Creating jobs in high-priority employment regions via decarbonisation-aligned stimulus

Briefing prepared for the Second Roundtable of the Climate & Recovery Initiative — September 2020

Overview: Context and purpose

In designing COVID-19 economic recovery packages, special attention must be paid to high risk regions.

Australia as a whole faces a daunting jobs crisis, but some regions have been especially hard hit. In the worst-affected employment regions, jobactive caseloads have increased by 2-3 times as much as the least-affected regions.* Uneven impacts risk exacerbating underlying disadvantages, inhibiting recovery in high risk regions.

Many groups have argued for stimulus measures that align COVID-19 recovery with a transition to a low carbon economy.

Australian business, social, environmental and energy groups (including Ai Group, ACTU and BCA) have jointly called on governments to prioritise a transition-aligned recovery.

Internationally, the EU, World Bank, IMF and International Energy Agency each support calls for a transition-aligned recovery. The EU's recovery deal allocates €550 billion to climate-aligned investments by 2027 - the largest single climate pledge ever made.

Participants at the first Climate and Recovery Initiative Roundtable in June, 2020 recognised **a need to develop and assess specific, transition-aligned job creation opportunities in employment regions hardest hit by COVID-19.**

This briefing demonstrates an approach to creating transition-aligned jobs in employment regions of highest need.

The briefing does three things:

1. **Identifies high-priority employment regions for targeted stimulus,** based on historic jobactive caseloads and the effects of COVID-19 on local labour markets.

2. **Assesses transition-aligned stimulus program types frequently recommended in the literature,** based on economic impact, timeliness and ease of implementation, and alignment with energy transition.

3. **Presents four transition-aligned job creation opportunities targeted at high-priority employment regions.** Proposals were developed based on regional characteristics and needs, existing initiatives and proposals, capacity for timely delivery, and feasible scale.

This place-based approach could be scaled up when developing larger-scale stimulus packages, creating large numbers of good quality jobs while supporting timely, cost-effective worker transitions.

The four regional initiatives presented in this briefing would on average directly create **8 jobs per $1 million of public investment**. This is similar to or better than "colourless" direct expenditure stimulus programs, and is in line with findings from other research.

* As measured by increase in jobactive caseload per 100 people from Dec 19 to Jun 20

Overview: Policy assessments

We assessed four frequently recommended policy types based on economic impact, timeliness and ease of implementation, and alignment with energy transition. Each can contribute to efficient job creation in high-risk regions if suitably designed and targeted.

Program type assessed	Economic impact	Timeliness and ease of implementation	Alignment with energy transition	Jobs per $1 million of public investment	Comments
Renewable energy infrastructure	●	◑	●	**6-12**	● Transmission upgrades are needed to support well-scoped pipeline of large-scale projects (11 GW) ● Smaller-scale projects are more timely to implement ● 80% of jobs occur in construction phase, less ongoing jobs
Building efficiency retrofits	●	◑	◕	**5-8**	● Energy efficiency retrofits could halve typical home energy consumption, saving households $1200 p.a. ● Many public buildings are suitable for retrofits ● Worker safety must be prioritised, with suitable accreditation and oversight arrangements
Ecosystem improvement	◐	●	●	**6.7**	● Suitable for rapid job creation; relatively low skill and capital requirements ● Local organisations can accelerate planned work. ● Co-benefits for regional tourism and agriculture ● Can provide training and long-term career opportunities
Sustainable transport infrastructure	◐	◕	◕	**6.0**	● Governments can accelerate planned spending on public and active transport infrastructure ● Opportunity to shift mobility patterns to low-emissions modes. Complementary investments can encourage adoption (e.g. education campaigns)

Overview: Proposed regional initiatives

The following priority initiatives are identified to address employment needs in regions especially hard hit by COVID-19. Initiatives were selected based on regional needs and characteristics, existing initiatives and proposals, capacity for timely delivery, and feasible scale.

Program type	Priority regional initiative	Three-year ambition	Direct jobs created	Public investment	Private investment	Potential direct job creation if scaled nationally*
Renewable energy infrastructure	Distributed solar, North Coast of NSW	140 MW installed	1000	$80m	$170m	17,000
Building efficiency retrofits	Residential building retrofits, Western Melbourne	60,000 homes retrofitted	3100	$400m	$500m	15,000
Ecosystem improvement	Ecosystem restoration in South West WA	125,000 hectares restored	500	$75m	$7.5m	12,000
Sustainable transport infrastructure	Active transport infrastructure in Cairns, QLD	50% of planned corridors built	400	$65m	-	12,000

Key insights

- **Many regions hardest hit by COVID-19 coincide with areas of long-term high unemployment**, creating double disadvantage and a risk of prolonged economic stagnation. These regions can be prioritised for targeted, transition-aligned stimulus projects.
- **The proposed regional initiatives would on average directly create 8 jobs per $1 million of public investment**. This estimate accounts for estimated private co-investment but does not include additional indirect jobs created in supply chains and induced jobs created through broader economic multiplier effects. Our estimates are broadly in line with other research in Australia, US and UK, which finds that similar types of initiatives can create 5-15 jobs per $1 million of public investment (see Appendix).
- **Regional proposals can be tailored to local conditions – aided by Local Jobs and Skills Taskforces – to support rapid job creation and low-cost employment transitions.** Short courses, apprenticeships and on-the-job training can support timely and cost-effective transitions for workers displaced by COVID-19.

* National job creation estimates are based on research by AlphaBeta published in the Climate Council's Clean Jobs Plan. They consider the potential of these program types broadly, beyond the specific applications included in our regional proposals.

