

BE WHAT YOU WANT TO BE

# Housing in Central Queensland

...responding to the resource boom  
and climate change



**Dr Delwar Akbar and Dr Susan Kinnear**

Sustainable Regional Development Programme

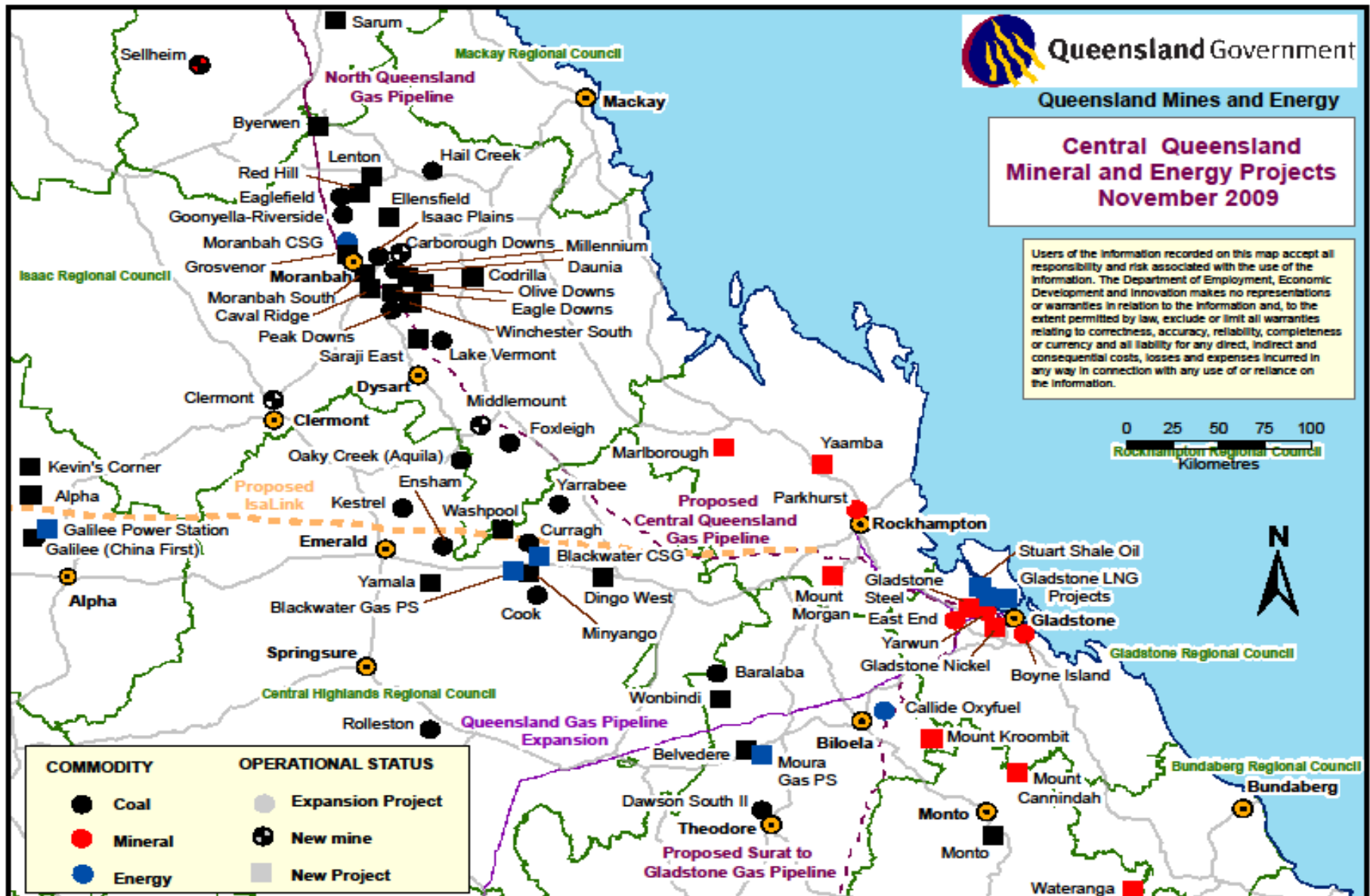
Centre for Environmental Management, CQUniversity

# Housing studies in CQ

- Non-linear/neural housing demand modelling (Surat Basin)
- Demand modelling and accommodation impacts (Grosvenor Mine)
- Demand forecasting and supply analysis (Coppabella, Codrilla, Boulder Steel and Eagle Downs)
- Assessing Housing and Labour Market Impacts of Mining (Bowen Basin)
- Ensuring sustainable benefits from Boom Periods: long term housing policy in the Bowen Basin



