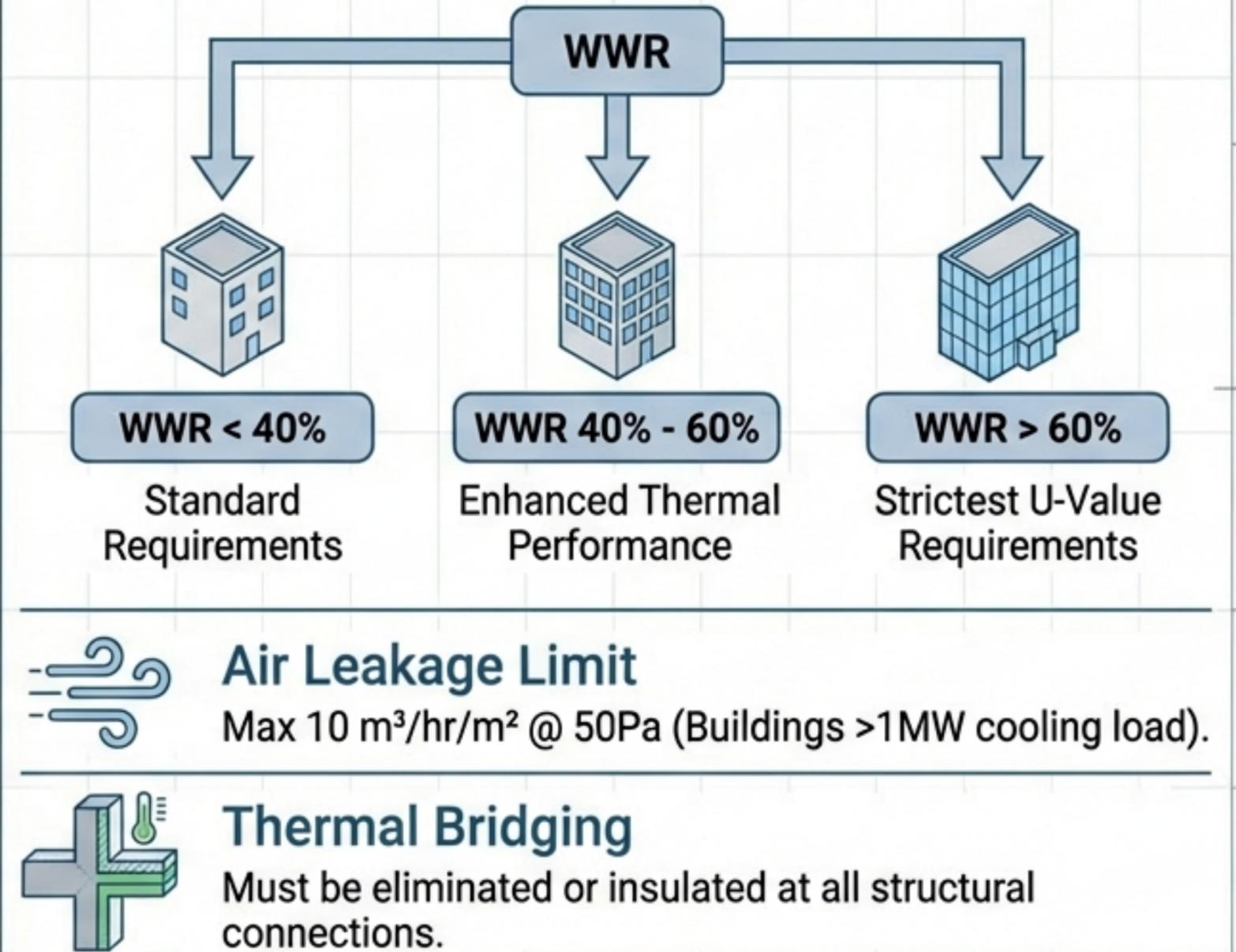
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# ENERGY EFFICIENCY I: THE PASSIVE ENVELOPE



