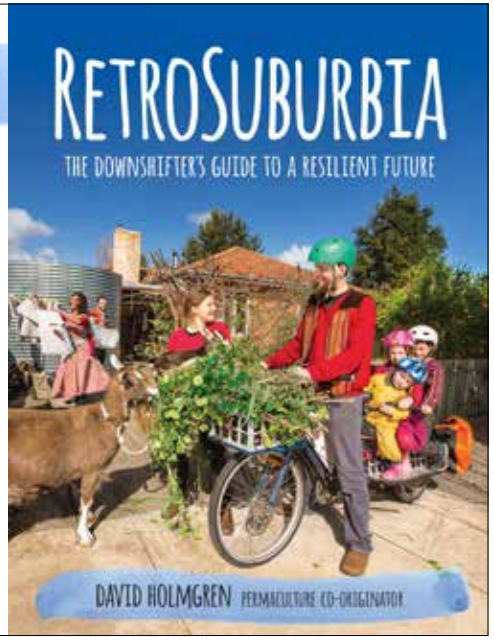
Retrosuburbia:

a bottom up alternative pathway to water sensitive communities

David Holmgren
permaculture co-originator

Water Sensitive Communities
Inevitable or Pipe Dream?
Melbourne June 2018



The fate of suburbia; more low density infill, higher density redevelopment or…

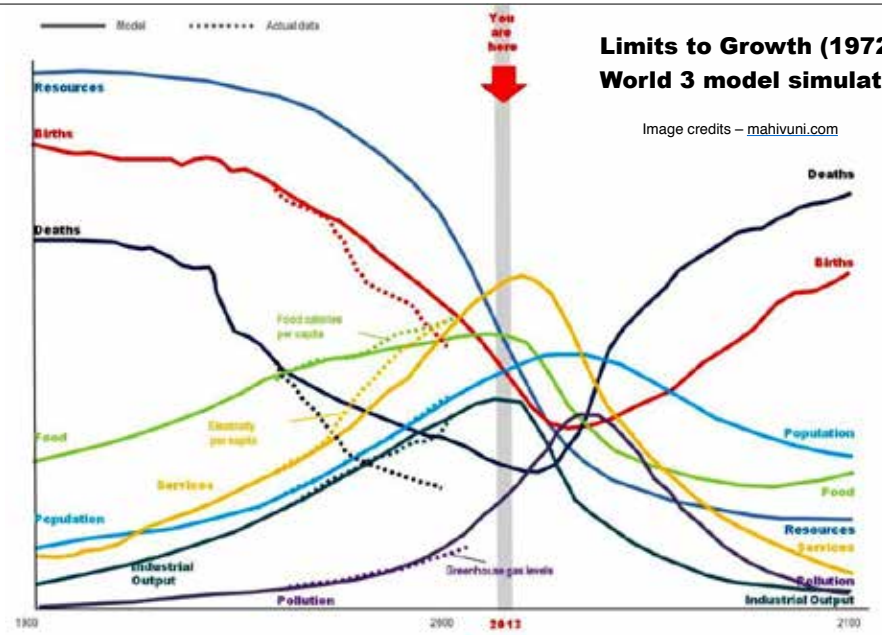
RETRO…
SUBURBIA?

Melliodora:
drought
conditions
March 2018

Harcourt Park Bendigo:
low cost stormwater detention wetlands for permaculture designed urban farm
Designed 2000,