# CQ Region and the Mining Boom



# Housing in the Bowen Basin: supply & demand challenges

- Timing
- Costs
- Variability
- Role of government & private sector
- Community attitudes and expectations



# Housing issues: flow-on effects

- Housing affects all socio-economic brackets
- Low affordability degrades liveability and easily transits to other parts of economy
- Housing shortages mean trouble in attracting skilled labour

.... poor 'regionalisation' outcomes

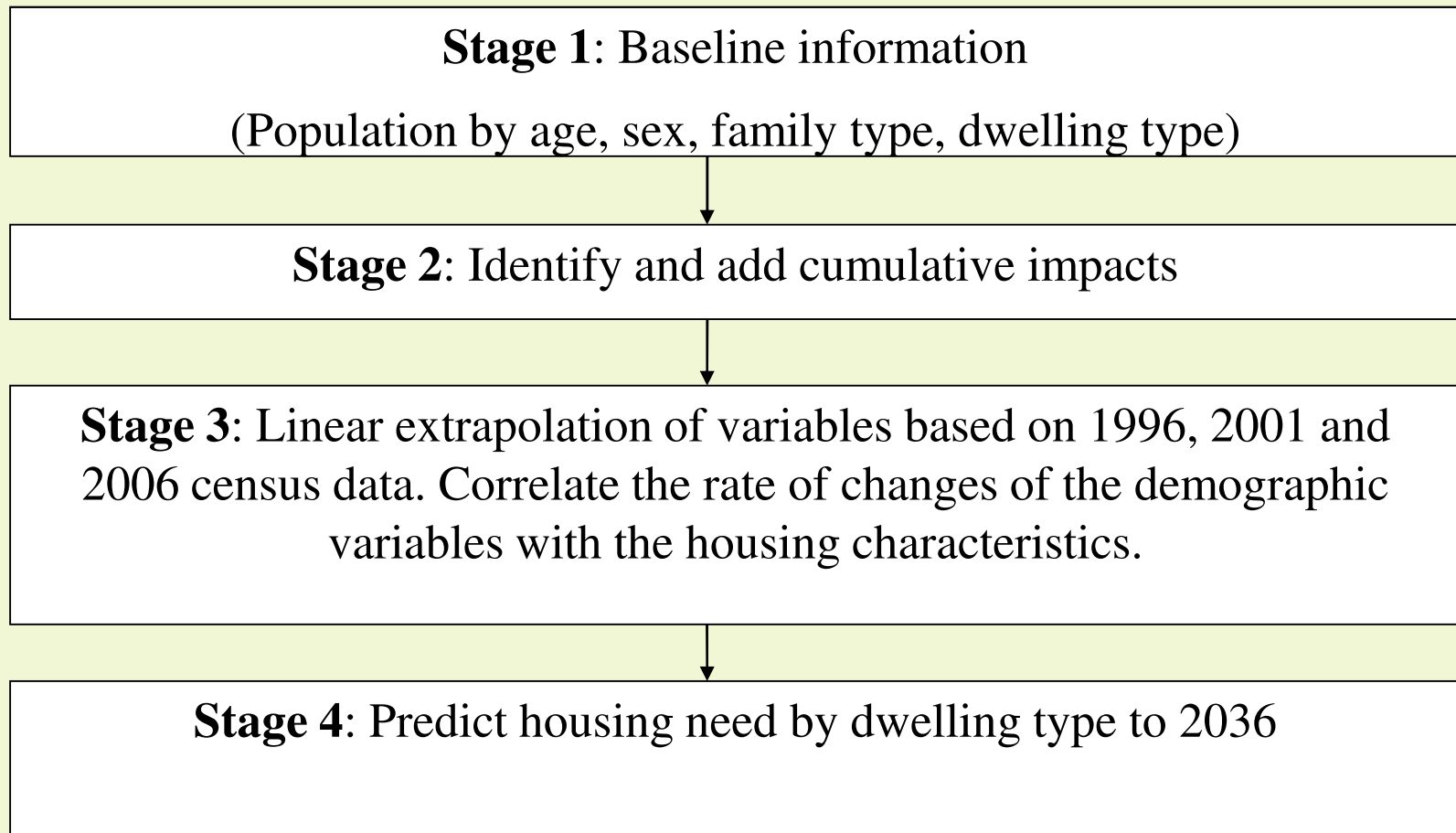
# How to predict housing need: key issues

- Population challenges  
(estimating growth; non-resident workforce)
- Changing socio-demographics
- Workforce locations
- Number and scale of major projects  
(cumulative effects)