## U-Value Requirements based on WWR



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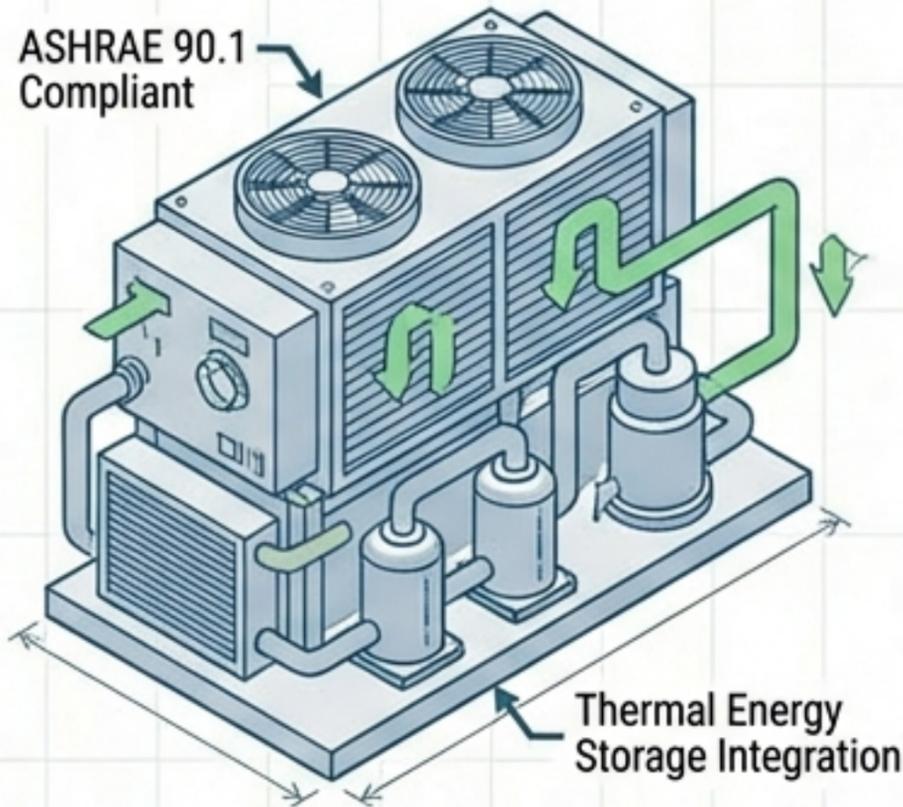


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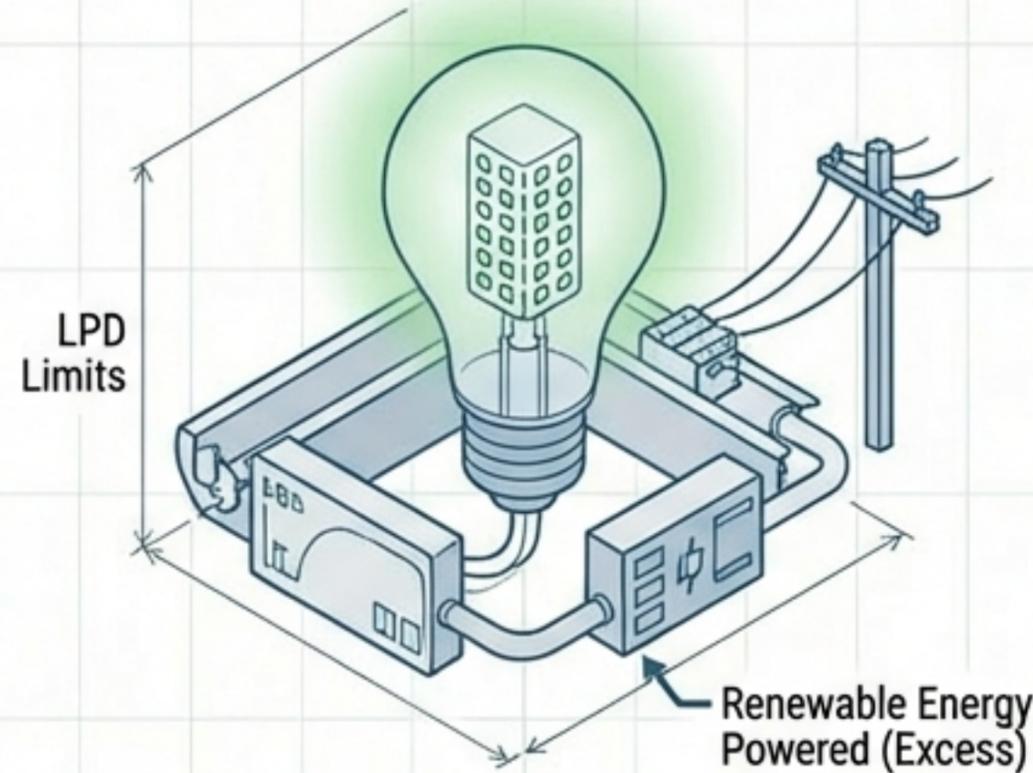
# ENERGY EFFICIENCY II: ACTIVE SYSTEMS & CONTROLS