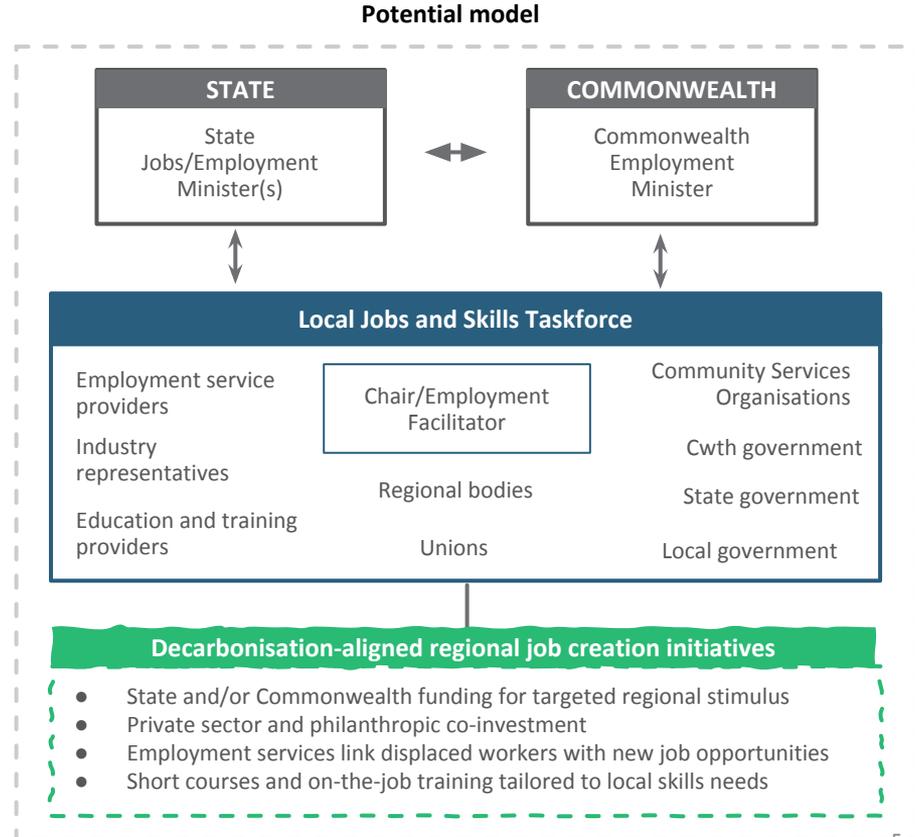# Overview: Regional collaborations can support transition-aligned stimulus

There is growing appetite and momentum for tailored, place-based strategies to support job creation and economic development as part of COVID-19 recovery.

The Commonwealth Government's recently announced $62.8 million Local Jobs Program will establish 25 Local Jobs and Skills Taskforces targeting employment regions most impacted by COVID-19 and facing ongoing disadvantage. State governments and regional organisations are also exploring place-based responses.

Place-based responses should incorporate the best ideas and evidence on decarbonisation-aligned job creation opportunities.
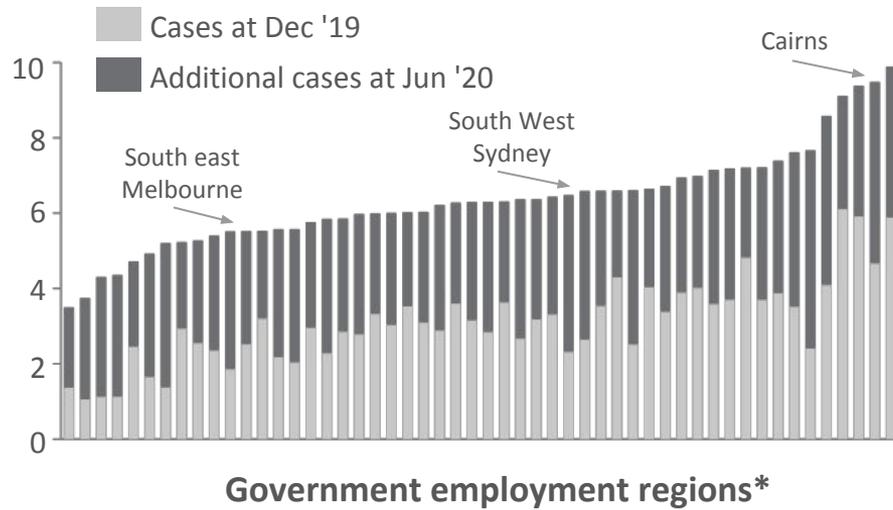
Effective delivery of transition-aligned regional initiatives will require collaboration between governments (local, state and federal), employers, employment service and training providers, and community organisations. Local Jobs and Skills Taskforces have the potential to support this collaboration.

Once established, taskforces should ensure that Local Jobs Plans consider opportunities to efficiently create jobs through decarbonisation-aligned investments. The approach and proposals outlined in this report can be adapted to a wide range of regions and tailored to local needs and opportunities.

Potential model

STATE	COMMONWEALTH
State Jobs/Employment Minister(s)	Commonwealth Employment Minister

Local Jobs and Skills Taskforce

Employment service providers

Industry representatives

Education and training providers

Chair/Employment Facilitator

Regional bodies

Unions

Community Services Organisations

Cwth government

State government

Local government

Decarbonisation-aligned regional job creation initiatives

- State and/or Commonwealth funding for targeted regional stimulus
- Private sector and philanthropic co-investment
- Employment services link displaced workers with new job opportunities
- Short courses and on-the-job training tailored to local skills needs

Australia as a whole faces a daunting jobs crisis, but some regions have been especially hard hit.

Jobactive caseload per 100 people as at June 30 2020

Legend:
- Cases at Dec '19
- Additional cases at Jun '20

Chart annotations: South east Melbourne, South West Sydney, Cairns

Y-axis: 0, 2, 4, 6, 8, 10

Government employment regions*

134% — Increase in jobactive caseload across Australia

**+828k** — Additional jobactive cases between Dec '19 – Jun '20

5.8% — Of Australians are on jobactive (up from 3.3% Dec '19)

* The federal government defines 52 employment regions based on natural labour markets. These regions govern the delivery of employment services to people on jobactive. We use jobactive caseload per 100 people as a measure of the severity of the job creation challenge in each region.

Source: Australian Government Labour Market Information Portal, "jobactive Caseload Data - September 2015 to June 2020"

Many of the worst-hit regions coincide with areas of long-term high unemployment.

