

Health co-benefits of low carbon policies in the built environment:

An Australian investigation into local government
co-benefits policies

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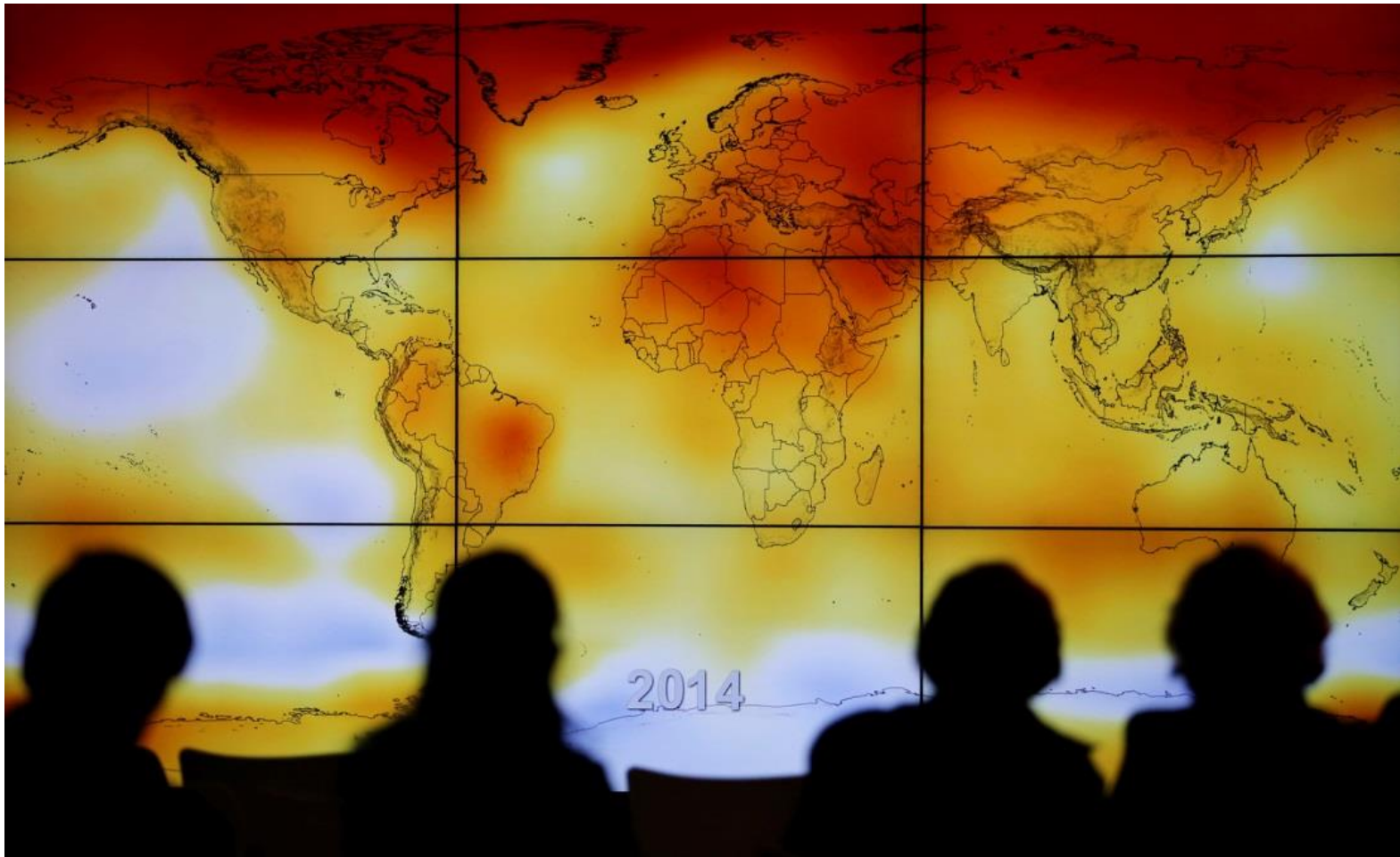


Sustainable Buildings and Climate Initiative
Promoting Policies and Practices for Sustainability



Global Alliance
For Buildings and
Construction

Beyond Paris: What next?



Source: *The Conversation*, December 16, 2015 from the article by Michael Hopkin:
Beyond Paris: what was really achieved at the COP21 climate summit, and what next?