## HVAC Standards



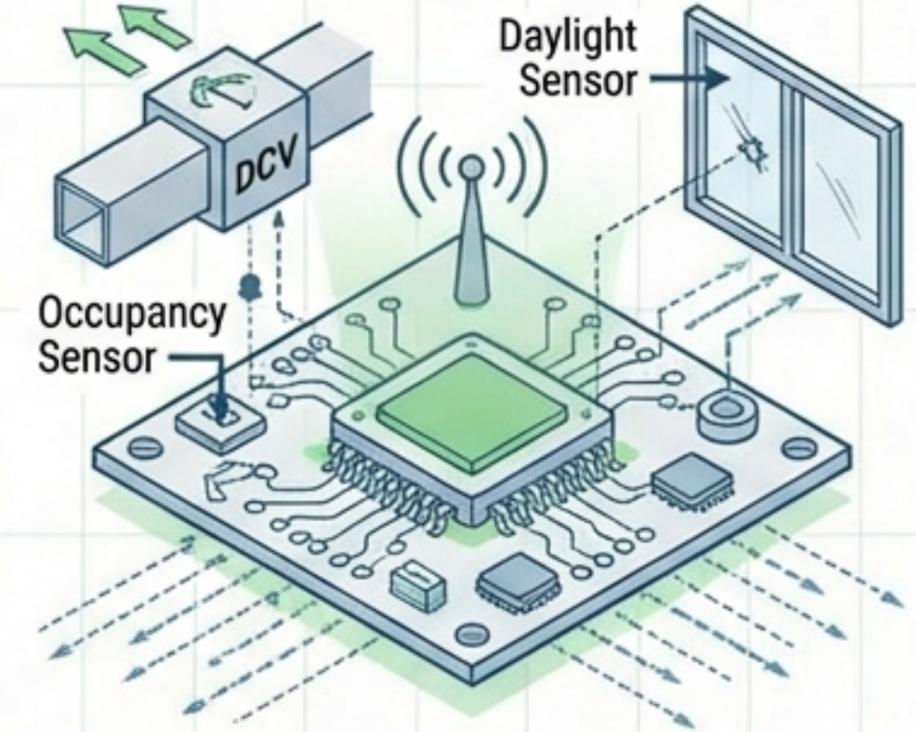
Chillers/AC units must meet ASHRAE 90.1 efficiency ratings (EER/COP). District Cooling plants must incorporate Thermal Energy Storage (min 20% capacity).

## Lighting (LPD)



Strict Interior/Exterior Lighting Power Density limits. Exterior lighting excess must be powered by renewable energy.