Harcourt Park Bendigo
Earthworks January 2001

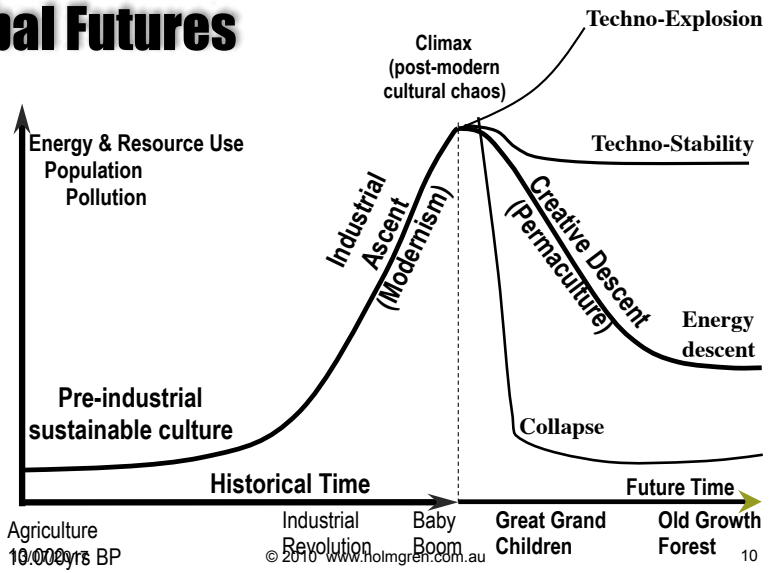
2006



Limits to Growth (1972)
World 3 model simulation

Image credits – mahivuni.com

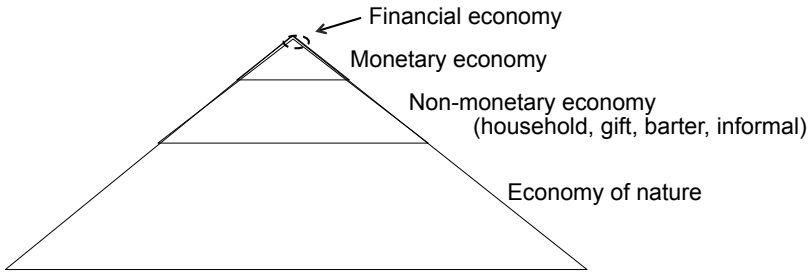
Global Futures



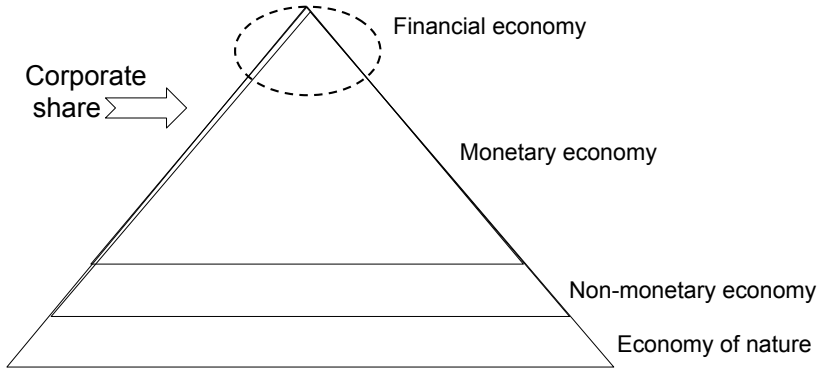
Permaculture, Transition & RetroSuburbia
compared to
Mainstream Sustainability

	Mainstream Sustainability	Permaculture, Transition & RetroSuburbia
View of future	Techno-stability	Energy Descent
Goal	Minimising impact	Increasing resilience
Strategy	Reform existing systems from top down	Build parallel system from bottom up
Process	Policies, planning & economics	Self organising, practical, cultural & spiritual
Focus	Built environment & technology	Biological & behavioural systems.