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Co-benefits to reframe climate change mitigation

Greatest health threat or greatest opportunity?

Without action on climate change...

- Heatwaves led to 70,000 excess deaths in Europe in 2003.
- Events like this will become more frequent, and more intense.
- There are 3400 road deaths around the world every day – 1.2 million each year.
- The pollution cars produce kills a similar number.
- Elderly people & children are most vulnerable to the effects of heat stress on health.

If we act on climate change...

- Renewable energy reduces air pollution and so can prevent diseases like asthma, pneumonia, heart attacks and stroke.
- Well-insulated homes could save thousands of lives, prevent illness, and reduce energy consumption.
- Local, seasonal fruit & veg is good for health, better for the environment, and the community.

THE GLOBAL CLIMATE & HEALTH ALLIANCE

Source: The Global Climate & Health Alliance 2016



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Health Co-benefits in Australian Policy Context

- ❑ Health co-benefits rarely enter climate change-related policy discourse at the local government
- ❑ There is limited understanding of the link between health and climate change among local government policy makers
- ❑ Councils are considered ideally placed to provide localised responses to climate change but the potential to address health issues in this context is rarely considered



Source: City of Sydney Environmental Sustainability Progress Report 2012/13

Research Objectives

- ❑ How, and to what extent, do Australian local governments' climate change-related policies consider the public health needs of their communities?
- ❑ Do local governments' climate change-related policies target health-related co-benefits as an integral part of broader sustainable development strategy?
- ❑ How to plan, generate and purposively promote health-related co-benefits in planning urban built environments?



Source: Healthy Urban Development Checklist, NSW Department of Health 2009

What are 'Co-benefits' ?

- ❑ Concept is not rigid with clearly identifiable boundaries and has no common definition
- ❑ In climate change policy discourse - co-benefits are widely understood as the collection of benefits accruing to actions linking climate change and other development priorities

