Incorporating Climate Risk into a LSPS

Presentation to the LGNSW workshop on climate change adaptation

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We acknowledge the traditional custodians of the land and pay respects to Elders past, present and future.

The Department’s Aboriginal Community Land and Infrastructure Program (ACLIP) team focus on improving planning outcomes for Aboriginal communities.

They have partnered with artist Jordan Ardler, who painted the original artwork that inspired the branding throughout this presentation.
Contents

1. Identifying change – Megatrends
2. Managing change – Strategic planning
Identifying change – Megatrends
A strategic line of sight ensures planning decisions can be made at the right spatial scale and ensures that high order plans inform local strategies.
Increasingly global change is being experienced with local impacts

Unquestionably the world is being transformed at a breathtaking pace, fuelled by a highly complex set of megatrends which are deeply changing the way we live.

Demographic megatrends

Technological megatrends

Geopolitical megatrends

Economic megatrends

Environmental megatrends

(Megatrend Watch Institute 2018)
At the national level the CSIRO has identified seven megatrends that will impact the future.

1. More from less
   Increasing demands for limited resources

2. Great expectations
   Rise of the individual consumer

3. The silk highway
   Rapid economic growth and rise of the middle class

4. Forever young
   An aging population and changing patterns

5. Digital immersion
   An increasingly technologically connected society

6. Porous boundaries
   Technology and globalisation are changing global relationships

7. Planetary pushback
   Protection of biodiversity and the global climate

(CSIRO 2012)
For 20 years the Dutch have been working towards the achievement of “twice as much food using half as many resources”.

This is being achieved through partnership between Wageningen University (research), the market and local producers.

For instance:

Globally the Netherlands is the second largest food exporter (by value)

For 20 years the Dutch have been working towards the achievement of “twice as much food using half as many resources”.

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Dutch horticulture relies heavily on greenhouses, allowing farmers to closely control growing conditions and use fewer resources like water and fertilizer.

Total water footprint of tomato production
Gallons per pound, 2010

Netherlands - out of the top 25 producers by yield
In tons per square mile, 2014
People are living longer and enjoying a more extravagant lifestyle. There has been a growing expectation by the consumer for a higher quality of goods and services, particularly the fast delivery of goods facilitated by technology.

A Koala mattress can be delivered in 4 hours if you’re located in a city, and within 24 hours in regional areas.

As on demand products and services increase, distributing goods in congested urban environments becomes a challenge.

For instance:

4 hour delivery of bulky goods
For instance: Meeting the demands of the high end gift market in South-East Asia

Australia cannot be South-East Asia’s agricultural supplier, instead our high food safety standards and global image has supported the development of Australia as a delicatessen.

Australian farmers sell smaller quantities of high-value product.

The challenge for planning is to facilitate a seamless freight transport network and logistics industry that can transport perishables into South East Asia in a timely manner.
Australia’s population is now over 25 million, of which 1/10 are over 65 years of age.

From: 25 retirees to every 100 people of working age in 2017
To: 34 retirees to every 100 people of working age in 2036

Sources:
- ABS, catalogue no. 3101.0
- NSW Department of Planning and Environment Population Projections, 2016
- Queensland Treasury, 2015
5. Digital immersion

Digital technologies are changing the way we live, work and play. They are changing information flows and decision-making behaviours.

Digital is associated with the birth and rapid ascendance of entirely new cultures, markets and societal norms.

The exciting and daunting reality is that we are in the early phases of this transformation. If industrial revolutions happen over centuries we’re still in the first quarter of the information era.

The most significant change lies ahead.
For instance:
Data is becoming more important in driving decisions

Amid the political impasse in much of the world, big data can help reveal how society feels about environmental issues at a grassroots level.

Researches have found that Google search histories can be used as a barometer of social awareness – measuring communities awareness of climate and their ability to adapt to it.
Autonomous technology goes beyond car-based mobility to autonomous mass public transit and to other transport sectors, such as shipping.

For instance, the YARA Birkeland will be the world’s first fully electric and autonomous container ship with capacity for 120 TEU (twenty-foot container equivalent units) Due for delivery in 2019 and expected to be fully operational by 2020.
Countries across the globe are experiencing extreme weather events that are resulting in catastrophic impacts to humans and infrastructure, both of which are extremely susceptible to climate variability. Many communities at risk of such events could be left without access to transport, communications, electricity and basic services.

Climate change threatens both physical and natural infrastructure. Just as physical infrastructure is fundamental to the functioning of society, natural infrastructure plays a key role in protecting populated areas from inundation by flooding and coastal erosion.

In recent decades, degradation of ecosystems has exceeded damage to physical infrastructure increasing the impacts of heavy flooding or natural disaster.
For instance: Melting sea ice opens new trade routes across the Arctic

2015 to 2030

Predicted fastest shipping routes through the Arctic
- Ice-breaking ships
- Regular ships

North American routes
Sea ice thickness 1m 0.5m
Atlantic Ocean
North Pole
European routes

2045 to 2060

North American routes
Yokohama, Japan

European routes

As global warming continues, by 2030 routes over the North Pole could open for *ice-breaking cargo ships* capable of operating in ice up to four feet thick.