Impact of jobactive increases has been felt across Australia

Highest increase in jobactive case load (More than 3.3 per 100 people, Dec '19 - Jun '20)
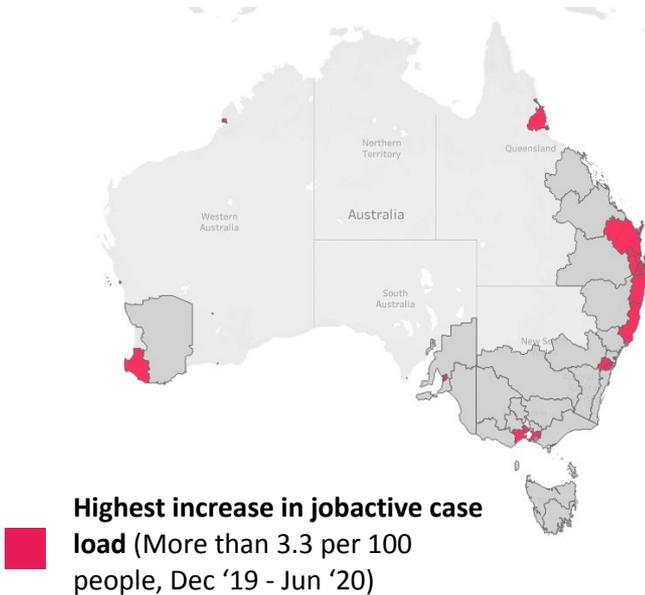
16 regions have double disadvantage of high increase in cases and high historic caseload

Increase in jobactive caseload / 100 people Dec '19 - June '20

Highest risk: 16 regions

Average jobactive caseload / 100 people, 2015-2020
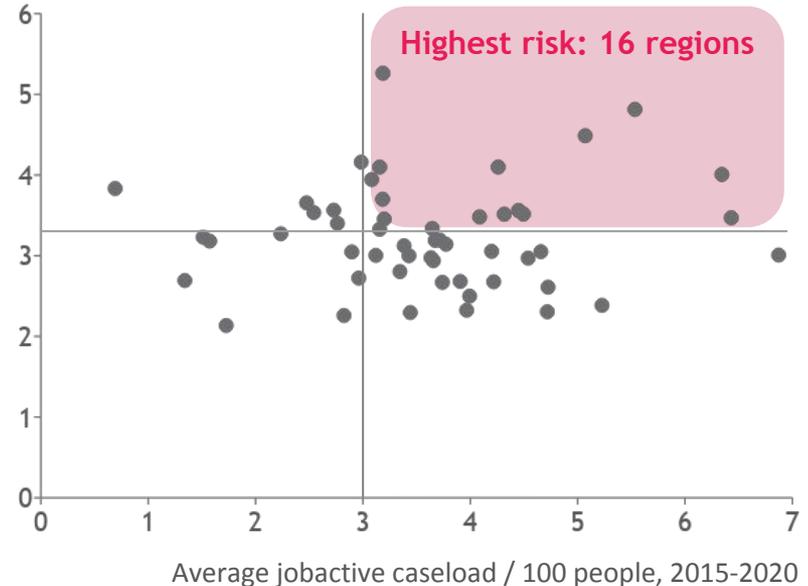
These areas of "double disadvantage" can be prioritised for targeted stimulus projects to boost jobs and support economic growth.

Employment Region	State	Population	Jobactive caseload (Jun 20)	Increase in cases / 100 Dec 19- Jun 20	Average cases / 100 2015 - 2020	Above average baseline & increase	Included in Local Jobs Program
Gold Coast	QLD	684,700	52,514	5.3	3.2	✓	✓
Cairns	QLD	244,500	23,185	4.8	5.5	✓	✓
North Coast	NSW	239,500	20,552	4.5	5.1	✓	✓
NW Melbourne	VIC	406,300	26,324	4.2	3.0	✓	✓
Wide Bay & Sunshine Coast	QLD	672,100	51,190	4.1	4.3	✓	✓
Western Melbourne	VIC	819,000	54,164	4.1	3.2	✓	✓
Broome	WA	14,800	1,464	4.0	6.3	✓	
Sydney SW	NSW	912,800	60,143	3.9	3.1	✓	✓
Brisbane SE	QLD	949,500	60,490	3.7	3.2	✓	
Adelaide North	SA	675,500	48,306	3.6	4.4	✓	✓
Mid North Coast	NSW	310,500	22,956	3.5	4.5	✓	✓
Esperance	WA	10,100	729	3.5	4.3	✓	
South West WA	WA	178,400	12,819	3.5	4.1	✓	✓
Geraldton	WA	36,400	3,415	3.5	6.4	✓	
Wivenhoe	QLD	489,500	30,833	3.5	3.2	✓	✓
Perth - South	WA	1,045,100	70,236	3.3	3.6	✓	✓
AUSTRALIA				**3.3**	**3.0**		

Source: Australian Government Labour Market Information Portal, "jobactive Caseload Data - September 2015 to June 2020"

Research in Australia and internationally has identified leading stimulus program types that create jobs, support economic growth and support the energy transition.

	Renewable energy infrastructure	Building efficiency retrofits	Sustainable transport infrastructure	Ecosystem improvement	Industrial energy efficiency	Clean R&D	Education and training
Oxford Smith School (Hepburn et al)[1]	*	*		*		*	*
International Energy Agency[2]	*	*	*		*		
ANU Crawford School (Jotzo et al)[3]	*	*	*	*			
Climate Council & Alpha Beta[4]	*	*	*	*		*	*
Beyond Zero Emissions[5]	*	*	*	*		*	*
Boston Consulting Group[6]	*	*	*		*		

Program types assessed in this report

* identified as a leading or recommended stimulus option. See Appendix for further detail on each of these studies. This list of program types is not exhaustive; it captures those most regularly recommended in the literature.

[1] Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?, Smith School Working Paper 20-02, 2020. [2] Sustainable Recovery, IEA, 2020 [3] Fiscal stimulus for low-carbon compatible COVID-19 recovery: criteria for infrastructure investment, CCEP Working Paper 2005, 2020. [4] Clean Jobs Plan, 2020. [5] Million Jobs Plan, 2020. [6] Climate Should Not Be the Virus' Next Victim, 2020.

The jobs payoff from transition-aligned stimulus is similar to or better than other direct expenditure programs.