# Bowen Basin Regional Housing (BBRH) Model

## The Model



# Bowen Basin Regional Housing (BBRH) Model

## Application of the model on Moranbah

Housing demand by dwelling type	2006	2011	2016	2021	2026	2031	2036	Change
<b>Separate house</b>	2,031	2,221	1,792	1,842	1,948	1,942	1,938	<b>-93</b>
<b>Semi-detached /townhouse</b>	43	97	121	123	129	128	128	<b>85</b>
<b>Flat/ unit</b>	85	190	229	234	244	243	243	<b>158</b>
<b>Other</b>	208	211	171	155	150	141	135	<b>-73</b>
<b>Total private dwellings</b>	<b>2,366</b>	<b>2,719</b>	<b>2,313</b>	<b>2,354</b>	<b>2,470</b>	<b>2,454</b>	<b>2,443</b>	<b>76</b>
<b>Separate house as % of total</b>	86%	82%	77%	78%	79%	79%	79%	

# Bowen Basin Regional Housing (BBRH) Model

## Application of the model on Moranbah – incorporating cumulating impacts

Housing demand by dwelling type									
	2006	2011	2016	2021	2026	2031	2036	Change	%
<b>Separate house</b>	2,087	3,185	4,096	4,287	4,391	4,389	4,387	2,300	110
<b>Semi-detached /townhouse</b>	62	194	393	412	422	422	422	360	582
<b>Flat / unit</b>	81	253	563	568	568	558	550	469	575
<b>Other</b>	90	136	194	200	203	202	201	111	124
<b>Total private dwellings</b>	2,320	3,768	5,245	5,467	5,584	5,570	5,560	3,240	140
<b>NPD (including SPQ)</b>	995	2,129	4,237	4,441	4,553	4,553	4,553	3,557	357
<b>Separate house as % of total</b>	90%	85%	78%	78%	79%	79%	79%		