By 2045 to 2060, the decline of Arctic sea ice under moderate warming could allow even *ordinary cargo ships* to journey directly over the North Pole.
Megatrends have helped us understand life for EVERYONE, EVERYWHERE in the future.

Planning needs to analyse future scenarios to inform decision making on future land uses.
Addressing uncertainty and risk

MACRO
MEGATREND
Selected trends that impact your business and markets

SUBTREND
A sub-layer of trends that have wide ranging impacts

IMPACT TO YOUR LOCALITY
Visualising the roadmap of these critical forces through scenario building and macro economic forecasts

MICRO
IMPACT ON FUTURE PRODUCT/TECHNOLOGY

ANALYSIS OF OPPORTUNITIES AND UNMET NEEDS
How might a plan need to respond

Collaboration between all stakeholders is essential to achieving a strategy.
A strategic led, outcomes focused planning system has better capacity to address change factors as it is more flexible and responsive.

It can acknowledge and plan for a range of outcomes in alignment to a vision.
Managing change – Strategic planning
A refocused perspective for the planning system – prioritising upfront strategic planning

Where we have been

No strategic led planning framework, effort, or capacity development. Lack of resources.

The strategic and statutory components of the planning system do not give effect to each other.

Focus on DA systems with a contested merit debate influencing decisions that have not aligned to a strategy.

Where we want to be

The strategic planning framework addresses regional issues in the context of a particular place.

The strategic planning framework informs the delivery framework, giving legitimacy to the selection of planning tools.

The strategic planning framework informs future infrastructure needs and their timing, sequencing and delivery, and will also identify catalyst projects. Strategic planning framework informs levels of delivery.
A refocused planning system that builds capacity to better deal with change

1. Updates to the **Environmental Planning and Assessment Act** (Local Strategic Planning Statements)

2. For the first time in NSW there are **Regional Plans** for the whole state
The regional vision and goals

Vision: The best region in Australia to live, work and play thanks to its spectacular environment and vibrant communities.

The most stunning environment in NSW
A thriving, interconnected economy
Vibrant and engaged communities
Great housing choice and lifestyle options
PLANNING PRINCIPLES - GUIDING GROWTH ON THE NORTH COAST

PRINCIPLE 1: DIRECT GROWTH TO IDENTIFIED URBAN GROWTH AREAS

PRINCIPLE 2: MANAGE THE SENSITIVE COASTAL STRIP

PRINCIPLE 3: PROVIDE GREAT PLACES TO LIVE AND WORK IN A UNIQUE ENVIRONMENT
North Coast Regional Plan 2036

Direction 3: Manage natural hazards and climate change

**Action 3.1** Reduce the risk from natural hazards, including the projected effects of climate change, by identifying, avoiding and managing vulnerable areas and hazards.

**Action 3.2** Review and update floodplain risk, bushfire and coastal management mapping to manage risk, particularly where urban growth is being investigated.

**Action 3.3** Incorporate new knowledge on regional climate projections and related cumulative impacts in local plans for new urban development.
Local planning will implement the actions of regional plans
An overarching local strategic plan that will guide planning at the local level, including updates to a local environmental plan. It will include:

• a **land use vision** that describes the future direction of a local government area over a 20 year planning horizon (and builds on the 10-year vision in a Council’s Community Strategic Plan)

• a succinct **planning context** of a locality, including significant economic, social and environmental attributes that inform and/or require a response from local strategic planning

• the key land use **planning priorities** that will help materialise that vision of the planning horizon and **actions** to deliver those planning priorities

• monitoring and reporting program

A **new opportunity** for the community to engage with and have a say on the plan that will shape the future of their localities and places

– in the context of a **regional and/or district planning framework**
For instance, a local strategic planning statement may...

Set the strategic narrative about a local government area that will identify the key spatial elements such as:

- The existing town centre with a village character on a train line
- Respond to the regional plan in providing for additional housing in identified urban growth areas
- A new employment precinct within the urban growth boundary to provide jobs to the growing population
- An identified coastal character (east) and environmentally sensitive corridor (west)
- Vulnerable areas subject to the predicted effects of climate change
The LSPS will be informed by, and acknowledge existing strategies, reinforcing their strategic importance.

The LSPS can include actions to identify strategies or programs that need to be commenced or updated.

Other inputs...

- Local Growth Management Strategies
- Coastal Management Programs
- Bushfire Risk Management
- Floodplain Risk Management Plans
The LSPS should identify those areas that require a finer grain analysis, such as a town centre, precinct or other area requiring further strategic planning investigation, development control plan or other tailored response.

This can include areas particularly vulnerable to climate change impacts in order to inform further investigations, future growth areas or correctly calibrated statutory controls.
What is the vision for your Local Government Area?

What climate adaptation and risk management strategies are required to get there?
Next steps for the LSPS?

• Councils are required to have a LSPS by:
  ○ 1 July 2020

• Assistance, resources and data will be provided by the Department

• Contact the Department if you have a questions

• Look at the LSPS Guide, available on the Department’s website and tune into the Planning Connects 10th October 2018