Estimated direct jobs created per $1m of public spending for select direct public expenditure programs[1]
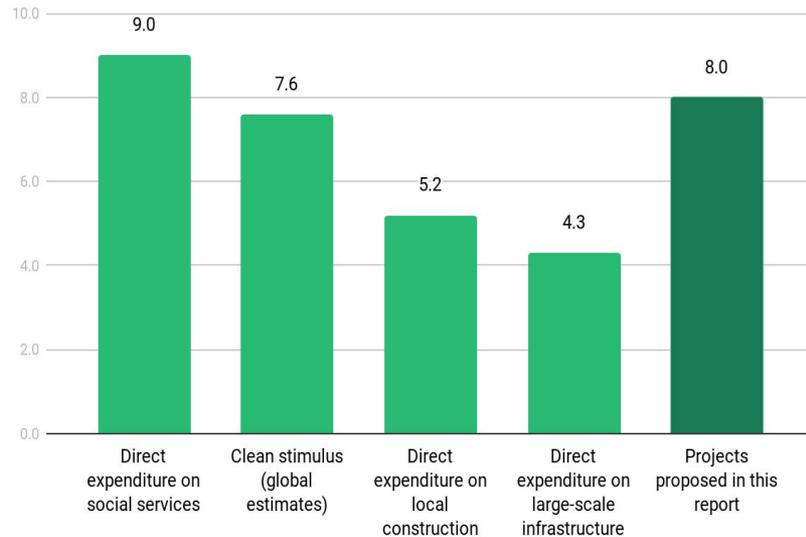
Research by AlphaBeta (published in the Climate Council's *Clean Jobs Plan*) finds that transition-aligned stimulus programs create jobs as efficiently as other Australian direct expenditure programs.

This view is supported by a recent large-scale survey of global economic policymakers.[2] Oxford Professor Cameron Hepburn and colleagues surveyed 231 central bank officials, finance ministry officials, and other economic experts from G20 countries on the relative performance of 25 major fiscal recovery archetypes. Five policies were identified with high potential on both economic multiplier and climate impact metrics: clean physical infrastructure, building efficiency retrofits, investment in education and training, natural capital investment, and clean R&D.

The four regional projects proposed in this briefing are estimated to create 8 direct jobs per $1 million in public spending, on average.* This is in line with global estimates of direct job creation from clean stimulus programs.

*The jobs estimates in this report incorporate only jobs directly created by the stimulus projects and linked private investment. Indirect job creation (i.e. via industry supply chains) and induced job creation (through broader economic multiplier effects) have not been estimated. The overall job impacts are thus likely to be larger than reported here.
[1] Based on analysis by AlphaBeta of job creation impacts of the National Disability Insurance Scheme, Building the Education Revolution, and planned state infrastructure projects. See Clean Jobs Plan, Climate Council and AlphaBeta, 2020. [2] 'Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?', Smith School Working Paper 20-02, Hepburn, O'Callaghan, Stern, Stiglitz, and Zenghelis, 2020

We identified priority projects that match high-impact, transition-aligned stimulus programs with the needs of employment regions hit hardest by COVID-19

Methodology

1. We identified 16 employment regions with high need for job-creating investments, based on historic jobactive caseloads and increases due to COVID-19.

2. We selected four leading transition-aligned stimulus program types, based on existing literature. These are renewable energy infrastructure, building efficiency retrofits, ecosystem improvements and sustainable transport.

3. For each of the four program types, we:
   a. Assessed it based on economic impact; timeliness and ease of implementation; and alignment with energy transition.
   b. Identified a high-priority region that is well suited to this program type, based on regional characteristics such as location, natural resources, infrastructure, COVID-19 impacts and existing initiatives.
   c. Developed a proposed stimulus project, estimating feasible scale of investment (public and private) and expected jobs impact. We discuss support for worker transitions, including skill and training requirements.

Assessing stimulus program types

Economic impact
- Does it maximise the jobs created per $1m of public investment?
- Does it create good quality jobs with long-term employment prospects?
- Does it generate private investment or spending?
- Does it contribute to regional economic development?
- Does it lead to efficiency or cost savings?

Timeliness and ease of implementation
- Does the program enable rapid job creation?
- Could existing programs be accelerated or scaled up?
- Would workers require retraining?
- Does the program require complex policy changes?
- Are there notable implementation risks?

Alignment with energy transition
- How much greenhouse gas would be abated per $1m of public spending?
- Would the program unlock bottlenecks or accelerate decarbonisation in other ways?

Policy opportunity: Renewable energy infrastructure

Policy description

Governments provide grants, low-cost loans and/or other incentives for renewable energy infrastructure ranging from small- to utility-scale. This includes wind, solar, battery storage, and transmission upgrades.

Where is it effective?

- Regions with strong renewable resources.
- Community support for and experience with renewable energy installations.
- Grid connections are critical for large-scale projects. Smaller scale projects are less inhibited by transmission bottlenecks.

What is good practice?

- Renewable Energy Zones coordinate generation and transmission investments.
- Auction schemes for utility-scale projects harness competition, control financial commitments and reduce financing costs.[1]
- Incentivise self-consumption of small-scale solar and appropriately reflect the value to the system.[1]
- Ensure installers are trained and qualified

How does this option compare with alternatives?

Economic impact

- **6-12 jobs per $1m** of public investment, with greater labour intensity for smaller scale installations. Each dollar of public investment can unlock $2-3 of private investment.[2]
- Reduce wholesale electricity costs, thereby improving the cost base of Australian industry.[3]
- Employment peaks sharply in construction phase: one in five jobs are in ongoing operations and maintenance.[4]

Timeliness and ease of implementation

- Well-scoped pipeline of large-scale projects (11 GW nationally)[2], but many cannot proceed due to transmission constraints. Smaller scale projects are more timely to implement.
- Transmission upgrades require complex planning and regulatory processes. Construction for the first REZ (Central-West Orana in NSW) will commence in late 2022.

Alignment with energy transition

- Delivers emissions reductions in the electricity sector. Creates long-term energy infrastructure which provides a viable alternative as coal-fired power stations are decommissioned.[2]

[1] Sustainable Recovery, International Energy Agency, 2020. [2] Clean Jobs Plan, Climate Council and AlphaBeta, 2020. [3] Jotzo et al, Fiscal stimulus for low-carbon compatible COVID-19 recovery: criteria for infrastructure investment, 2020. [4] Clean Energy at Work, Clean Energy Council, 2020

Priority initiative: Distributed solar on the North Coast, NSW

| 1000	140 MW	$80m	$170
jobs created over three years	of new renewable power	of public investment	of private co-investment

The opportunity

- **Install 140 MW of small and medium-scale solar PV systems (≤ 5 MW)** and accompanying battery storage units across the NSW North Coast over the next three years. In doing so, the region would increase installation by twice the national rate per capita achieved in 2019[1], driven by:

1. **Targeted grants for medium-scale solar and storage projects** (1-5 MW), similar to the NSW Regional Community Energy Fund. Grants could attract private co-investment at a ratio of around 1:2.5.

