# The NSW Department of Planning:
# Draft Hunter Regional Plan and Draft Plan for Growing Hunter City
# – Climate Action Newcastle Review and Submission

Climate Action Newcastle has reviewed these Plans primarily in relation to climate change mitigation, and adaptation. Each section of the submission includes recommendations and questions that should be addressed, and falls under the following headings:

- Summary
- Climate change mitigation
- Coal
- Coal seam gas
- Renewable energy
- Transport
- Native vegetation, habitat and preventing species extinction
- Climate change adaptation
- Useful news and references

Any questions regarding this submission can be forwarded to:

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## Summary

The Draft Hunter Regional Plan and accompanying Draft Plan for Growing Hunter City are both out of step with important current trends and factors such as:

- the urgency for climate change mitigation by every level of government
- the structural decline of the coal industry and need for sustainable economic restructuring
- the lack of economic, environmental and social viability for coal seam gas
- the rapid uptake and availability of affordable renewable energy
- Australia being at the forefront of the greatest rate of species extinction since the dinosaur age

From a climate change point of view the Plans are concerning because:

- the Plans barely mention **climate change** and do not address climate change mitigation
- the Plans explicitly support the on-going expansion of **coal** mining and export
    - at the expense of climate safety
    - at the expense of other sustainable sectors that could flourish in the Hunter such as renewable energy and agriculture
    - in denial of the structural decline of the coal industry
- the Plans explicitly support the development of the new **coal seam gas** industry in the Hunter despite
    - market decline and asset write downs across the sector
    - atmospheric / environmental damage
    - being unfeasible due to a lack of 'social licence' in the community
- the Plans show no increase in **public transport** links or services
    - despite the benefits to reducing greenhouse gas emissions from more public transport
    - despite the increasing difficulty of planning and installing this public transport infrastructure as city development encroaches – especially for modes such as High Speed Rail
- the Plans contain no clear commitments to foster the development of **renewable energy** - which may see the Hunter miss out on the huge environmental benefits and economic opportunities that may be provided by RE if it is planned for and developed at the soonest time
- The plans evidence a fatalistic approach to the decline in native vegetation and critical habitat instead of **planning to protect** these habitats.
    - Despite the threat of climate change to threatened species and a need to allow a buffer of protection through saving the habitat that is left
    - Despite the release of carbon emissions from land clearing
    - With an unscientific over-reliance on 'off-sets' (even when there is no 'like-for-like' vegetation remaining to offset) and with an unrealistic reliance on mining rehabilitation to enhance corridor connectivity
    - No new national park areas outlined to ensure habitat protection
    - Building homes in greenfield sites (bushland) is given preference in the Plans but could be avoided through more urban consolidation and increased density in existing areas, building smaller houses, and taller buildings and renewing older developed areas
- Climate change adaptation is not explicitly addressed and is housed under 'natural hazards'. Of this:
    - There is an indication that the funding of coastal management strategies to protect existing communities and infrastructure from 'natural hazards' will fall onto Councils and affected communities. This needs to be explicitly defined, ensuring equitable funding mechanisms will be developed – especially given that polluting industries which exacerbate climate change are currently being advantaged and encouraged by the NSW Government.
    - Responding to the effects of extreme heat is not addressed at all in the Plans

## Climate change - mitigation

**An urgent and drastic reduction in greenhouse gas (GHG) emissions is required to maintain a safe climate - in line with the recent Paris Agreement target of less than 2 degrees increase (since pre-industrial times).**

**Already, substantial changes are occurring to Earth's climate at around 1 degree increase and many scientists warn that we may soon to reach 'tipping points' into irreversible climate chaos, and they encourage more ambition in our greenhouse gas mitigation targets. This should be actively planned for by every level of Government – and at the scale of the Apollo Project or Snowy Hydro Scheme to be commensurate with the level of urgency and threat.**

However, Climate change mitigation is not addressed at all in the Hunter Plans. In fact climate change is barely mentioned, and when it is, there is no reference to mitigation, only adaptation (which is housed under the 'natural hazards' heading).

The Hunter Plan does mention diversifying the Hunter economy, but at the same time emphasises planning support and business confidence for the coal mining and coal seam gas sectors in the long term. This is at odds with reducing GHG emissions and the current climate crisis. It is also at odds with the structural decline of the coal industry and the rapid rise and availability of renewable energy technologies.

Content in the Adapt NSW website indicates that the NSW Government does recognise the seriousness and urgency of climate change, and that it is in fact forced by anthropogenic greenhouse gas emissions, and yet there is no indication in either of the Hunter Plans that the NSW Department of Planning (DoP) is attempting to respond to this information by planning to mitigate the threat of greenhouse gas emissions to the climate.

Which begs the question: if the NSW Minster for Planning and the staff of the NSW DoP do not see it as their role to translate the information about climate change into practical plans for the structural transition to a low carbon economy in NSW and the Hunter; then which State officers should we be looking to for this planning?