## Smart Controls



Demand Controlled Ventilation (DCV) for high-occupancy zones. Mandatory occupancy sensors and daylight harvesting.



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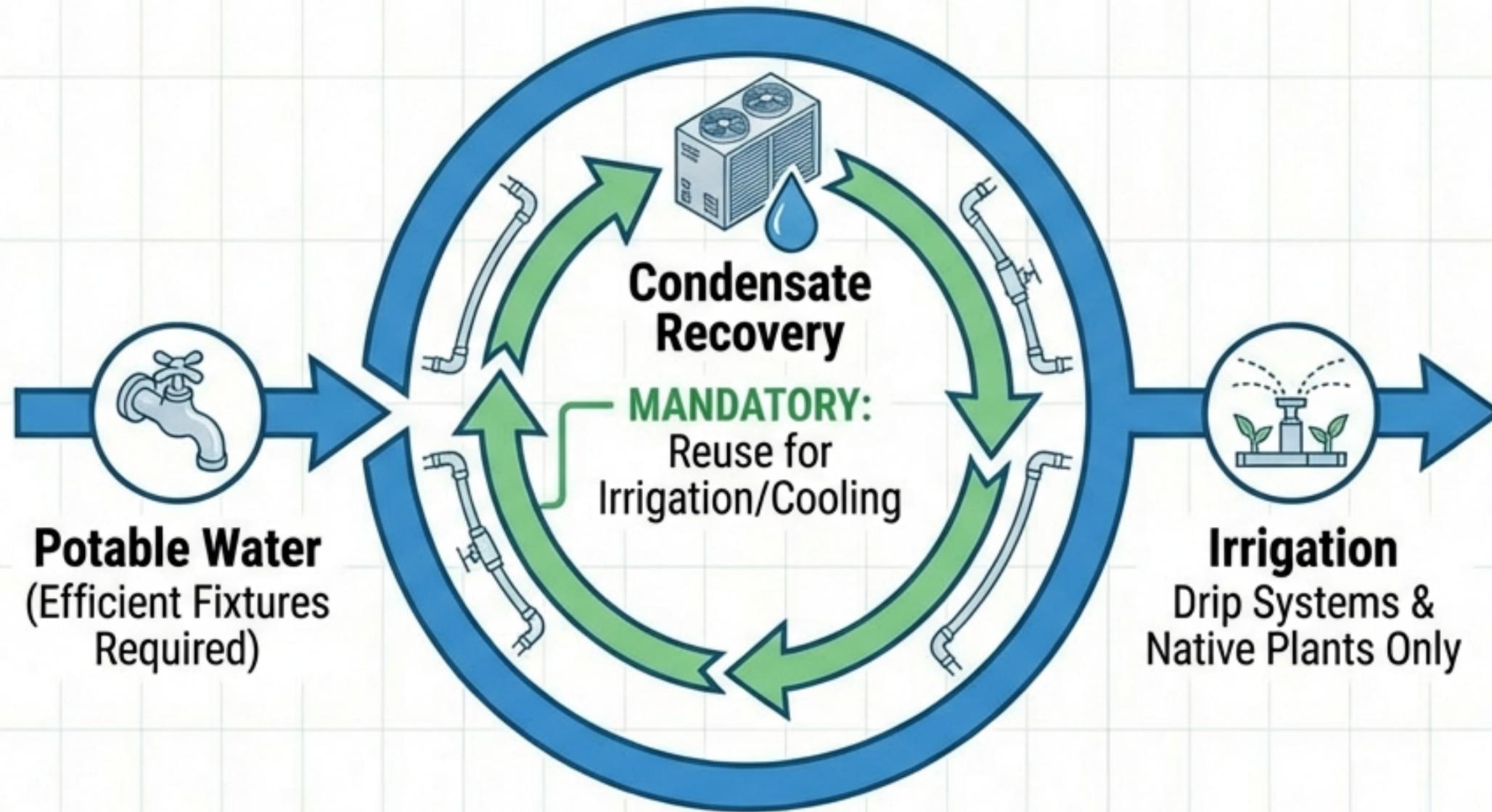
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# RESOURCE EFFECTIVENESS: WATER CONSERVATION

## Water Balance



## Tier Upgrade

### Gold/Platinum Requirement:

Grey water recycling and Treated Sewage Effluent (TSE) usage becomes mandatory.