2. **Install rooftop solar on public buildings**, including schools, hospitals and public housing. An ARENA-funded pilot found that investment in rooftop solar and lighting upgrades at NSW schools could reduce electricity costs by 60%, with a 22.1% IRR.[2]

3. **Subsidies for rooftop solar on private homes**. The NSW Government estimates that a 4 kW solar system saves up to $900 per year for the average house in Sydney (where solar resources are inferior to the North Coast).[3]

North Coast Employment Region
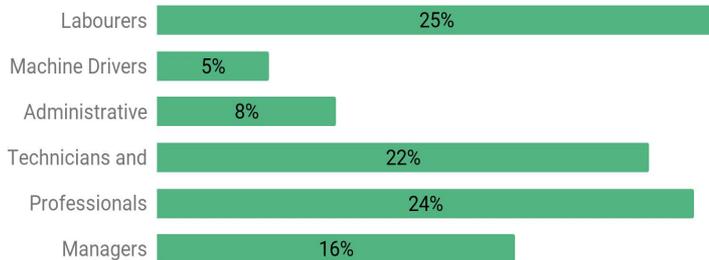

Population: 239,500
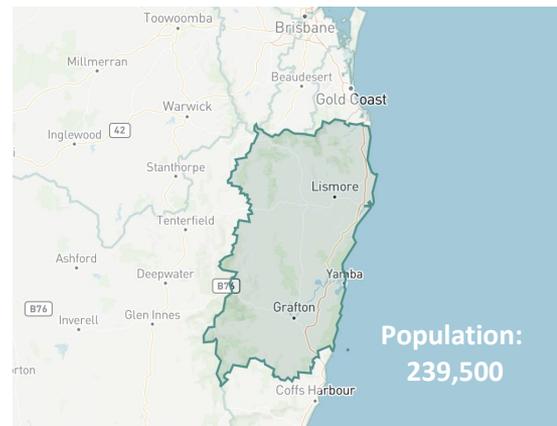
Why North Coast?

- Highest jobactive case rate in NSW (8.6 per 100 at June 30)[4]
- Tourism-dependent region hit hard by COVID-19 travel restrictions, with third highest increase in jobactive case rate nationally since Dec 2019;
- Strongest solar resource potential in coastal NSW.[5]
- Build on community experience of solar and battery storage in Lismore and Byron Bay.

Creating jobs: Distributed solar on the North Coast, NSW

What types of jobs would be created?

2 in 3 — Jobs created would be in the local region.[1]

40% — Of jobs would be electricians, electrical trade assistants and solar roofers. Short courses are needed to upskill transitioning workers.[1]

80% — Of jobs would be in design and installation phase, with operations and maintenance jobs growing over time.[2]

Occupational Composition (%) for Distributed Solar PV[1]

Occupation	%
Labourers	25%
Machine Drivers	5%
Administrative	8%
Technicians and	22%
Professionals	24%
Managers	16%

Short courses can transition labourers into semi-skilled solar PV roles

- One in six North Coast workers is a labourer (compared with one in ten for NSW overall).[3]
- 250 jobs created by this project would go to labourers, predominantly electrical trade assistants and solar roofers.
- Short courses (3-6 months) in electrician assistance and solar roofing could help to transition labourers into these positions. These workers would up-skill in a growing industry: small-scale solar is the biggest contributor to jobs in the renewable energy sector in each AEMO scenario modelled by UTS researchers to 2040.[1]

Work transfer arrangements and apprenticeships could address shortage of skilled workers[1]

- Industry surveys highlight recruitment difficulties for electricians and accredited PV designers in regional areas. This could be addressed through:
  - Electrician apprenticeships that incorporate solar training
  - Work transfer arrangements between companies including portable entitlements.
- Some displaced administrative workers from tourism and hospitality can transition to administrative work supporting new solar PV (approximately 80 new administrative jobs created).

[1] Briggs et al, UTS, Renewable Energy Jobs in Australia: Stage One, 2020 [2] Clean Energy at Work, Clean Energy Council, 2020 [3] Australian Government Labour Market Information Portal, Employment Distribution by Industry vs State, Richmond-Tweed SA4.

Policy opportunity: Building efficiency retrofits

Policy description

Governments subsidise households and businesses to retrofit homes and commercial properties, including via insulation, draught sealing, ducted heating, water heating, and energy efficient appliances. Retrofits can also be applied to public housing and buildings.

Where is it effective?

- Regions with a large stock of older, inefficient buildings.
- Relatively concentrated population (urban or suburban).
- Underutilised labour in electricity supply, building construction and administration.

What is good practice?

- Build on existing energy efficiency programs and standards.
- Ensure appropriate accreditation of service providers, including worker training requirements.
- Develop specific measures to ensure participation of low-income and vulnerable households.

How does this option compare with alternatives?

Economic impact

- Generate **5-8 jobs per $1m** in public investment, due to the labour-intensity of retrofitting and the potential to use government subsidies to induce private spending.[1]
- Unlock ongoing energy savings – approx. $1,200 per household per year for a $15,000 retrofit.[2]
- Develop labour force and supply chains in comprehensive home energy efficiency installations.

Timeliness and ease of implementation

- Existing policy initiatives can be scaled up, though some workers will require training as they move into energy efficiency retrofits.[1]
- Worker safety must be prioritised, with suitable accreditation and oversight arrangements.

Alignment with energy transition

- $15,000 home retrofits could reduce GHG emissions by 41% per household, per year (3.4 tonnes of CO_{2-e} abatement).[2]
- 510 tonnes of CO_{2-e} abated per $1m of public investment.[1,2]

[1] Clean Jobs Plan, Climate Council and AlphaBeta, 2020. [2] Comprehensive Energy Efficiency Upgrades to Existing Victorian Houses, Sustainability Victoria, 2019

Priority initiative: Residential housing retrofits in Western Melbourne

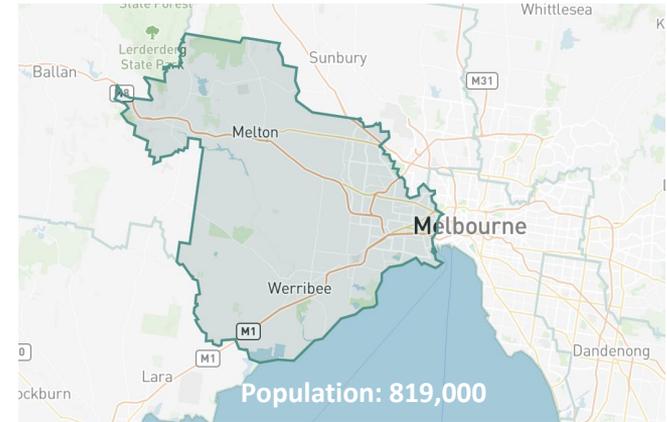| **3,100** jobs created	**$70m** home energy savings per year	**$400m** of public investment	**$500m** of private co-investment