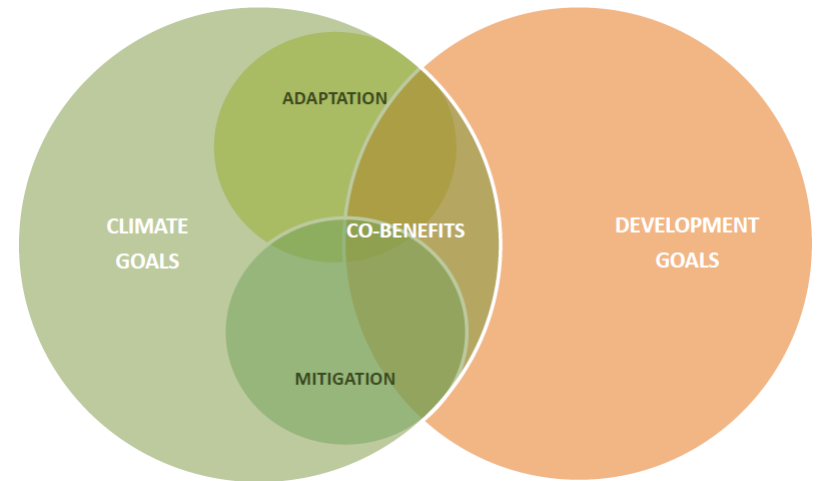
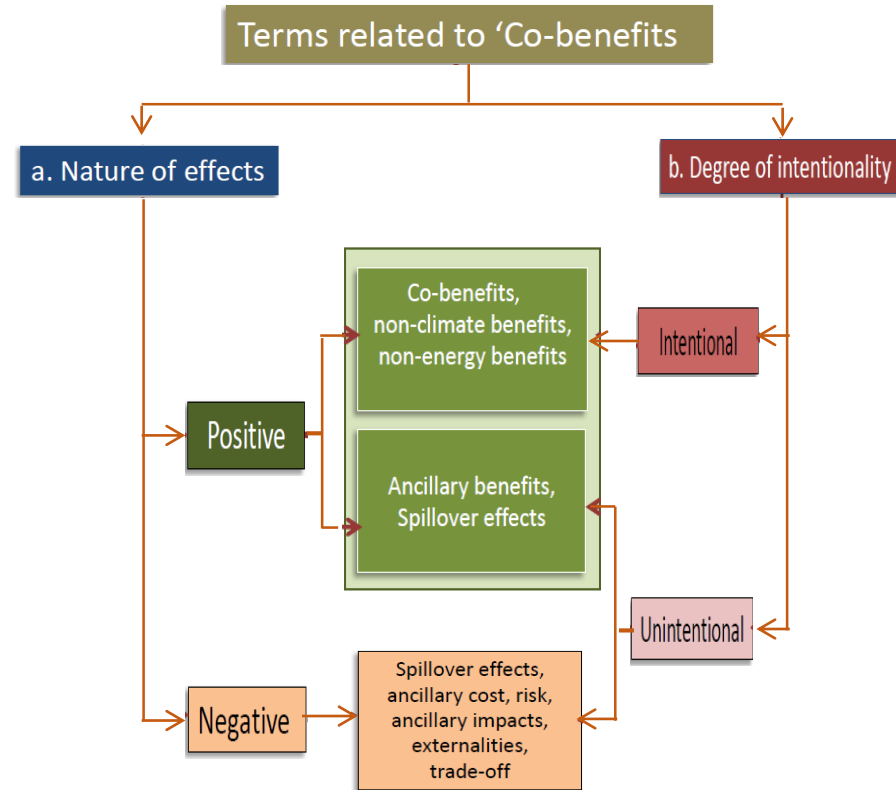
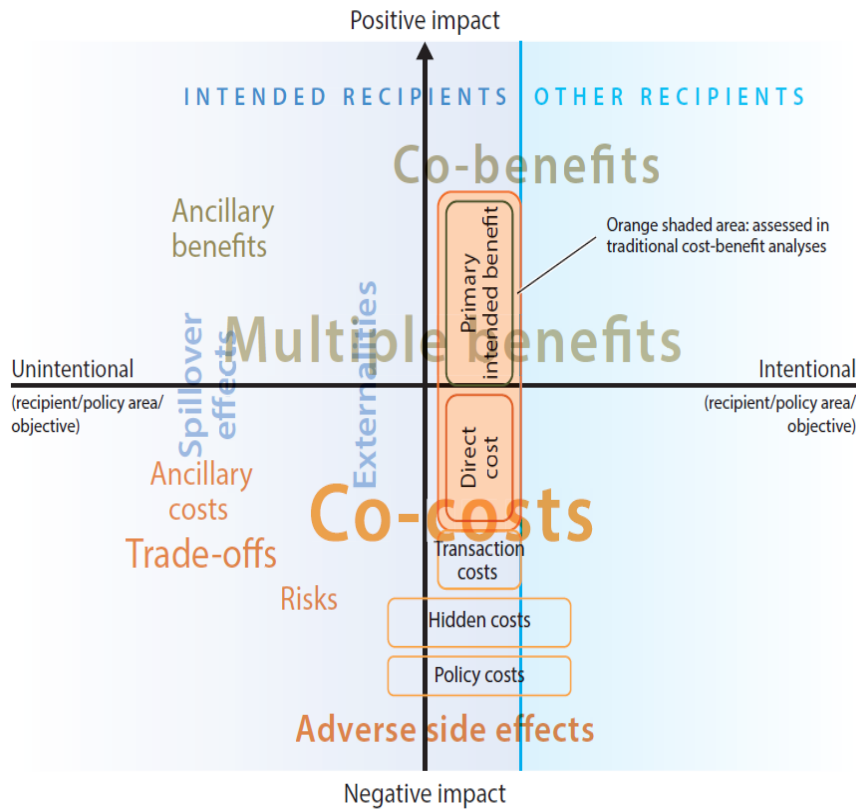


Fig: Co-benefits - conceptual diagram

- ❑ IPCC's definition of co-benefits is most widely recognized:
“the benefits of policies that are implemented for various reasons at the same time – including climate change mitigation – acknowledging that most policies addressing greenhouse gas mitigation have other... equally important rationales” (Source: IPCC Third Assessment Report 2001).