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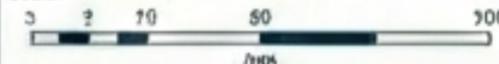
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# MATERIALS & WASTE: CLOSING THE LOOP

## Recycled Content



## Regional Materials (GCC <800km)



## Construction Waste Diversion



**Operational Mandate:** Dual-chute systems or dedicated sorting rooms (>2m<sup>2</sup> per floor) required.



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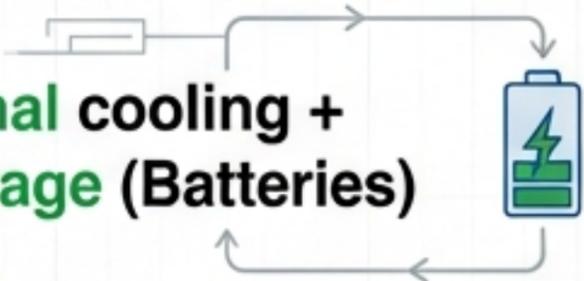
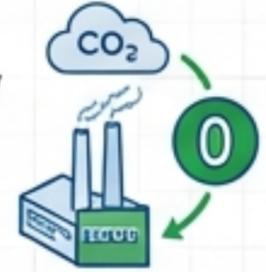
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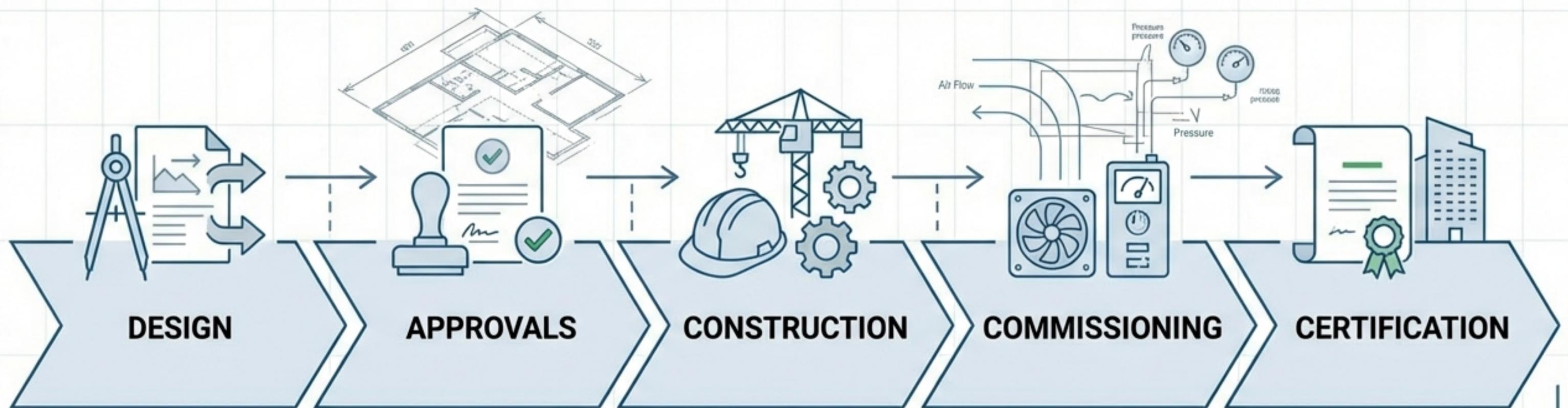
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# BEYOND COMPLIANCE: GOLD & PLATINUM REQUIREMENTS