Western Melbourne Employment Region

Population: 819,000

The opportunity

- **Retrofit 60,000 homes** in Western Melbourne over three years to increase energy efficiency and reduce household energy bills. A suite of efficiency upgrades endorsed by Sustainability Victoria could be implemented at an average cost of $15,000 per home.[1]

- **Save $70m on home energy bills and 205,000 tonnes $CO_{2\text{-}e}$ per year.** Modelling by Sustainability Victoria found that energy consumption in a typical pre-2005 Victorian house could be reduced by 52%, saving $1,190 per year.

- **Potential to directly create 3,100 jobs**, predominantly in construction, electricity services, and administration.

- **Government subsidies could incentivise co-investment** from households, using a subsidy rate in the range of 30-50%. The program could build on and complement Victoria's market-based Victorian Energy Upgrades program. Targeted extra support could be directed to low-income households, for example building on Victoria's Energy Savvy Upgrades program.

Why Western Melbourne?

- Highest jobactive case rate in Victoria (6.6 per 100 people at June 30). Further deterioration with prolonged COVID-19 restrictions.[1]
- Large stock of inefficient suburban housing. Sustainability Victoria found an average Home Energy Rating of only 1.8 stars for typical pre-2005 Victorian houses.[2]
- Build on state government programs such as Victorian Energy Upgrades and Home Energy Assist

Creating jobs: Residential housing retrofits in Western Melbourne

Western Melbourne has experienced disproportionate impacts of COVID-19, with risk of further deterioration due to Stage 4 restrictions

163% Increase in jobactive caseload due to COVID-19 to June 30 (compared with 134% national average).[1]

1 in 4 Of Australia's confirmed COVID-19 cases

Construction is a significant local industry with many workers at risk

36,800 Construction workers (pre-COVID) (#4 industry)[2]

9% Of workforce employed in construction[2]

>2000 Jobs lost construction since March, 2020[3]

Jobs will be created in construction, electricity services and administration[4]

- **Building construction workers** for the renovation of residential building stock and installation of building materials, e.g. insulation, windows, draught seals.
- **Electricity supply workers** for the replacement and installation of electrical equipment; e.g. heating, ventilation and air-conditioning systems, lighting, meters.
- **Administrative workers** for management of projects; e.g. register accredited service providers, monitor and collect data, and budget funds.

Local and regional organisations can partner to match job seekers with opportunities

- Partnerships between local employers, training institutes, employment service providers, and regional bodies (e.g. Lead West, West of Melbourne Economic Development Alliance) can help facilitate the placement of displaced workers into roles in the residential retrofit industry.
- Program design must ensure all workers are appropriately trained and licensed. Accessible VET courses and on-the-job training will be required to re-skill some workers and train young people entering the workforce.

17

[1] Australian Government Labour Market Information Portal, "jobactive Caseload Data - September 2015 to June 2020". [2] Australian Government Labour Market Information Portal, Western Melbourne. [3]ABS Weekly Payroll and Wages Data - State and Territory, August 11; we assume that construction job losses in Western Melbourne are proportional with greater Victoria. [4] Clean Jobs Plan, Climate Council and AlphaBeta, 2020

Policy opportunity: Ecosystem improvement

Policy description

Governments can fund conservation projects to restore and revegetate forest and wetland ecosystems in order to enlarge carbon sinks, protect biodiversity and support local industries.

Where is it effective?

- Degraded ecosystems in areas of otherwise high biodiversity and significant carbon sinks, such as Australia's old-growth forests and mangroves.[1]
- Regions with established initiatives that have potential to scale up
- Opportunities for local industry co-benefits, e.g. in tourism or agriculture.

What is good practice?

- Build on existing local models for fast implementation.
- Target displaced workers from other sectors for rapid re-employment.
- Deliver on-the-job training in both specific and transferable skills.

How does this option compare with alternatives?

Economic impact

- **6.7 jobs per $1m** of public investment due to high labour-intensity; little expected private sector co-financing (perhaps 10c per dollar).[1]
- Two-thirds of jobs require no previous experience; low barriers to recruiting unemployed workers.[2]
- Can complement regional tourism, agriculture and carbon farming.[2]

Timeliness and ease of implementation

- Relatively low skill and capital requirements mean programs could be rapidly implemented and scaled.
- Local networks of conservation organisations can accelerate planned work and leverage local expertise.

Alignment with energy transition

- Each hectare of revegetated land sequesters 4 tonnes of CO2 equivalent per year.[3]
- 6,500 tonnes of GHG abated per $1m of public investment.

[1] Clean Jobs Plan, Climate Council and AlphaBeta, 2020. [2] Delivering economic stimulus through the conservation and land management sector, EY, 2020. [3] Based on Greening Australia's Great Southern Landscapes initiative

Priority initiative: Ecosystem restoration in South West WA

500
jobs created over three years

125k
hectares of forest, wetland restored

$75m
of public investment

$7.5m
of private co-investment

The opportunity

- **Restore 125,000 hectares of native forests and wetlands** across South West WA over three years by providing grants for native revegetation and assisted regeneration, weed control, invasive animal control, fencing and erosion control.

- **Fund local organisations to scale up existing programs** such as Greening Australia's Great Southern Landscapes, South West Catchments Council's Wetlands of International Significance, and Gondwana Link.

- **Low-skilled unemployed workers from tourism and other sectors hit hard by COVID-19 can be rapidly deployed and trained on the job**. Western Australia has lost 30,000 jobs in tourism due to COVID-19 (nearly one third of the industry).[1]

- A coordinated multi-year grant program can combine funding from federal, state and local government and the private sector, and build on the $23m for native ecosystem rehabilitation announced in Western Australia's Green Jobs Plan.