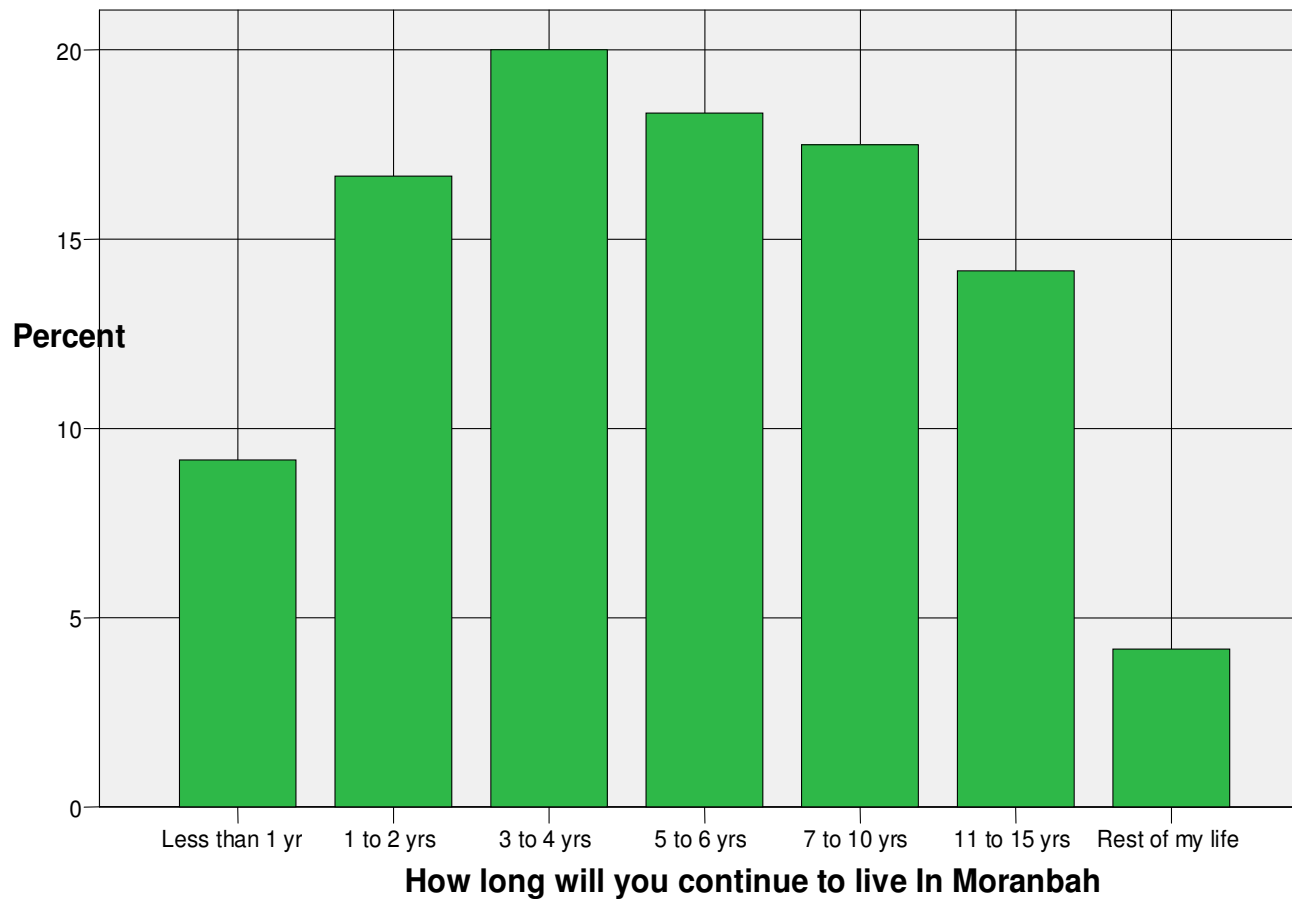
## BBRH model outcomes

The Bowen Basin can expect:

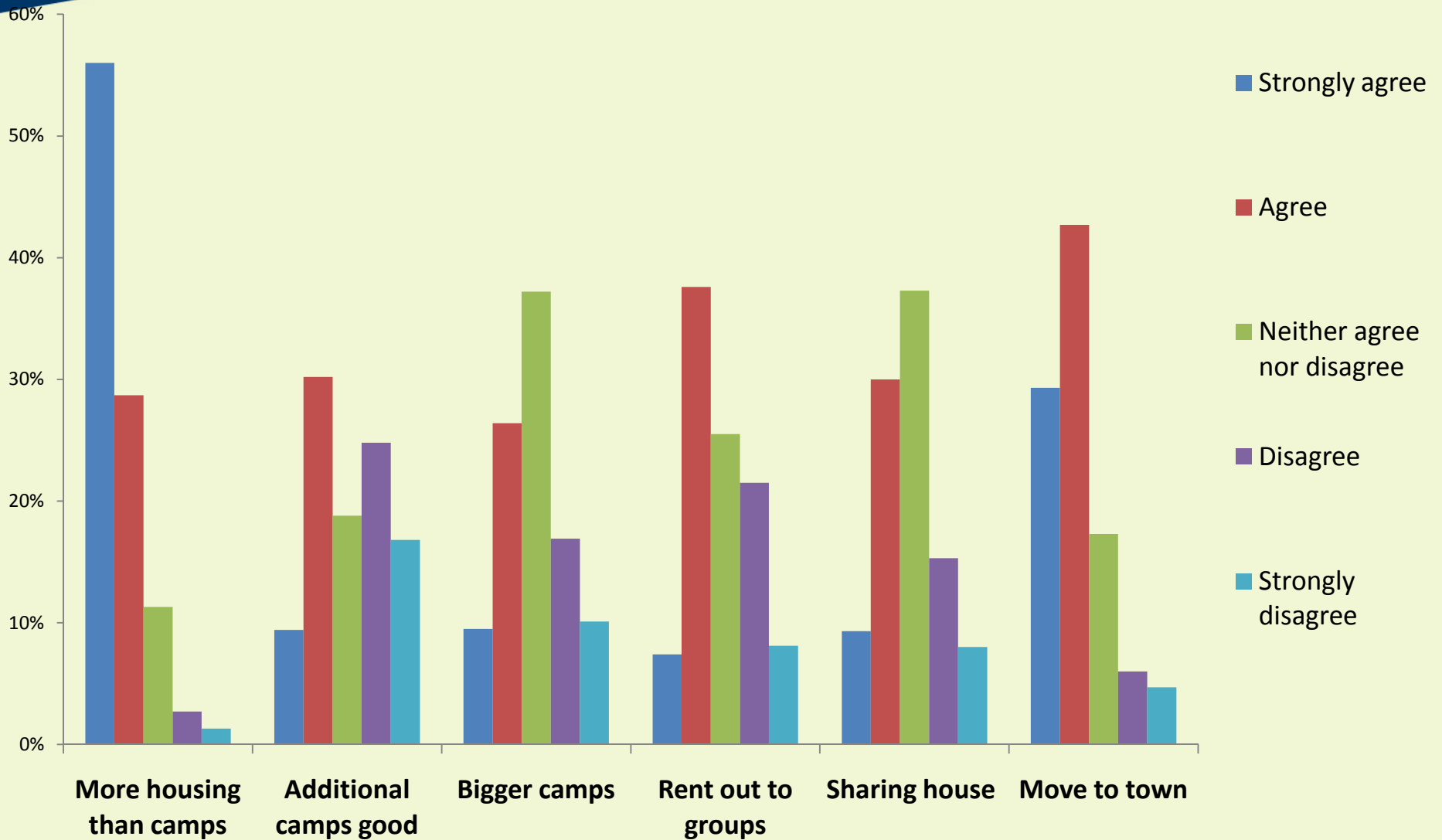
- ❖ Moderate demand for private separate housing
- ❖ High demand for SPQs and temporary accom.
- ❖ More options between these options
  