Reference is made in the Plans to diversifying the Hunter economy, while at the same time stating clear support for the emissions-intensive sectors of coal mining and coal seam gas into the "long term". Carbon intensive industries place other identified sectors that might support diversification at risk, such as:

- all agricultural enterprises including viticulture, equine industries are at risk from drought, flooding, erratic and unpredictable growing seasons, and increased wildfire.
- oyster farming – ocean acidification is a threat to the shell growth of oysters. (Incidentally, pollution from the Williamtown RAAF base may also be an issue for this industry in the Hunter Estuary.)
- freight and public transport links are prone to disruption from flooding across rail lines and roads and increasing wildfire events

Recommendations to address climate change mitigation:

- Respond to the climate change advice from the NSW Office of Environment and Heritage, the CSIRO, the Australian Bureau of Meteorology, the Intergovernmental Panel on Climate Change, NASA, the Goddard Institute, and every other reputable climate science institute in the world; by actively planning to mitigate climate change.
- Implement measures seen in other State and City plans in Australia and across the world such as:
    - tangible strategies to rapidly transition the Hunter economy away from carbon-intensive industries such as mining; and plan toward a zero carbon economy
    - setting a target date and plan for achieving 100% renewable energy in the Hunter

- setting a target date and strategies for the peak and reduction of per capita greenhouse gas emissions of Hunter residents
- setting targets for decreasing per capita consumption of electricity – driving energy efficiency
- devising measures for reducing emissions from transport, waste and agriculture
- committing to no new coal mines
- committing to increasing local mass public transport links
- committing to an increase in electrified intra-city mass public transport links which may include high speed rail

- More exploration of diversifying the Hunter economy by measures such as:
  - Commitments and support for developing renewable energy projects - of all scales
  - Pro-actively re-establishing manufacturing and energy-intensive industries that can be powered by renewable energy, taking advantage of the residual Hunter skills base and Port
  - Re-funding tertiary education institutions and training entities that may enable the creative arts sector (such as the Hunter TAFE)
  - Advocating for adequate funding for the Newcastle CSIRO, Hunter Medical Research Institute, the University of Newcastle and other science and research entities that drive innovation and economic resilience
  - Ensuring adequate infrastructure (such as fiber-optic broadband) to strengthen the digital economy
- Stop prioritising the coal and coal seam gas sectors and placing other sectors of the Hunter, and the health of the environment, at risk.
- Promote business confidence for sustainable low-carbon sectors such as renewable energy generation, instead of for the coal and coal seam gas sectors

## Coal

**Pollution from coal exports is Australia's biggest contribution to dangerous climate change. Burning and mining coal is emissions-intensive, and a reliance on the coal sector is weakening the resilience of the Hunter economy. It is also causing irreversible damage to the land, water and biodiversity of the Hunter.**

**Australia and countries around the world, have agreed to keep global temperature rise to no more than 2°C over pre-industrial levels (noting we are already at around 1°C increase). To do this, scientists advise that most of the world's fossil fuel reserves must be left in the ground, unburned, to keep global temperature rise to no more than 2°C. See Reference 'Unburnable Carbon'.**

Coal is in permanent structural decline, and the emphasis in the Hunter Plan on supporting the growth of the coal industry in the immediate and long term is negligent and out of step with international trends.

The infrastructure of the Hunter Valley Coal Chain is set to become 'stranded assets'.

> Hunter Plan Page 19. Action 2.1.1 "Coal mining will be an ongoing priority industry, predominantly due to its export value. Over the coming decades, the region will continue benefitting from the economic and employment flow-on effects of the growth of the coal mining industry…"

It is disappointing to read that the DoP plans to entrench the coal industry in the Hunter into the future. It is long past time to get a new plan for how to "grow the largest regional economy in Australia". The coal export sector is in permanent structural decline and the emphasis on growing the coal industry is at odds with: coal's structural decline, with the rise of renewable energy, with community resistance to coal mine expansion, and with the urgent need to mitigate climate change.

The message from climate science is that we need to leave all remaining coal in the ground and drastically reduce our carbon emissions now.

- Projections by the CSIRO and the Bureau of Meteorology have "very high confidence" that temperatures will rise across Australia throughout the century, with the average annual temperature set to be up to 1.3C warmer in 2030 compared with the average experienced between 1986 and 2005.
- Temperature projections for the end of the century depend on how deeply greenhouse gas emissions are cut. The world is currently tracking at the higher emissions scenario, meaning a temperature increase of between 2.8C and 5.1C in Australia by 2090.
- The "business-as-usual" approach to mining and burning fossil fuels is set to permanently heat Australia more than the rest of the world, which will average a temperature increase of 2.6C to 4.8C by 2090.

All references to diversifying industry and work opportunities in the Hunter Plan are welcome but need detail, emphasis and urgency: it's a plan-to-plan while repeatedly citing a commitment to the coal industry in the *long term.*

> Hunter Plan Page 15. "Principle 3. Protect the environment and respond to climate change impacts. "The city will provide the essentials – clean air and water."

This section does not in any way address 'climate change impacts' and should be re-written.

In the interest of clean air, the impact of coal dust on the residents of Newcastle and those along the Hunter Valley coal chain should to be adequately investigated and addressed. Last year's National Pollutant Inventory (reference) found that air-borne coal dust from coal mines had doubled in five years and tripled in ten.