South West WA Employment Region
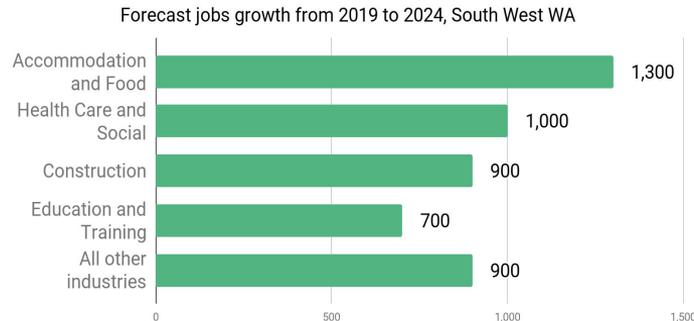

Population: 178,400
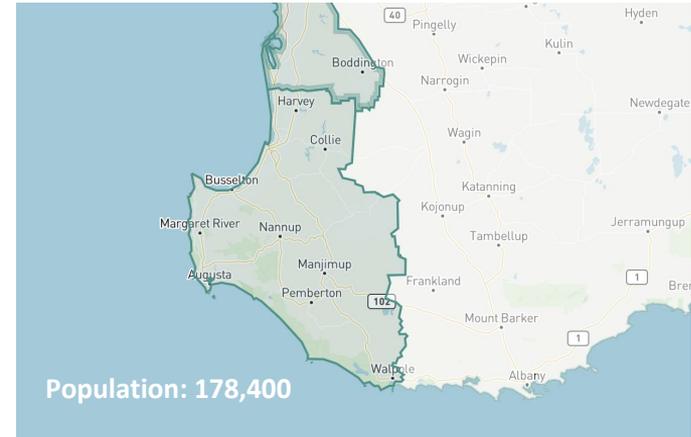
Why South West WA?

- Regional jobactive caseload is 7.2 per 100 (11th highest in Australia as at June 30).[2] Chance to employ displaced workers in the short term and improve tourism assets in the longer term.

- Internationally recognised biodiversity hotspot; over 50% of native vegetation has been lost.[3]

- Opportunity to scale up existing restoration programs run by local organisations.

Creating jobs: Ecosystem restoration in South West WA

South West WA is highly exposed to COVID-19 border closures

#1 Most visited region in regional WA[1]

$1.6b Spent by overnight visitors in 2019[2]

28% Of tourism jobs have been lost across WA[3]

Four industries comprise 80% of forecast jobs growth in South West WA, led by tourism-dependent Accomodation and Food Services[4]

Forecast jobs growth from 2019 to 2024, South West WA

Industry	Jobs
Accommodation and Food	1,300
Health Care and Social	1,000
Construction	900
Education and Training	700
All other industries	900

Ecosystem restoration can rapidly employ displaced low-skilled workers and provide on-the-job training[5]

- 67% of jobs require no formal qualifications or prior experience.
- Jobs can occur in a COVID-safe environment, maintaining social distancing.
- Programs can be designed to build practical skills such as surveying, fencing, seeding and planting as well as transferable skills such as teamwork, communication, job readiness and program management.

Workers can return to growing industries as regional economy recovers

- The largest medium-term job growth in South West WA is expected in Accommodation and Food Services, Healthcare and Social Assistance, Construction, and Education and Training. Upskilled workers can transfer into these higher-growth sectors as the economy recovers over several years.
- Restoration projects can be designed to enhance regional tourism. For example, the Great Southern Biodiversity Link Trail in Southern WA attracts visitors to Gondwana Link restoration areas for digitally-assisted eco-tourism experiences.

[1] Local Government and Tourism Discussion Paper, WALGA [2] Overnight Visitor Fact Sheet 2019 - Australia's South West, Tourism WA [3] Low Carbon Local Tourism Stimulus Package, Clean State, 2020. [4] Employment Projections by Industry, Australian Government Labour Market Information Portal. [5] Delivering economic stimulus through the conservation and land management sector, EY, 2020.

Policy opportunity: Sustainable transport infrastructure

Policy description

- Governments can accelerate planned spending on public and active transport infrastructure (e.g. the Australian Government has announced a $1.5 billion infrastructure investment in response to COVID-19).
- Given the increase in bicycle use during COVID-19, there are further opportunities to accelerate investment in active transport to secure more jobs.[1]

Where is it effective?

- Metropolitan areas where existing transport infrastructure projects have been identified and are 'shovel ready' (e.g. Victoria's Suburban Rail Loop)
- Option to scale up smaller scale grant-based local transport programs in areas with higher unemployment.

What is good practice?

- Projects should only be selected if the required corridors are secured.
- Investment in complementary programs to ensure adoption of infrastructure (e.g. educational campaigns about the benefits of active transport)

How does this option compare with alternatives?

Economic impact

- **6.0 jobs created per $1m** of public investment. Each dollar of public investment can unlock ~$0.5 of private funding, for example through public-private partnerships.[2]
- Active transport projects have health and auxiliary benefits. For example, every $1 invested in cycling infrastructure in Queensland returned almost $5 in health benefits, reduced traffic congestion and other benefits.[3]

Timeliness and ease of implementation

- Very timely for smaller projects or larger projects where corridors have been approved.
- Larger infrastructure projects risk delays and cost overruns if not well-planned and managed

Alignment with energy transition

- Sustainable transport systems can lower greenhouse gas emissions by shifting mobility patterns to low-emissions modes (e.g. cycling, walking, public transport, electric vehicles).
- Additional benefits include reduced air & noise pollution and traffic congestion.[4]

[1] Pedalling to a better normal, Bicycle Network 2020, [2] Clean Jobs Plan, Climate Council and AlphaBeta, 2020 [3] Queensland Cycling Strategy 2017-2027 [4] Green Transport Creates Jobs, Bicycle Network 2020

Priority Initiative: Active transport infrastructure in Cairns, QLD

| **400**	**5 to 1**	**50k**	**$65m**
jobs created over three years	benefit to cost ratio for cycling infrastructure [1]	people living within range of active transport routes	of public investment

The opportunity

Accelerate development of Cairns' active transport network to enable a safer, healthier, lower-emitting community where more people walk and cycle.[2]

1. **Develop a safe and connected network**: bring forward a prioritised program of works to complete 50% of the $130m of investments identified in the Cairns Cycling and Walking Strategy (2018) within three years. Prioritise safe routes within 3km of schools.

2. **Provide supporting infrastructure**: provide wayfinding signage in major active transport corridors, after auditing the network to identify priority locations.

3. **Encourage and promote use:** deliver targeted programs to support and encourage active travel to schools, coordinating with delivery of infrastructure.