Taxonomy of terminology related to 'Co-benefits'

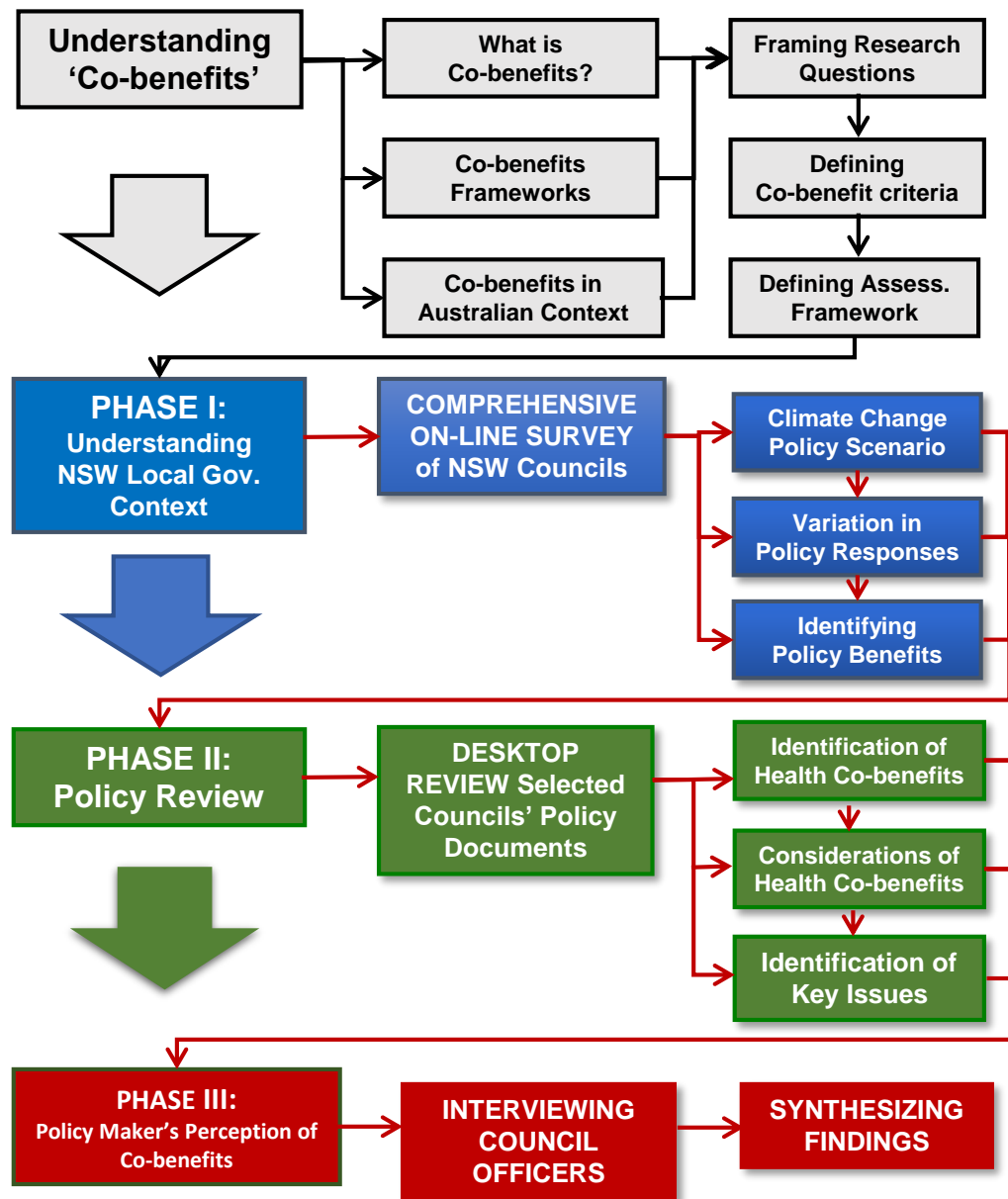


Source: Diana Urge-Vorsatz et al, *Annu.Rev.Environ.Resour.*2014.39:549-82

- Following IPCC guidelines this research uses 'co-benefits' for all 'positive side-effects' (intentional and unintentional) and everything that has negative effects are referred to as 'adverse side-effects' for consistent use of terminology (IPCC 2014).