The Port of Newcastle could be re-geared toward manufacturing and agricultural exports; and away from coal loading – beginning with the closure of PWCS Carrington Terminal; and by not constructing the recently approved Terminal 4 project.

In addition to climate change impacts, coal mining has had heavy impacts on local land and water systems in the Hunter, including salt and heavy metal pollution. Many voids have not been rehabilitated and damage is permanent and an on-going waste of land. More stringent rehabilitation requirements need to be put in place for all existing and historic mining operations – with clear funding arrangements that do not fall back on the public purse.

Recommendations in relation to coal mining in the Hunter:

- Respond to the risks and threat of climate change and commit to:
    - no new coal mines
    - the phase out of mining and a jobs restructuring plan for the Hunter
- Commit to the closure and re-purposing the Port of Newcastle coal loading facilities – beginning with PWCS Carrington Terminal
- Place more stringent requirements on mine owners to ensure the adequate rehabilitation of historic and existing mines.
- Promote the same level of planning and business confidence for renewable energy and low carbon sectors that coal and coal seam gas currently receive.

## Coal Seam Gas

> Hunter Plan Page 18. Direction 2.1 Promote investment to grow regional rural and resource industries.
> The Hunter has undeveloped potential to supply coal seam gas resources in its Hunter and Newcastle coalfields and the Gloucester Basin…"

After the withdrawal of AGL and a clear lack of 'social licence' expressed by the community, it is a surprise to see the Gloucester Basin mentioned in the Plan and the strong emphasis on expanding coal seam gas in the Hunter is not welcome. The CSG industry has proven to be environmentally risky, and not the low-emissions energy source that those championing the sector originally claimed it to be.

An April 2015 Australian Energy Market Operator report outlines that no gas shortage is expected due to lower than forecasted consumptions levels. The industry is export-market driven, and with energy efficiency measures and the rapid rise of renewable energy, the general demand for gas is declining and could halve within a decade. If unnecessary gas infrastructure is built on the basis of inflated gas demand projections then unnecessary network costs will be passed onto NSW households and businesses, as happened with electricity prices over recent years.

> Hunter Plan Page 19. (Blue box) Developing alternative energy sources in the Hunter
> In the coming decades, coal mining will continue to be a priority….. New opportunities will also emerge within the region, allowing the Hunter to diversity its energy sector through the development of alternative energy sources, including gas and renewables.
> "…proposed gas extraction projects in the Gloucester Basin."

CSG is outdated and operators such as AGL have already pulled out in Gloucester and are scaling back across the board. Waste coal mine methane may have a role if it is capturing existing fugitive emissions - however is not renewable and should instead be placed under the gas paragraph of this box.

More planning work needs to be applied to developing renewable energy in and for the Hunter.

> Page 22. "Petroleum Exploration Licence (PEL) buy-back scheme (under which the NSW Government recently purchased licences in the Hunter Valley and southern Lake Macquarie)

Licence buy-backs are expensive and wasteful for the taxpayer and it would be less risky to not issue any more licences for GSG in the first place to avoid this scenario recurring.

Recommendations in relation to Coal Seam Gas:

- DoP should respond to the lack of 'social licence', economic and environmental viability for Coal Seam Gas, the abandonment of the Gloucester Project by AGL and Dart Energy in Salt Ash, and asset write-downs across the industry.
- Coal seam gas wells should not be further developed in the Hunter and no new licences issued to avoid future licence buy-backs and stranded assets.
- Coal seam gas is not a low-carbon technology and preference should be given to the development of clean renewable energy.

## Renewable Energy

**For climate change, social, and economic reasons, the world is shifting rapidly from polluting energy from fossil fuels to renewable energy. As nations across the world become energy-independent, the demand for imported or traded energy will fall – leaving Australia's greenhouse-intensive economy exposed.**

**On the other hand, numerous studies have now shown that it is feasible for Australia's domestic energy supply to be powered by 100% renewable in as little as 10 years. Some studies also cite Australia as having the potential to be a Renewable Energy Super Power (BZE 2015) with the opportunity of attracting energy-intensive trade-exposed industries and producing renewable energy commodities.**

**The more rapidly renewable energy can be deployed in Australia, NSW, and the Hunter; the more secure the economy will be, and the less impact we will have on climate change.**

There are a couple of welcome references to developing renewable energy in the Hunter Plans, however they are not backed up by any credible planning detail or commitment to building and supporting renewable energy on any scale.

> Hunter Plan Page 18. "Direction 2.1 Promote investment to grow regional rural and resource industries
> "The Hunter has undeveloped potential to...develop large-scale renewable energy projects from wind, solar and geothermal sources. Supporting these industries to establish and grow will capitalise on the region's existing energy supply and distribution infrastructure (for example power stations and transmission lines) as well as its industry experience and expertise."
>
> Page 23. "the NSW Government will: develop analytical tools to identify and map large-scale renewable energy potential building on new information such as the *Australian Government's Australian Renewable Energy Mapping Infrastructure,* as it becomes available."