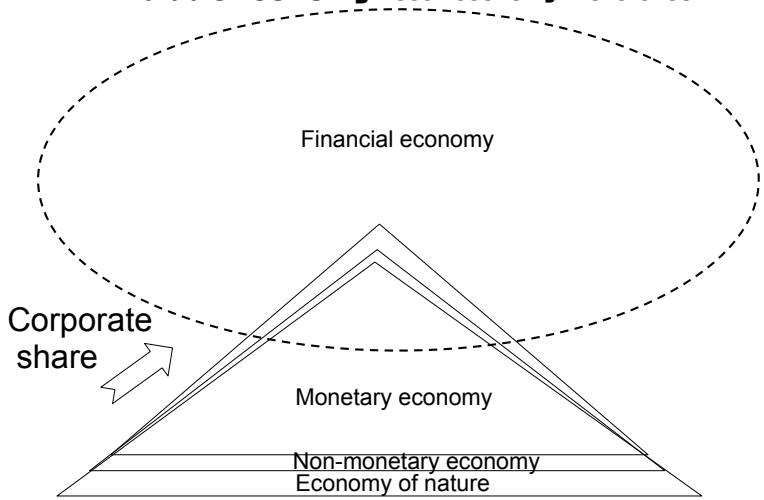
Renewable Energy Economy



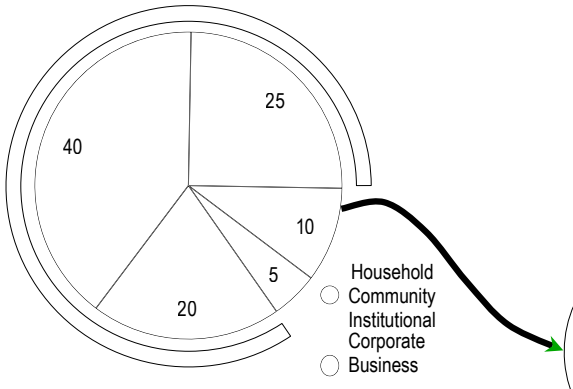
Fossil Energy Economy



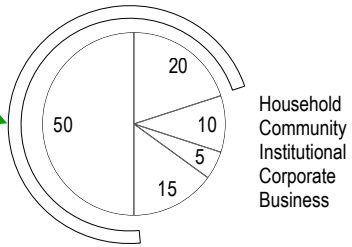
Bubble Economy (fossil economy in overshoot)



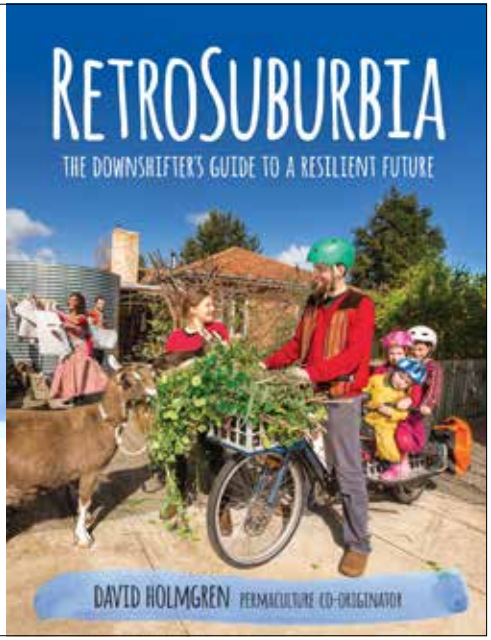
Monetary transactions dominate economy at Energy Peak



Non-monetary transactions dominate economy in Energy Descent



The Retro in RetroSuburbia ?...



Retro-fitting:

the addition of new technology or features to make existing systems fit for (new) purposes.

RetroSuburbia

Retro: the styles & patterns of the past

RetroSuburbia

RetroSuburbia

THE DOWNSHIFTER'S GUIDE TO A RESILIENT FUTURE

a **retrofitting pattern language** applied to the three fields of action;
the **built, biological and behavioural**

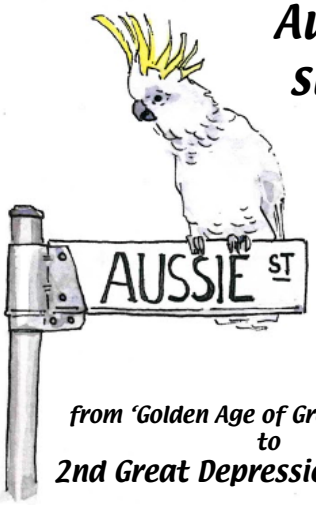
Part A: Setting the Scene

- *Key challenges and RetroSuburban responses*
- *Aussie St: the past and future of suburbia*
- *Where and how we live*