Research Framework

- ❑ A framework is developed based on the understanding of the co-benefits concept through systematic literature review
- ❑ Investigation is designed into 3 phases: **PHASE I** for Comprehensive On-line Survey of 152 NSW Councils
- ❑ **PHASE II** for Desktop Review and Analysis of selected Councils' identified climate change-related policies
- ❑ **PHASE III**: Interviewing Council Officers to understand policy makers' perceptions about co-benefits



Scope 1: Geographic

Sydney Greater Metropolitan Region (GMR) and surrounding local governments

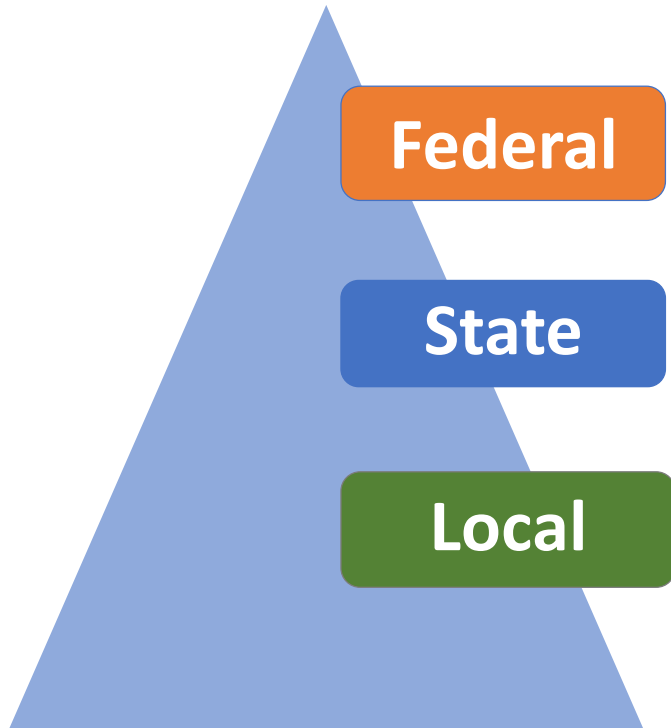


Source: Department of Planning & Environment (2014). *A Plan for Growing Sydney*

Urban areas are high priority locations for largest mitigation opportunities with 'co-benefits' potential (IPCC 2014).

Scope 2: Governance

Australian three-tiered governance system and Local Government Policy and Planning Framework



Federal – broad and limited role in environmental matter

State - largely independent and provides legislation which outlines LG's purpose, processes, activities and operations

NSW Integrated Planning & Reporting Framework (IPR)

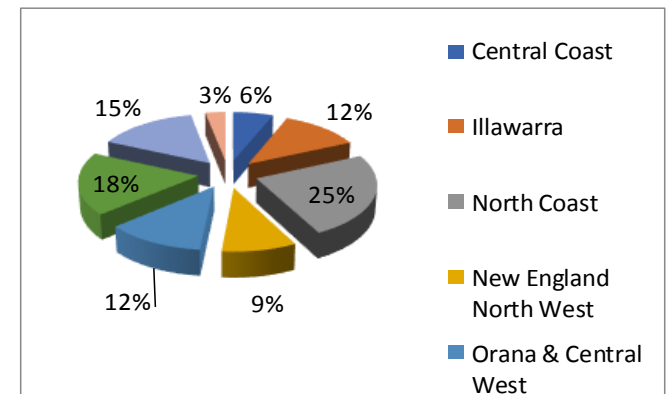
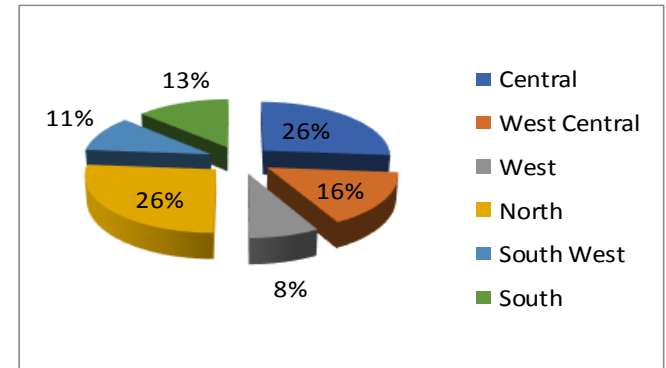


The Online Survey

Geographical distribution of participating councils

SUB REGIONS	NUMBER OF COUNCILS	RESPONDENTS	TOTAL
GREATER METROPOLITAN REGION (GMR)	Central	10	38
	West Central	6	
	West	3	
	North	10	
	South West	4	
	South	5	
BEYOND GMR	Central Coast	2	37
	Illawarra	4	
	North Coast	8	
	New England North West	3	
	Orana & Central West	4	
	South East & Tablelands	6	
	Murray-Murrumbidgee	5	
	Far West	1	