- When will the above mapping and analytical tools be produced and land use proposals and commitments for renewable energy development be announced? The federal *Renewable Energy Mapping* project referred to appears to now be complete and that information is already available.
- Replacing coal fired generators and using the existing centralised generation infrastructure is welcome, however these statements lack planning detail.
- Why are only large-scale renewables mentioned in terms of wind and solar? Does the NSW Government see any role for itself in accommodating and fostering medium and small-scale wind and solar?

> Hunter Plan Page 23. "work with councils and industry to identify and support opportunities for smaller-scale renewable energy projects such as those using bioenergy or waste coal mine methane, supporting greater energy security within the region."

- Waste coal mine methane is not renewable energy and should be in the Gas section if anywhere
- Small scale wind and solar are notably not mentioned
- Bioenergy and forestry products energy generation is not necessarily considered renewable. More detail is required here.

General comments

- The game-changing rapid rise of renewable energy is not addressed in the Hunter Plans. Do we want renewable energy such as the massive uptake of rooftop solar to be disruptive, or well planned and accommodated to instill investor confidence and the growth of this sector?
- We would like to see the NSW Government be more pro-active when it comes to mitigating climate change by switching off and replacing the Hunter's coal-fired generators as soon as possible.
- The Hunter Plans have a wait-and-see tone toward renewable energy, while other countries in the world are rapidly making concrete moves to establish themselves as renewable energy centres. There is a limited time opportunity of getting ahead on scaling up RE to attract energy-intensive businesses to establish in New South Wales.
- The NSW Renewable Energy Action Plan is not referenced in the Hunter Plans. According to the NSW Renewable Energy Action Plan Report, Since 2008, growth in electricity generation from wind and rooftop solar photovoltaic (PV) has been "particularly phenomenal", with wind generation increasing 21 times and small-scale solar PV generation increasing 40 times.
    - How can this NSW Plan and these findings better-relate to the Hunter Plans?
- More planning needs to be evidenced in relation to accommodating distributed energy generation through more rooftop solar, micro grids, battery and energy efficiency measures.
- There are no renewable energy references or energy reports in Endnotes indicating a lack of attention to this area.
    - Applying findings from the Smart Grid Smart City project which was rolled out in Newcastle may be useful

Recommendations in relation to Renewable Energy:

- A date target and tangible strategies for powering the Hunter (and NSW) with 100% renewable energy should be at the centre of these Plans, with clear identification of land use proposals and commitments for renewable energy construction.
- Tangible strategies to rapidly transition the Hunter economy toward a renewable energy zero carbon economy should be included in the Plans including
    - Attracting energy intensive trade-exposed industries to the Hunter
    - The production and export of renewable energy commodities
- Renewable energy planning that includes medium and small-scale renewable energy (including accommodating rooftop solar) should be offered in addition to realistic planning for the large-scale renewable energy generation that is mentioned in the Plans. (The Newcastle CSIRO might be a good source of advice for this.)
- Waste coal mine methane is not renewable energy and should be moved into the Gas section
- More detail should be provided on proposed bioenergy – especially generation from forestry products.
    - Is utilising methane gas from any of Hunter Water's wastewater treatment facilities being investigated? See Melbourne Water's Wastewater Treatment Plant in Werribee
    - The Plans should in some way relate to the NSW Renewable Energy Action Plan
    - More planning and work with AEMO needs to be evidenced in relation to accommodating the growth of rooftop PV and demand side participation, micro grids, battery and energy efficiency measures.
    - Distribution network augmentation - upgrades to the existing distribution networks.
    - The Plans could relate to the local findings of the Smart Grid Smart City energy efficiency and networking project which was rolled out in Newcastle
    - There is an emphasis throughout the Plans on promoting business confidence for coal and coal seam gas, including detailed resource mapping – instead renewable energy or other viable sectors should be promoted, mapped and resourced in such a pro-active way.

## Transport

**Increasing the availability of mass public transport is important for reducing greenhouse emissions from transport. Electrified rail and light rail services as well as electric vehicles can be powered by 100% renewable energy.**

**Transport infrastructure has a large influence on urban growth patterns and surrounding land-use and should be planned at the earliest time.**

There are no new public transport services or links proposed in either of the Hunter Plans.

The only new transport links proposed in this plan are two new roads (one through native bushland in the centre of Newcastle, and another across a wetland that is contiguous with the Hexham Swamp Nature Reserve); and the proposed replacement of the Newcastle rail link with light rail – and no detail is provided on the light rail.

It is known that every new link generates more trips through 'induced demand'. Therefore any increased travel links should be through low-emissions technology such as electrified systems powered by renewable energy.

Encouraging walking and cycling is good but as an adjunct, not substitute for mass public transport. No practical or conceptual detail is provided on how walking and cycling would be encouraged.

Establishing electric vehicle charging infrastructure should be explored given the increased availability of these vehicles and an emphasis on road transport.