4. **Plan walk and cycle friendly communities**: apply best practice design principles and incorporate revised active transport network plans into broader local government planning instruments.

Cairns Employment Region

Population: 244,500
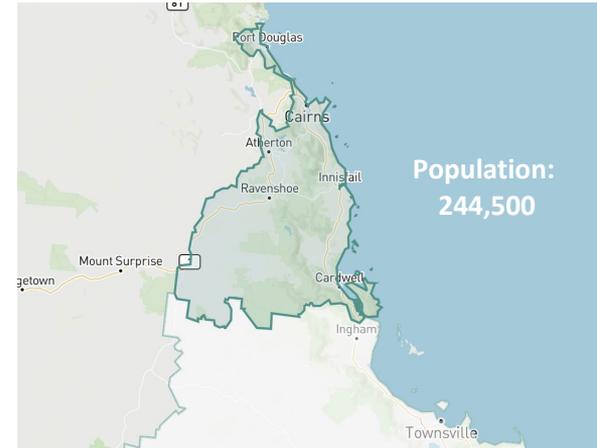
Why Cairns?

- Highest jobactive case rate in Queensland and second highest in Australia (9.5 per 100 people at June 30).[3]
- Less resilient to job losses given distance from other employment hubs.
- Short trips are suitable for walking and cycling (62% of population live within 10km of Cairns CBD, 40-70% of students live within walking/cycling distance of school).
- Above average recreational cycling & walking levels with suitable topography.

Creating jobs: Active transport infrastructure in Cairns, QLD

Cairns has up to 28k jobs at risk and relies heavily on tourism and construction industries[1]

21k Jobs covered by JobKeeper payments in addition to ~8k job losses

15% Workforce employed in tourism industry pre-COVID (#1 industry)

12% Workforce employed in construction industry pre-COVID (#3 industry)

Job losses during COVID-19 in Cairns (June Quarter 2020 vs 2019)[1]

Industry	Losses	%
Accommodation and food services	-2,102	24%
Professional, Scientific and Technical	-936	11%
Other Services	-661	8%
Transport, Postal and Warehousing	-648	8%
Arts and Recreation Services	-414	5%
Retail Trade	-588	7%
Education and Training	-762	9%
Administrative and Support services	-630	7%
Manufacturing	-538	6%
Construction	-511	6%

Jobs can be targeted towards disadvantaged job seekers within the context of QLD's social procurement framework

- **Construction industry particularly influenced by social procurement frameworks:** Social procurement targets were reported by employers in the construction industry as being particularly effective at creating scalable employment opportunities for refugees and other disadvantaged groups.[2]
- **Can be tailored for specific needs of Cairns populations:** Employment targets can be designed in response to the needs of specific places, communities and projects, such as young people who might otherwise take longer to leave the jobactive system
- **Has been demonstrated in practice:** CPBJH[3] secured a West Gate Tunnel Project contract with employment targets including women, retrenched automotive workers, Aboriginal people, migrants, people with a disability, young people and the mature-aged.

Cycling and walking infrastructure produces additional employment outcomes vs other infrastructure

- Cycling and walking infrastructure projects create more jobs per dollar than other transport projects (up to 50% more).[4]
- Cycling improves community connections, increasing participation in social activities and employment, and patronage of local shops and cafes.[5]

Appendix (1/2): How we estimated employment impacts

Estimating the scale of proposed regional initiatives

We estimated a feasible and effective scale for each of the four regional stimulus proposals by reviewing existing and proposed programs for similar policy types and considering the region's size, economic and labour market characteristics, and capacity for delivery.

For example, the active transport initiative in Cairns proposes to accelerate the construction of new walking and cycling corridors identified in the Cairns Walking and Cycling Strategy. The proposed $65m of works over three years would equate to a 12% increase in Cairns Regional Council's annual capital works program. We judge this to be feasible based on existing planning and Cairns' spare workforce capacity in the construction industry.

Estimating direct jobs impact

Our jobs estimates build on the findings of AlphaBeta in estimating the direct job creation impact of transition-aligned stimulus policies.[1] Using this method, direct jobs impact is estimated based on:

a. Scale of investment, including both public investment and private sector co-investment;
b. Labour intensity of the sub-industries involved in delivering the stimulus policy, weighted according to their contribution to the required output.

We adopted Alpha Beta's estimates of job-creation efficiency of particular stimulus policy types (e.g. residential building retrofits) and applied them to the scale of investment identified in our regional proposals.

Initiatives that involve more labour intensive industries and can attract a higher ratio of private sector co-investment can generate more jobs per $1 million of public investment.

Direct jobs versus indirect and induced jobs

Economic evaluations often differentiate between direct, indirect and induced job impacts. This report estimates only direct impacts: the jobs created by the agencies and firms directly involved in delivering the goods and services required for the stimulus measures.

Indirect jobs are those created in the supply chains that serve the industries involved in directly delivering the goods and services required for the stimulus programs. Induced jobs are created by a general rise in consumption linked with the stimulus policy, for example when a worker employed to deliver a stimulus initiative spends her income in the local economy.

The equilibrium impacts of policy measures are difficult to estimate accurately, especially when the economic context is rapidly changing. This report therefore focuses on direct jobs only.

As demonstrated by table on the following slide, the job creation estimates in this report are broadly in line with other estimates from Australia, the UK and US, some of which incorporate indirect and induced job impacts.

[1] See Clean Jobs Plan, Climate Council and AlphaBeta, 2020.

Appendix (2/2): Comparing job creation estimates with other research findings

Job creation estimates used in this report are broadly in line with the findings of other studies in Australia, the US and UK.

	Job creation estimates per AUD 1 million of public investment*					
	This report[1]	**Briggs et al, UTS (2020, AU)[2]**	**EY (2020, AU)[3]**	**Krebel et al (2020, UK)[4]**	**Garrett-Peltier (2017, US)[5]**	**Garrett-Peltier (2011, US)[6]**
Renewable energy infrastructure	6.7 (utility scale) 12.4 (small scale)	5.0-6.8 (utility scale) 10.8 (rooftop PV)		9.0	5.5	
Building efficiency retrofits	5.3 (public buildings) 7.9 (residential)			9.0 (residential)	5.6	
Ecosystem improvement	6.7		13.4	15.2		
Sustainable transport infrastructure	6.0			8.9 (walking and cycling)	6.5 (mass transit and freight rail)	8.3 (cycling) 7.3 (pedestrian)