RetroSuburbia

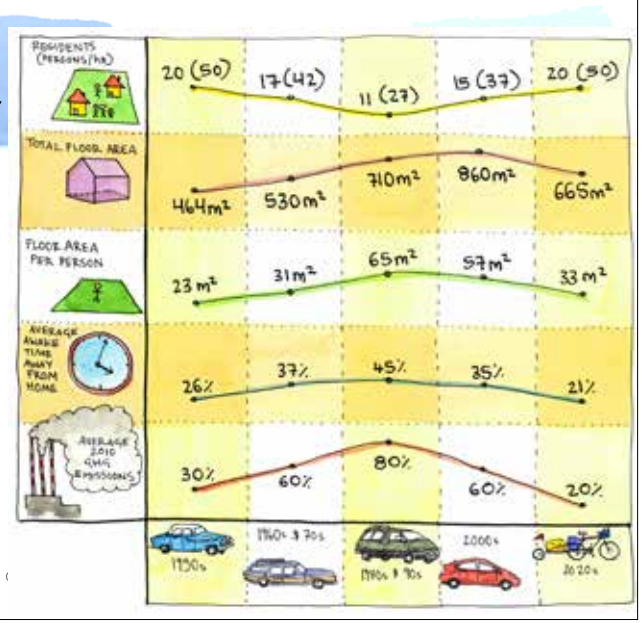
THE DOWNSHIFTER'S GUIDE TO A RESILIENT FUTURE

A story of Australian suburbia



from 'Golden Age of Growth' (1950s)
to
2nd Great Depression (of 2020s)

Vital statistics of Aussie Street



Built Field: patterns of human habitats

RETROSUBURBIA
THE DOWNSHIFTER'S GUIDE TO A RESILIENT FUTURE

Built Field: patterns of human habitats

- *How to assess a property*
- *Warm in winter, cool in summer*
- *Wood Energy*
- *Electricity: special energy for specific functions*
- *Water harvesting and storage*
- *Greywater and human nutrient recycling*
- *Facilities for food*
- *Retrofitting for bushfire defence*
- *Storage of Stuff*
- *Retrofitting for shared living*

Built Field: patterns of human habitats

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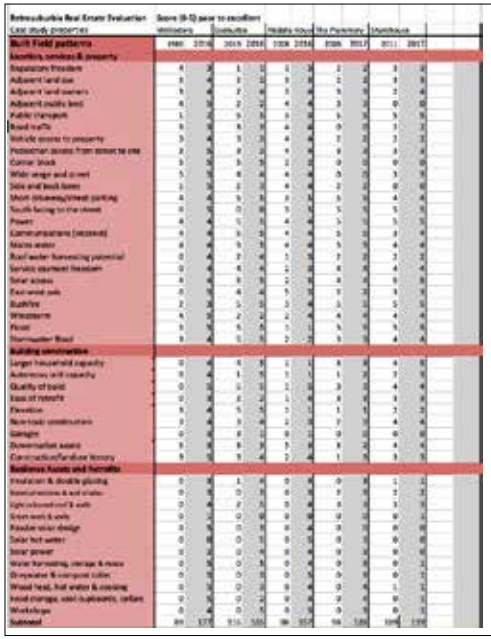
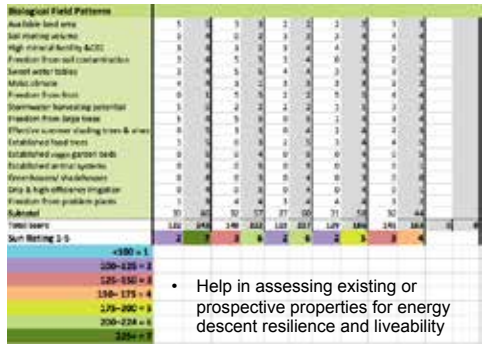