> Hunter Plan Page 15. Action 1.1.1 Deliver a Plan for Growing Hunter City
> "The NSW Government will - deliver a metropolitan plan for Hunter City to 2036 that: identifies a city-wide transport network that improves options for public transport, walking and cycling options in addition to addressing pinch points in the road network"

- What does "identifying a city-wide transport network" mean - beyond providing maps for what is currently in place?
- Is a plan for a net increase in mass transit services and network being developed? If so when will it be placed on public exhibition?
- What does "improving options for public transport" mean when there are no new public transport services outlined in this plan?
- How will walking and cycling options be improved? (noting that walking and cycling are not public transport)

> Hunter Plan Page 36. "Direction 2.3 Enhance inter-regional transport connections"

- This section outlines what currently exists for freight services and reference to the Newcastle freight bypass however no detail is provided.

Hunter Plan Page 36. Direction 2.3 "The Australian Government is investigating opportunities for a high-speed rail network to reduce travel time between capital cities along the east coast.

The high speed rail stands to replace emissions intensive air travel and long-distance driving along the busy East Coast routes of Australia. Reference to Federal planning for High Speed Rail linking capital cities is welcome – however no NSW commitment or resourcing is offered via the Hunter Plans. Given the enormous benefits, yet substantial land-use implications a HSR station would have on any area it is placed, more work urgently needs to occur on this at the State level.

- What is the NSW Government's position on facilitating High Speed Rail? Is any planning or resourcing support for High Speed Rail being provided within the DoP or other relevant NSW Departments?
- Identifying exactly where in the Hunter the High Speed Rail service would stop should be identified at the soonest time as it will have a very large impact on land use in the surrounding area and the city

Hunter Plan Page 36. "Action 2.3.2 diversification of gateways – airport and Port"

- What are the planning implications of the privatisation of the Port of Newcastle? Does the NSW Government retain planning control of this area and can planning for this area be freely realised?
- No public transport link such as light rail is proposed for the airport. Increased car travel in this area places the remaining koala population at risk of local extinction and the lack of transport to the airport is an inconvenience to visitors and residents alike.

Hunter Plan Page 37. Figure 10: Inter-regional transport connections

- This map outlines the existing network only. There are no *new* inter-regional public transport proposed
- Hunter Plan Page 38. Refers to *Figure 10. Future Transport Corridors*, however Figure 10 is actually labeled Inter-regional Transport Connections and outlines no new/future transport links.

Page 15. Hunter City Plan "Direction 1.3 Enhance City-wide transport
The NSW Government is investing in the rail network to manage congestion for both passenger and freight services. This will be supported by walking and cycling, and road and rail networks to provide attractive transport options."

- Apart from the basic safety and amenity maintenance outlined in the Hunter Regional Transport Plan there is no evidence of investment in increasing the capacity of the Hunter network.
- Where and when is investment in the passenger rail network occurring?
- Where and when is investment in freight services occurring?
- Are any specific maps and plans available? And if so can they be integrated into this Plan? If not what is the timing and process for transport network planning?
- How is walking and cycling being supported?

Page 15. Hunter City Plan "Action 1.3.1 Integrate land use and transport planning to encourage more efficient travel patterns and sustainable modes of transport"
"The NSW Government will: work with Councils and communities to align and progress transport plans for Hunter City, giving priority to improving: public transport, walking and cycling connections to key destinations and open space; and connections between strategic centres and transport gateways."

- How and when will the Government work with Council and communities to produce transport plans and invest in improving public transport?
- If integrated city-wide transport plans are still not developed, on what planning basis was the rail link to Newcastle removed?

Page 23. Hunter City Plan: "Investments: Introduction of Light Rail – Newcastle City Centre The NSW Government is investigating options to introduce light rail services to Newcastle. The preferred route announced in May 2014, will link the Wickham Transport Interchange with Pacific Park, activating Hunter and Scott Streets…"

- When will the plans for the light rail be finalised and implemented?
- Will plans for a light rail link be part of a broader city-wide network as proposed by Newcastle City Council "Connecting Newcastle – Our Urban Renewal Vision 2016".
- Will substantially reducing greenhouse gas emissions as compared to existing transport, be a measure of success in Newcastle and Hunter transport planning?

Recommendations in relation to Transport:

- Substantially reducing greenhouse gas emissions from transport should be a driver and measure of success for Newcastle and Hunter transport planning
- A radical upgrade to mass transport and network planning is required and should be provided for Hunter City, within the Hunter Valley, and for Inter-city services. This should include:
    - Throughout Newcastle via key sites such as John Hunter Hospital – in line with the sort of plan proposed by Newcastle City Council in the Connecting Newcastle – Our Urban Renewal Vision
    - A plan and timeline for the light rail that is proposed to replace the Newcastle rail line
    - An independent feasibility study for electrified rail, tram or light rail services powered by 100% renewable energy
    - If a Federal study of inter-city east coast High Speed Rail is being referenced:
        - what is the DoP position on this project?
        - is any planning or resourcing support for HSR being provided within the DoP?
        - where in the Hunter would the High Speed Rail stop?
        - what land-use planning will be conducted around the site of the rail stop?
- Exploration of infrastructure for recharging electric vehicles such as the WA Electric Highway project.
    - Conduct a feasibility study for powering EVs in the Hunter by 100% renewable energy
- Figure 10: *Inter-regional Transport Connections* needs to be corrected to *Future Transport Connections* as it is written on Page 38 - and it should include the identification of actual *future* transport links.
- Detail should be provided for how the two new roads links outlined, will not be detrimental to the native bushland and waterways at George McGregor - Jesmond Park in the centre of Newcastle, and to the Hexham Swamp Nature Reserve for the proposed M1 link.
    - Alternative transport to these links should be scoped before they are constructed
- More general detail needs to be provided for
    - what is meant by "improving options for public transport" when there are no new public transport services proposed in this plan?
    - what is meant by public transport "efficiency" improvements?
    - what is meant by "identifying a city-wide transport network"?
    - how will the mentioned walking and cycling options will be improved?
    - what is the route of the freight rail city by-pass and when will it be built?
    - why is no (train or light rail) public transport link proposed for the expanding Newcastle-Williamtown airports?
    - where and when is investment in freight services occurring?