Category	Gold Sa'fa	Platinum Sa'fa
<b>Renewable Energy</b> 	<b>On-site generation required</b> 	<b>Solar Thermal cooling + Energy Storage (Batteries)</b> 
<b>Water</b> 	<b>Grey water recycling systems</b> 	<b>50% recycling of gray water</b> 
<b>Systems/Carbon</b> 	<b>Full BMS Implementation</b> 	<b>Zero Carbon concepts / Carbon Offsetting</b> 

**Strategic Value:** Higher tiers unlock government incentives and green financing privileges.

# THE COMPLIANCE ROADMAP: FROM DESIGN TO OPERATION



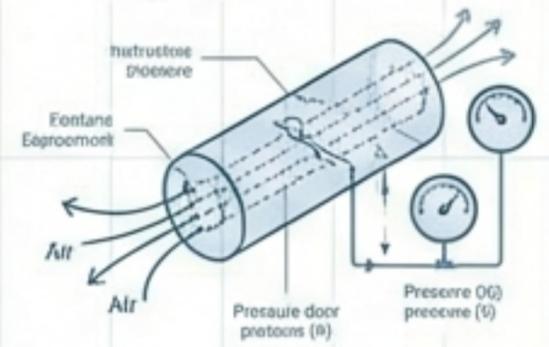
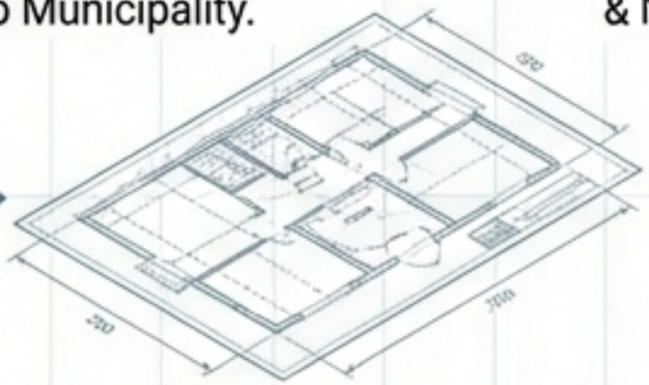
- Submit Al Sa'fat checklist & Energy/Water calcs to Municipality.

- DEWA Electrical Design approval & NOCs.

- Material verification logs (Recycled/Regional) & Waste tracking.