Retrosuburbian Real Estate Checklist



- Help in assessing existing or prospective properties for energy descent resilience and liveability
- A check list of 61 built and biological criteria and factors to consider
- Approximate scoring 0-5 allows summing factors to give a resilience rating (1 to 7 suns)

Case study properties	Melliodora		Ecoburbia		Abdalla House		The Plummery		Sharehouse	
Built Field patterns	1986	2016	2013	2016	2008	2016	2008	2017	2011	2017
Location, services & property										
Regulatory freedom	4	3	1	1	3	3	2	2	3	3
Adjacent land use	5	4	2	2	3	3	2	2	3	3
Adjacent land owners	3	4	2	3	4	4	3	3	0	0
Adjacent public land	4	5	2	2	4	4	3	3	0	0
Public transport	1	2	5	5	3	3	5	5	5	5
Road traffic	3	3	3	3	4	4	0	0	0	0
Vehicle assess to property	3	4	3	3	4	4	2	2	2	2
Pedestrian access from street to site	3	5	3	3	4	4	3	3	3	3
Corner block	5	5	5	5	2	2	0	0	0	0
Wide verge and street	5	5	4	4	4	4	0	0	3	3
Side and back lanes	5	5	2	3	4	4	2	2	0	0
Short driveway/street parking	4	4	5	5	3	5	5	5	4	4
South facing to the street	0	5	0	0	3	5	5	5	5	5
Power	4	4	5	5	4	4	5	5	5	5
Communications (internet)	4	4	5	5	4	4	5	5	3	4
Mains water	4	4	5	5	4	4	5	5	4	4
Roof water harvesting potential	0	4	2	4	1	3	2	2	2	2
Service easment freedom	0	4	4	4	2	3	4	4	4	4
Solar access	4	4	5	5	2	5	4	4	5	5
East-west axis	0	5	4	4	5	5	2	2	3	3
Bushfire	2	3	5	5	3	4	5	5	5	5
Windstorm	4	5	2	2	2	4	4	4	4	4
Flood	5	5	5	5	1	1	5	5	5	5
Stormwater flood	3	4	5	5	2	2	3	3	4	4

Retrosuburbian Real Estate Checklist

Biological Field Patterns												
Available land area	5	5	3	3	2	2	2	2	3	3		
Soil rooting volume	3	4	0	2	3	3	3	4	4	4		
High mineral fertility &CEC	3	4	1	2	3	4	4	5	1	1		
Freedom from soil contamination	3	4	5	5	3	4	0	3	2	3		
Sweet water tables	3	4	5	5	4	4	3	3	3	3		
Moist climate	4	4	1	1	3	3	3	3	2	2		
Freedom from frost	0	1	5	5	2	2	5	5	4	4		
Stormwater harvesting potential	5	5	2	2	2	2	1	1	3	3		
Freedom from large trees	5	4	5	5	0	5	1	4	3	4		
Effective summer shading trees & vines	0	5	1	3	0	4	2	4	2	3		
Established food trees	1	5	0	3	2	5	3	4	4	5		
Established veggie garden beds	0	5	0	4	0	5	0	4	0	5		
Established animal systems	0	5	0	5	0	5	0	5	0	1		
Greenhouses/ shadehouses	0	4	0	3	0	4	0	3	0	0		
Drip & high-efficiency irrigation	0	4	0	5	0	4	0	4	0	1		
Freedom from problem plants	1	3	4	4	3	4	4	4	1	2		
Subtotal	33	66	32	57	27	60	31	58	32	44		
Total Score	122	243	148	222	115	217	129	186	141	163	0	0
Sun Rating 1-5	2	7	3	6	2	6	2	5	3	4		
<100 = 1												
100–125 = 2												
125–150 = 3												
150– 175 = 4												
175–200 = 5												
200–224 = 6												