- ❖ There is a need to consider non-residents, family and dwelling type(s) in future predictions
- ❖ Figures agree favourably with surveys of community/mining employees

# Commitment to living in Moranbah

How long will you continue to live In Moranbah?



# Attitudes to housing issues



# Addressing housing issues

- ❖ Understand housing careers better
- ❖ Stimulate private market development where possible
- ❖ Local govt and proponents to assist by:
  - ❖ speeding up approvals
  - ❖ providing longer term certainty about demand
- ❖ Addressing workcamp issues:
  - ❖ Construction versus operational camps
  - ❖ Vary accommodation options
  - ❖ Encourage graduation from one to another

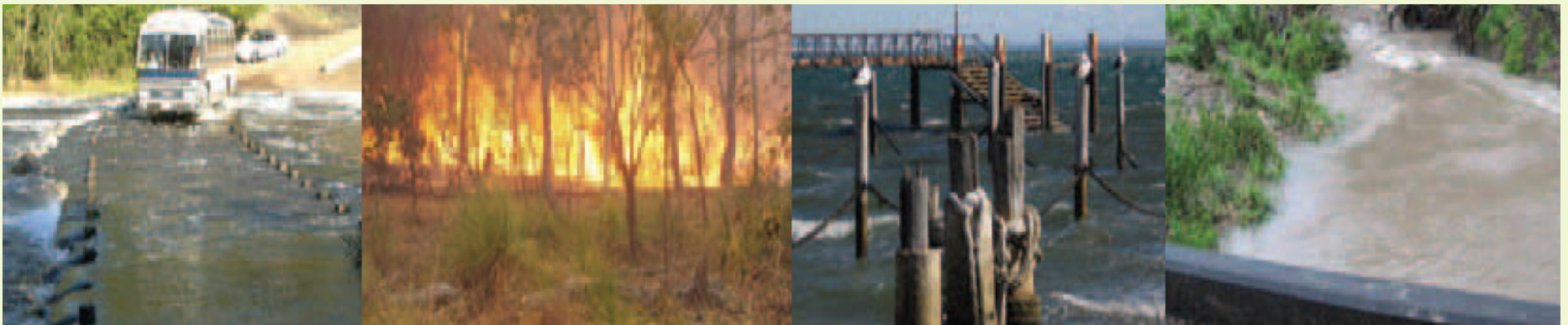
# Sustainable housing and climate change



# Regional climate change – physical impacts

- New housing stock should last 50+ yrs
- Regional predictions indicate key trends to 2030 but ...

little or no information about physical threat  
(bushfire, sea level rise, storm surge)



# Climate implications for 'Seaspray'

- Fit with State policies
- Compliance with the local Planning Scheme
- Nexus of population growth, 'seachange', less available land +/- markets/attitudes
- Seaspray as a model for **sustainable regional (coastal) housing**  
(= climate adapted, resource efficient , lower emissions?)

# What does 'sustainable coastal housing development' really mean ...?

*For the land and housing stock....*

- Climate adaptation & mitigation through
  - safety from physical threat
  - building styles (e.g., energy efficiency) for new homes
  - retrofit of existing stock
  - Considering the optimum density of homes for whole-of-estate footprint

*... what about the residents?*

# What does 'sustainable coastal housing development' really mean ...?

- Housing affordability is a key determinant in influencing population change
- Targeted population attraction .....which socio-demographic groups are desirable?
  - aged, sole occupant of families ?
  - wealthy ?
  - renters or owners ?
- Social context

## A need for more information

- Detailed mapping of physical threats
- Calculating emissions at the whole-of-development level
  - modelling dwelling type : resource efficiency
  - benchmarking
- How to improve environmental performance without impacting on affordability / social outcomes...  
(achieving 'sustainable regionalisation')