## Native vegetation, habitat and preventing species extinction

**As stated in the Plans, the Hunter is home to dozens of unique threatened species and native forest communities that face extinction - mostly due to the degradation of habitat. Climate change will increasingly drive changes to habitat and contribute to species extinctions - therefore all critical habitats should be identified and protected now to help future-proof the Hunter's native species from extinction.**

**Native vegetation is also important for growing and storing carbon – while clearing native vegetation is currently negating carbon abatement efforts in Australia**

There is a clear lack of commitment to prevent species extinctions in the Hunter Plans and an over-reliance on unproven mechanisms such as biodiversity offsetting.

Species extinctions don't just happen – they are the death of a thousand cuts. And there are far too many cuts to biodiversity in these Plans.

> Page 35. Action 2.2.3 "opportunities to grow industries within the …Hunter Economic Zone… Beresfield and Black Hill."

- The above areas all contain endangered Lower Hunter Spotted Gum Ironbark forest communities, which are important habitat for threatened species the critically endangered Regent Honeyeater and Swift Parrot.
- The Hunter Economic Zone in Kurri Kurri has been identified as particularly important for these birds, and a recent injunction on development to save the habitat indicates that its land use should be changed from industrial to NSW National Park.

> Page 49. Direction 3.1 Protect the natural environment and biodiversity
> "Land use planning can… support improved environmental outcomes by directing investment to conserving or enhancing biodiversity values, to offset unavoidable impacts of development in locations that have been identified for growth. The uniqueness of the region's biodiversity means that it must often be conserved in place. In line with …legislation."
> "incorporating land with high conservation values into the City's network of open spaces."
> "the NSW Government is… supporting streamlining of the biodiversity assessment and offsetting processes to support growth in the rural and resource areas."

- When "unavoidable impacts" in locations "identified for growth" are citied – it begs the question, what happened to the land use planning? How is it "unavoidable"?
    - It is a matter of priority – and preventing species extinctions should be prioritised
    - Is there a map of these areas?
    - Why were these areas identified for growth if they have important biodiversity values? If the trees are still standing they should be zoned for protection not development.

- Vegetation "offsets" have not been proven to protect species from extinction – especially as outlined "the uniqueness of the region's biodiversity means that it must often be conserved in place"
    - The DoP need to actually listen to this advice and plan to not encroach on critical habitat.

Page 52. Figure 12. Focus Areas for Sustaining Regional Habitat Connectivity
"Enhance connectivity through rehabilitation of mines sites"
"Sustain connectivity through rural land management"
"Sustain connectivity through whole-of-life cycle planning for mining"
"Enhance connectivity through delivery of urban transport infrastructure"
"Sustain connectivity through delivery of greenfield release areas"

- Where is "Sustain connectivity through protecting habitat"?
- The purpose of this Figure is not clear - as the title is 'sustaining habitat connectivity' and yet it focuses on transport connectivity
- Mining is incompatible with sustaining habitat connectivity
- 'Greenfield release' is actually land clearing and is also not compatible with sustaining habitat connectivity nor carbon abatement
- Reliance on mining rehabilitation to enhance connectivity is not viable – going on historical efforts.
- What rural land management activities will be supported by the NSW Government to enhance connectivity?

Hunter City Plan Page 16-17. Objectives for the Hunter City Green Grid
"identifies new open space in land release areas"

- The Green Grid pictures and descriptions are promising however they do not relate to any detail in the Plan.
    - When will the planning detail and mechanisms behind on the Hunter City Green Grid be exhibited?
    - How will activities such as promoting green skills and encouraging local food production, healthy eating, improving air quality, urban greening, actually be effected by the NSW Government?
- Are the identified "new open space in land release areas" actually remnant creek lines and steep areas not able to be built on? Will these be viable habitats once the land is "released" and built upon?
- Smaller lot sizes, urban consolidation and increase in town houses and building heights in some areas are not discussed in the Plan and should be explored instead of the unsustainable expansion into Newcastle and the Hunter's remaining native bushland.
- Along with the over-clearing of habitat, weeds and animal pests, climate change will increasingly impact on the resilience of native species to survive extinction. All remaining critical habitats should be excluded from development to ensure species survival in the long ter,
    - Please define in planning terms what is an "unavoidable impact?" And what has been the role of planning in such cases?
    - What are the actual sites where planning has already decided development will occur despite the impacts on biodiversity? Is there a map?