Retrosuburbian Real Estate Checklist

Biological Field: patterns of life & growth

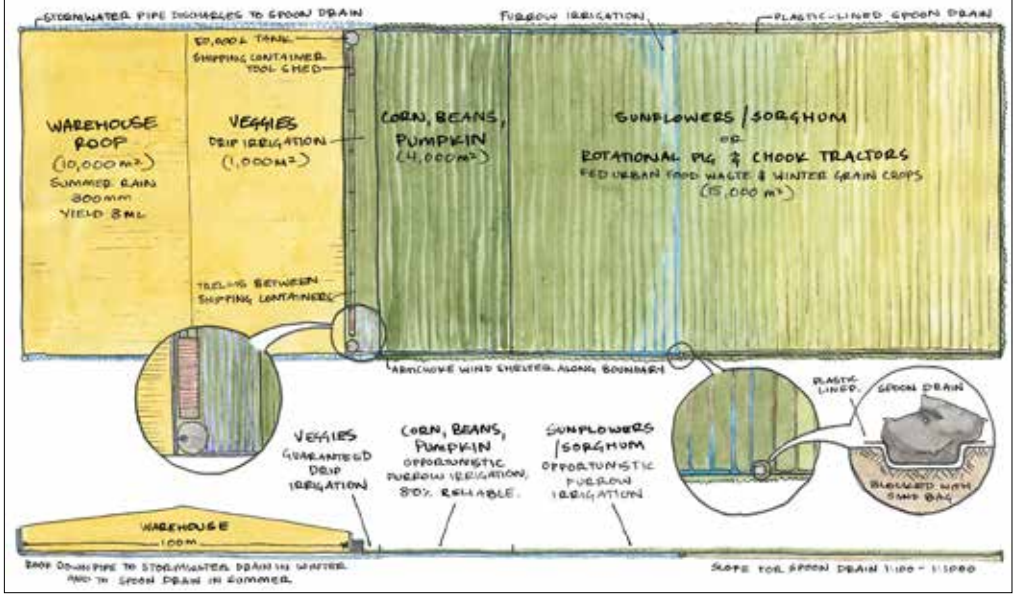
RETROSUBURBIA
THE DOWNSHIFTER'S GUIDE TO A RESILIENT FUTURE

Kat Lavers Northcote

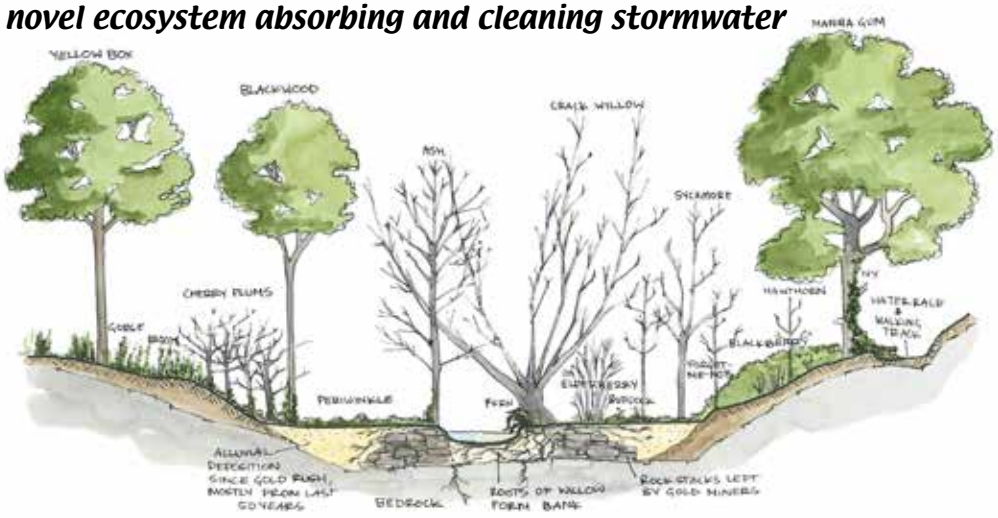
Biological Field: patterns of life & growth

