Envision Scenario Planner

How to regenerate an urban neighbourhood?

A geospatial decision-support tool to assess environmental and socio-economic outcomes of regeneration scenarios

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Tool objectives

- Understand complex relationships
- Understand impacts of regeneration scenarios
- Offer possibilities to explore alternatives
- Provide visible and tangible outcomes
Context Analyser – Where to regenerate?

Census data, redevelopment potential, amenities
Scenario Modelling – **How** to regenerate?
Built environment
Built environment

Energy demand
Energy capture
Energy use

Water demand
Water capture
Water use

Socio-economic outcomes
Built environment & site basics

- Population density
- Dwelling density
- GFAs
- Site area
- Number of residents
- Number of jobs
- Open space
- Parking area
- Land value
- Etc.

Environmental outcomes

- **Energy management**
  - Demand (land use/use/source)
  - Generation (land use)

- **Water management**
  - Demand (land use/type/internal & external)
  - Capture (rain/bore/grey)

- **CO2 emissions**
  - Embodied (building material)
  - Sequestrated (land use)
  - Operating (use/source/land use)

Socio-economic outcomes

- **Costs**
  - Property costs (land/landscaping/construction)
  - Operating costs (electricity/gas/water)

- **Benefits**
  - Jobs (businesses & services)
  - Open spaces (area/trees)
  - Residents
Business as usual

- 24 ha, 360 dwellings
- No amalgamation
- No land-use changes
- Basic construction standards
- 30 dwellings/ha
- 45 inh/ha – total 1066 inh
Community responsive

- 24 ha, 600 dwellings
- Provision of public open spaces
- Community space
- Site amalgamation
- Land-use change
- Intensification
- Sustainable water management
- Energy generation at the site level

- 50 dwellings/ha
- 72 inh/ha – total 1702 inh
- 0.02 jobs/inh
Scenario comparison

Built environment
- Total precinct area (m²): 26,021
- Total building area (%): 14
- Total pathway length (km): 0
- Total residents (people): 44
- Total jobs (jobs): 114

% Total Embodied Carbon

% Total footprint area

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Use cases of ESP?

- Exploration & learning
- Validation of current practices
- Evidence-based alternatives
- Engagement
A free, localized, stakeholder-driven decision-support tool

Aimed at facilitating community engagement and fostering change in local practices
Thank you

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