## Climate change adaptation

**Changes to climate and weather patterns are already occurring, and will increase in severity due to the lag time for greenhouse gas pollution that is already in the atmosphere. Coastal communities such as Newcastle, Lake Macquarie and Port Stephens, are particularly vulnerable to sea level rise, coastal erosion and storm surge. Away from the coast wildfire and drought are threats to life and production. The effects of increased flooding events and extreme heat will also have negative health effects on all human and animal populations.**

**The Stern Review – the Economics of Climate Change 2006 warned that mitigating climate change would be a less disruptive and less expensive approach to climate change, than carrying on with business as usual and relying on expensive adaptation measures. The Review estimated that the economic impact of unmitigated climate change would cost between 5% and 20% of each nations annual GDP – largely in infrastructure adaptations and emergency responses.**

- The Hunter Plans and the Adapt NSW website indicate that the NSW Government is taking the more expensive and disruptive approach to climate change by relying on adaptation instead of mitigation - and not moving away from fossil fuel mining and uses.

  Hunter Plan Page 71. Direction 4.3 Build the region's resilience to natural hazards

- Climate change adaptation is not explicitly addressed in the Plans. All matters relating to adaptation are housed under the 'natural hazards' section – with no conceptual link made between anthropogenic greenhouse pollution and the increase in severity of 'natural hazards'. Reading this section, it's as if the climate is just changing all by itself for no particular reason.

  Page 73. "Councils will remain predominantly responsible for identifying and managing these threats. The NSW Government will support councils to develop evidence and provide strategic advice to inform decision-making."

  Page 74. Blue box - Coastal Reform Process
  "Sustainable funding and financing arrangements… based on a set of cost-sharing principles to fairly and transparently identify who benefits from proposed coastal management actions and who should contribute to the costs. To support the new approach, the Office of Environment and Heritage will review various funding and financing mechanisms for use by councils."

  - The focus on coal and gas development in this Plan will drive climate change and 'natural hazards' that require adaptation and yet the NSW Government seems to be washing its hands of the impacts.

  - Beyond providing data management and decision-making tools, it appears that the DoP and State Government is leaving adaptation measures ("natural hazards") to Local Government, for the expensive and politically challenging task of planning for adaptation measures is not feasible.
    - Are coastal communities likely to be seen as those who "benefit" from coastal management actions and to be those imposed upon to fund these measures through rates or levies?
    - What is the timeline for production/exhibition of the OEH funding mechanism?
    - Has the concept of 'polluter pays' been canvassed to fund climate adaptation/response?

- Responding to the effects of extreme heat from climate change is not addressed at all in the plan.

Recommendations in relation to Climate Change Adaptation

- We call on the NSW Government to stop exacerbating the risk of climate change by increasing coal and gas mining and reduce the long-term expense and difficulty of climate change adaptation
- Re funding and financing arrangements for coastal management strategies (aka climate change adaptation measures)
    - A timeline for the development of these funding arrangement should be indicated.
    - The onus for delivering and funding adaptation measures should not be on local government or affected communities
    - A polluter pays mechanism should be explored and reported upon
- Planning for rising sea levels and the protection of foreshore infrastructure and communities should be explicitly outlined in the Plans
- Planning for the effects of extreme heat from climate change should be explicitly outlined in the Plans
- Supporting councils should include:
    - funding to design and build new infrastructure
    - political and organisational support if planned coastal retreat is required

# Useful news and references

**A few really good plans**

AP2 A new climate change strategy and action plan for ACT
http://www.environment.act.gov.au/__data/assets/pdf_file/0006/581136/AP2_Sept12_PRINT_NO_CROPS_SML.pdf
Includes chapters on:

- Meeting 2020 emissions reduction target
- Reducing residential sector emissions
- Ensuring a fair society in a low carbon economy
- Reducing non-residential sector emissions
- Reducing transport sector emissions
- Transitioning to Large Scale Renewable Energy
- Developing a clean economy
- Adapting to climate change

Green Vancouver - website
http://vancouver.ca/green-vancouver.aspx
Green Vancouver City Strategy
http://vancouver.ca/files/cov/renewable-city-strategy-booklet-2015.pdf
"Goal – to get 100% of our energy from renewable sources before 2050
Already the lowest greenhouse gas emissions per person of any major North American city."

