GreenSphere:
A Framework of Interventions for Urban Sustainability

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Current Situation

- Climate change issues
- Increasing urban population
- Evolution of the legislative and financial framework
- Increasing awareness of citizens

- CO₂ emissions said to increase by 43% by 2035¹
- Urban population²
  - 2009: 50.5%
  - 2050: 68.7%
- Housing programmes, Environmental policies and financial instruments
- Actors’ engagement

¹ US Energy Information administration
²World Urbanisation Prospects – 2009 - United Nations
GreenSphere

* A replicable framework of interventions to promote sustainable lifestyles in neighbourhoods by:

- Supporting the environment
- Encouraging efficient use of resources
- Creating healthier living conditions
- Developing citizen culture

Economic viability
GreenSphere Project

Flagship project in Valle Real
Valle Real

* High-income private condominium
* Zapopan, Guadalajara
* 200 hectares → 8.5% green areas
* 2400 houses capacity – 77% built
* 9250 inhabitants
* Country club, cultural centre and church
* Internal security
* Common services managed internally
* Annual expenses in maintenance: €190,000.00
Interventions for Urban Sustainability

- Citizen Culture
- Energy
- Water
- Transport
- Building
- Waste
- Urban Landscape

Partners – Suppliers – Financing Instruments
Purpose: Reconcile conflicting views. Holistic strategy.
Objective: Citizen culture that supports sustainable development.

**AWARENESS**
- Public assembly
- Informative campaign
- CB Analysis

**PARTICIPATION**
- Environmental management team
- Webpage & blog
- Meet local government

**TRAINING**
- Code of conduct
- Incentives
- Skills
- Educational programmes & workshops
Water

- Individual
  - Water Purification Systems
  - Septic Tank

- Mixed
  - Drip Irrigation System
  - Rain Water Collectors

- Collective
  - Constructed Wetland
  - Treatment Plant
  - Sequencing Batch Reactors
Purpose: Healthy lifestyles and community interaction, through sustainable transportation.

Objectives:
- Increase connectivity
- Reduce the use of motor vehicles
- Save costs
- Reduce GHG emissions¹:

  e.g. Valle Real – Tec (14.4km) save €4.53 per week and 215.2 KgCO₂ in 4 months.

¹2010 Guidelines to Defra / DECC’s GHG Conversion factors for company reporting
Bike Sharing and Carpooling

Activities:
- Engagement
- Partnerships
- Infrastructure
- Promote use
- Bike stations
- Carpooling
Purpose: Reduce impact of building use and construction while improving household ambience.

Objective: Develop solar passive architecture in association with energy, water and material resource efficiency.

Collaboration
- Real estate agencies
- LEED
- Tec de Monterrey

Suppliers
- Sustainable materials
- Efficient appliances

Incentives
- Maintenance fee discounts
- Long-term cost savings
**Waste**

**Purpose:** Minimize ecological footprint through effective waste management.

**Objective:** To transform Valle Real into an eco-district.

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**Waste Sorting**
- Recycling kit, separate by material
- Composting box

**Recycling Points**
- Strategic Location
- Glass, paper, plastic, metals, hazardous.

**Reuse & Re-engineering**
- Charitable donations
- Second life
Location of recycling points and orchards
Urban Landscape

**Purpose:** Improve living conditions

**Objective:** Increase the Green Area Ratio of Valle Real

- Green roofs
- Gardens & native trees
- Vertical gardens
Conclusion

Benefits:

- Environmental support
- Educated and aware inhabitants
- Healthier living conditions and higher quality of life
- Economic benefits → cost savings + real estate value added.

GreenSphere Neighbourhood
"Never doubt that a small group of thoughtful, committed, citizens can change the world. Indeed, it is the only thing that ever has."
— Margaret Mead