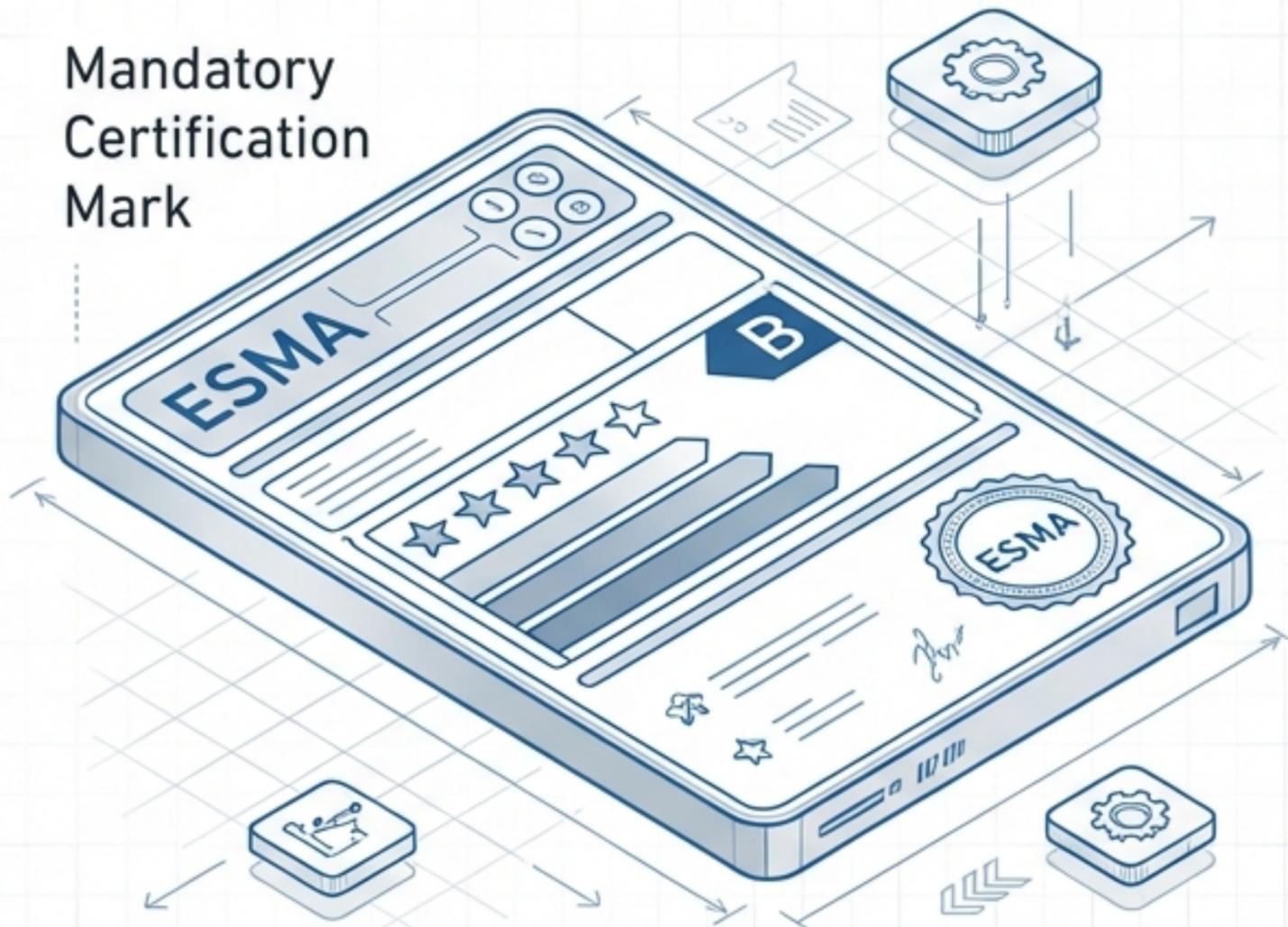
- Blower door air leakage testing, IAQ testing.

- Issue Building Completion Certificate (BCC) with Sa'fa Rating.