**Climate change – the urgency for action**

Unburnable Carbon – why we need to leave fossil fuels in the ground
http://www.climatecouncil.org.au/unburnable-carbon-why-we-need-to-leave-fossil-fuels-in-the-ground

True Shocker – spike in global temperatures stuns scientists - SMH 13 March 2016
http://www.smh.com.au/environment/climate-change/true-shocker-spike-in-global-temperatures-stuns-scientists-20160313-gni10t.html

Climate change will hit Australia harder than rest of world study shows 26 January 2016
http://www.theguardian.com/environment/2015/jan/26/climate-change-will-hit-australia-harder-than-rest-of-world-study-shows

**NSW Government Climate Change Materials**

NSW Government Action on Climate Change
http://www.climatechange.environment.nsw.gov.au/About-climate-change-in-NSW/NSW-Government-action-on-climate-change

- all about adaptation and gearing up to respond to emergency events
- nothing on climate change mitigation

Observed Global Climate Change
http://www.climatechange.environment.nsw.gov.au/About-climate-change-in-NSW/Evidence-of-climate-change/Observed-global-climate-change

- Good statements and links clearly outlining climate change being human induced and an urgent issue
- There is no response to this in the Hunter Plan

Causes of Climate Change
http://www.climatechange.environment.nsw.gov.au/About-climate-change-in-NSW/Causes-of-climate-change

- This page spells out anthropogenic climate change
- No attempt has been made to address any this in the Hunter Plan.

NSW Emissions – Greenhouse Gas Accounting
http://www.climatechange.environment.nsw.gov.au/About-climate-change-in-NSW/NSW-emissions/Greenhouse-gas-accounting

- This page spells out the emissions sources of NSW
  No attempt has been made to address any of these in the Hunter Plan.

**Coal and stranded assets**

An eye to the future as coal slides downhill – Newcastle Herald Editorial Martin Rush 8 March 2016
http://www.theherald.com.au/story/3777787/an-eye-to-the-future-as-coal-slides-downhill/

Abbott bets house on coal, as price crashes. And Plan B is?
http://reneweconomy.com.au/2014/coal-price-crashes-abbott-relies-fossils-plan-b

Mining, oil and gas to face further headwinds in the New Year as China slows
http://www.abc.net.au/news/2016-01-04/2016-mine-oil-gas-outlook-subdued/7063246

**Coal Seam Gas - stranded assets and social licence**

AGL energy abandons gas production and exploration
http://www.smh.com.au/business/energy/agl-energy-abandons-gas-production-and-exploration-20160203-gml73w.html

No Short Term Gas Supply Expected - Australian Energy Market Operator report April 2015
http://www.aemo.com.au/News-and-Events/News/News/2015-Gas-Statement-of-Opportunities

The Dash for Gas Could See Demand In New South Wales Fall To Half - TAI
http://www.tai.org.au/content/dash-gas-could-demand-new-south-wales-fall-half

Coal Seam Gas by the Numbers – ABC
http://www.abc.net.au/news/specials/coal-seam-gas-by-the-numbers/
"Coal seam gas uses enormous amounts of water, one of Australia's scarcest resources."
"Coal seam gas mining produces huge amounts of chemicals and salt as by products"

Coal seam gas and social licence to operate – University of Melbourne
http://www.icpublicpolicy.org/conference/file/reponse/1435215007.pdf

Coal seam gas debate is more than hot air – University of Melbourne
https://pursuit.unimelb.edu.au/articles/coal-seam-gas-debate-is-more-than-hot-air

**Public Transport**

Generated Traffic and Induced Travel – implications for transport planning. Litman 2015
http://www.vtpi.org/gentraf.pdf
" Traffic congestion tends to maintain equilibrium. Congestion reaches a point at which it constrains further growth in peak-period trips. If road capacity increases, the number of peak-period trips also increases until congestion again limits further traffic growth. The additional travel is called "generated traffic." Generated traffic consists of diverted traffic (trips shifted in time, route and destination), and induced vehicle travel (shifts from other modes, longer trips and new vehicle trips). Research indicates that generated traffic often fills a significant portion of capacity added to congested urban road."

**Renewable energy**

BZE Renewable Energy Super Power
http://media.bze.org.au/resp/bze_superpower_plan.pdf

Renewable energy jobs fall by 27% over four years
http://www.theguardian.com/environment/2016/mar/15/renewable-energy-jobs-fall-27-four-years

NSW Renewable Energy
http://www.resourcesandenergy.nsw.gov.au/__data/assets/pdf_file/0005/537197/NSW-Renewable-Energy-Action-Plan-Annual-Report-2014.pdf
**"**The NSW Government has reiterated its support for the achievement of a national 20% (41,000 gigawatt hours) Renewable Energy Target (RET) over an extended period of time in a submission to the RET review. The RET lowers the cost of energy for customers; supports a competitive market; assists in energy security through diversification; and manages the risks associated with rising gas prices. I would like to thank the Australian Renewable Energy Agency (ARENA) and the Clean Energy Finance Corporation (CEFC) for their extensive support of innovative projects in NSW."

http://www.resourcesandenergy.nsw.gov.au/about-us/news/2015/five-minutes-with-amy-kean
"..the local energy trading trial in Willoughby City and Byron Shire Councils. The project aims to level the playing field for local energy and provide economic benefit to communities with small-scale solar. I would like to see a methodology established for calculating local network charges and rule changes to improve opportunities for small-scale electricity generators to distribute and sell electricity locally using cost-reflective pricing arrangements.

**Biodiversity Offsetting**

Does offsetting work to make up for habitat lost to mining
http://theconversation.com/does-offsetting-work-to-make-up-for-habitat-lost-to-mining-27699