- *How to assess a garden*
- *Garden Farming (Permaculture Zones 1 & 2)*
- *Building and maintaining soil fertility*
- *Managing soil contamination*
- *What to grow where*
- *Food growing systems*
- *Seed saving and backyard nursery*
- *Domestic animals in suburbia*
- *Wildlife in the Garden; by and beyond design*
- *Beyond the boundaries (Permaculture Zones 3 & 4)*

Opportunistic use of stormwater on 2ha urban market garden



Spring Ck, Hepburn
novel ecosystem absorbing and cleaning stormwater



Behavioural Field:
patterns of decisions & actions

RETROSUBURBIA
THE DOWNSHIFTER'S GUIDE TO A RESILIENT FUTURE

Behaviour Field: patterns of decisions and actions

- *Ownership and living arrangements*
- *Changing habits for self reliance and resilience*
- *Transport and Travel*
- *Creating your own livelihood*
- *Sustaining and sustainable diet*
- *Rearing self-reliant and resilient children*
- *Health, disability and aging*
- *Security in hard times*
- *Household disaster planning*
- *Decision making, interpersonal relations and conflict resolution*

MELBOURNE 2046?

Melbourne 2046?

The Los Angeles Model

More than one million extra people – or 40 per cent of projected population growth to 2046 – will live on the city's edge in 2046, under a planning scenario that sees unfettered low-density development.

Melbournians will rely more heavily on cars to get to work, with only 3 per cent of jobs accessible within 30 minutes by trains, trams or buses.

Infrastructure Australia

Melbourne 2046?

The New York Model

A compact, higher-density vision for Melbourne will concentrate jobs and housing within 15 kilometres of the city centre, and will drive up public transport use.

Infrastructure Australia

Melbourne 2046?

The London Model

A medium-density model that spreads the population growth more evenly and puts jobs closer to where people live.

Infrastructure Australia

The Melbourne Model! (RetroSuburbia)

- Conserve existing private and public open space for **garden** and **urban agriculture**
- Maximise use of existing residential building stock ("**take in a boarder**" campaigns and support)
- Revitalise household and community **non monetary economies**
- Reduce commuting by **home based and local livelihoods**
- Retrofit unused **commercial and other building stock** when needed for a rising population

Implications For Stormwater Engineering

Adapt to;

- **Property Bubble Burst:** harder access to credit, slowing or stalling housing development
- **Climate Change:** increase in extreme weather events

Opportunities for low built and biological retrofits to existing infrastructure to;

- encourage water quality and soil carbon building program (**eg Keyline & Natural Sequence Farming**)
- reward stormwater and greywater reuse on household level
- increase householder and community awareness and engagement

For example:
Guidelines to resolve issues to allow and support retrofits by residents that appropriately store, slow, detain, spread and sink stormwater on private and public land to; **(RetroSuburbia)**

- increase productivity of garden and urban agriculture
- reduce bushfire hazard
- rebuild floodplain ecosystems

Readings & Resources

WWW.RETROSUBURBIA.COM

Retrosuburbia: the manifesto
Feeding retrosuburbia: from the backyard to the bioregion
A short personal and global history of Retrofitting the Suburbs
History from the future: a story from 2086
RetroSuburban Real Estate Evaluation Tool (excel spreadsheet)
The Melbourne Model 2018

Books from WWW.HOLMGREN.COM.AU

RetroSuburbia: the downshifters guide to a resilient future
Permaculture: Principles & Pathways Beyond Sustainability
revised edition 2017
Future Scenarios: how communities can adapt to Peak Oil and Climate Change
2008