# EQUIPMENT CERTIFICATION & ESMA STANDARDS

Mandatory  
Certification  
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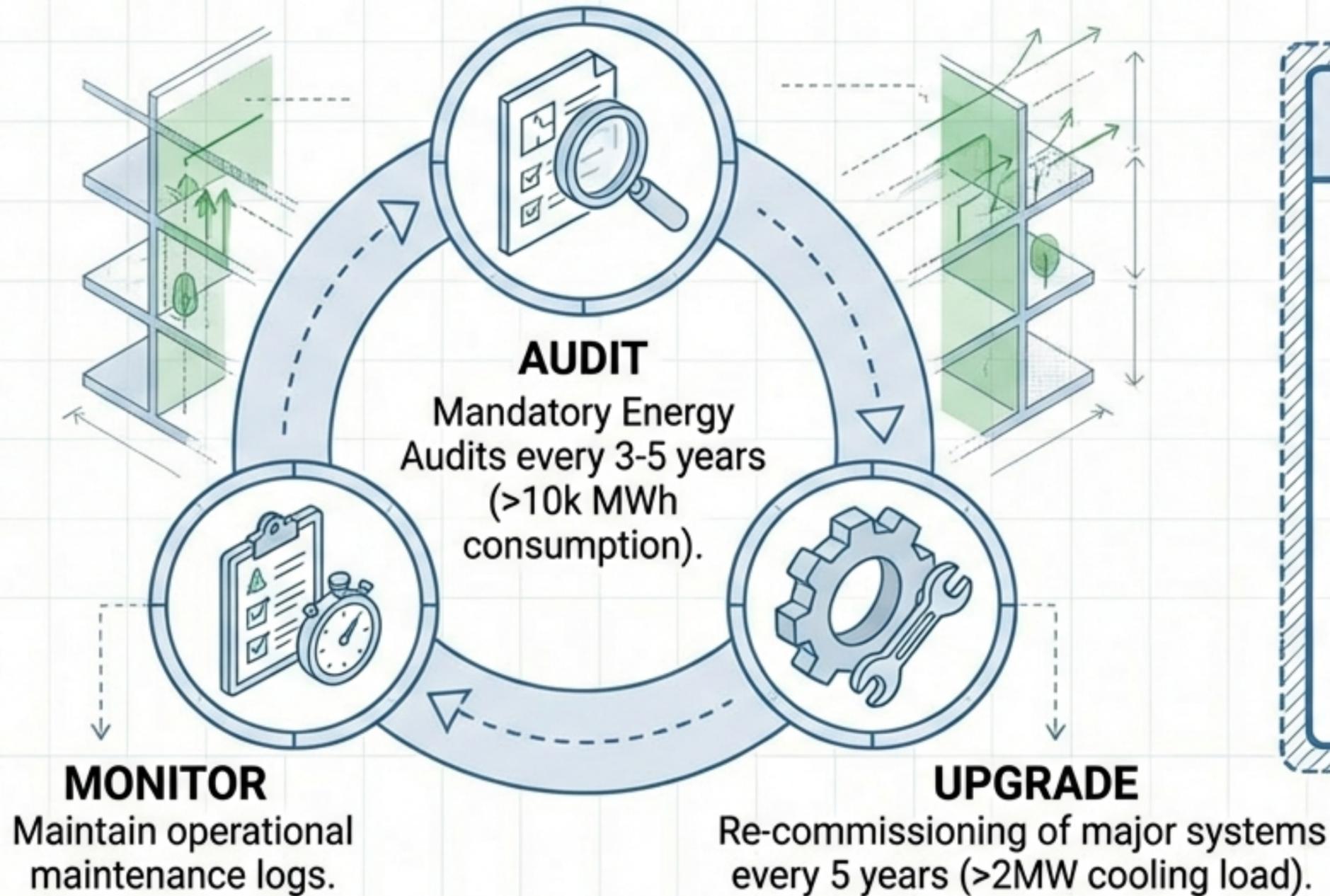


## Motor Efficiency Standards

- ✓ • 0.75kW – 375kW: IE3 (Premium Efficiency)
- ✓ • >375kW: IE4 (Super Premium Efficiency)

**PROCUREMENT WARNING:**  
Installing non-certified equipment  
(Chillers, Motors, Facades) will result  
in failed inspections and connection  
refusal by DEWA.

# EXISTING BUILDINGS: RETROFIT & OPERATIONS



## Quick Wins for Compliance



1. LED Lighting upgrades (12-18 month ROI).



2. BMS Optimization (Setpoint adjustments).



3. VFD installation on pumps/fans.



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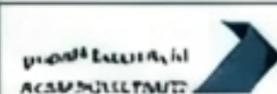
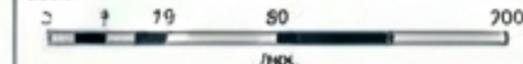
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# THE VALUE OF COMPLIANCE

## ENVIRONMENTAL IMPACT

2.28M

Metric Tons Carbon Reduction.



## ECONOMIC ROI

35%

Utility Bill Reduction (Platinum Tier).



**Future Outlook:** Dubai targets 60% of all new projects to be eco-friendly by 2030.

**AL SA'FAT: THE BLUEPRINT FOR DUBAI'S SUSTAINABLE FUTURE.**