% Distribution



Online Survey Findings

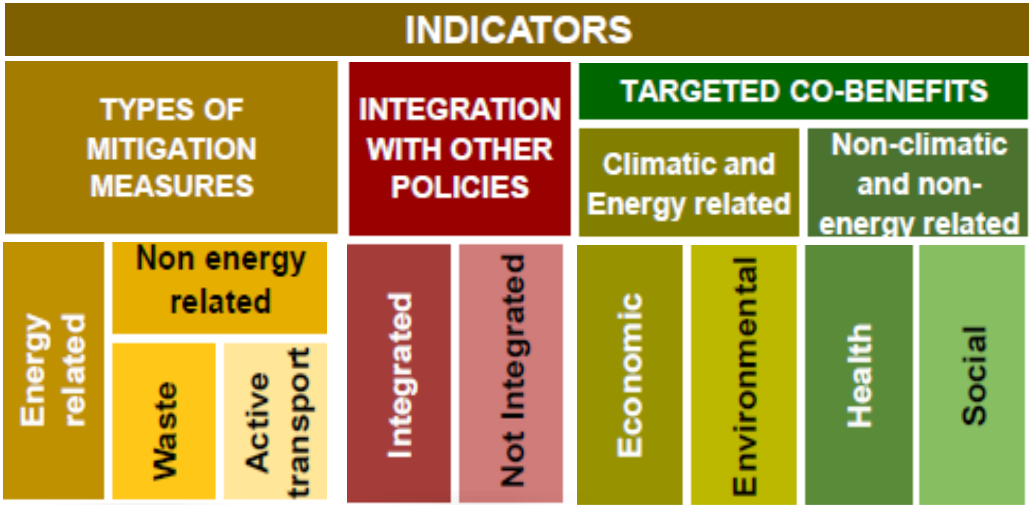
Variations in Councils' Climate Change Policies and Targeted Co-benefits

CATEGORIES OF COUNCILS	LOCATION OF COUNCILS		INDICATORS								
			TYPES OF MITIGATION MEASURES			INTEGRATION WITH OTHER POLICIES		TARGETED CO-BENEFITS			
	GMR (n = 38)	Beyond GMR (n = 37)	Energy related	Non energy related		Integrated	Not Integrated	Climatic and Energy related		Non-climatic and non-energy related	
				Waste	Active transport			Economic	Environmental	Health	Social
A. Specific Climate Change Policy (n=41)	22	19	40	37	33	25	16	41	39	07	09
B. Climate Change Addressed Broadly Under 'Sustainability' (n=22) (but no specific policy for Climate Change)	11	11	22	19	11	13	09	21	21	04	05
C. No Climate Change Policy (n=10) (but measures undertaken to reduce energy consumption that also result in GHG reduction)	05	05	08	06	03	01	07	07	05	00	02

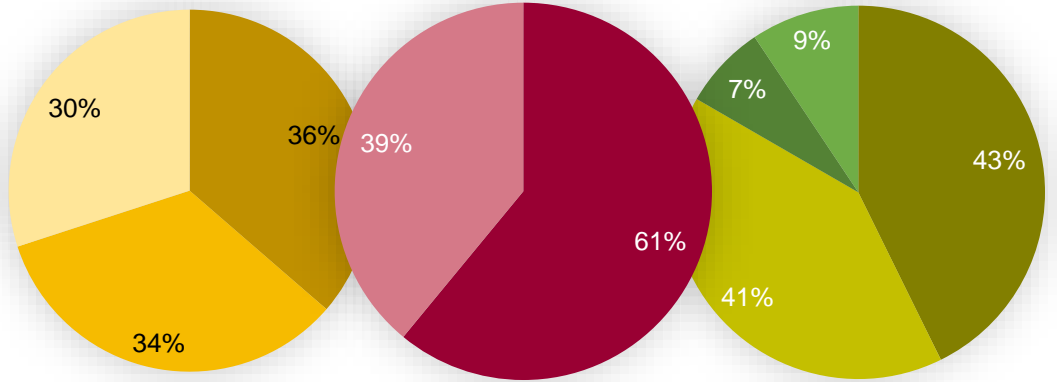
Online Survey Findings

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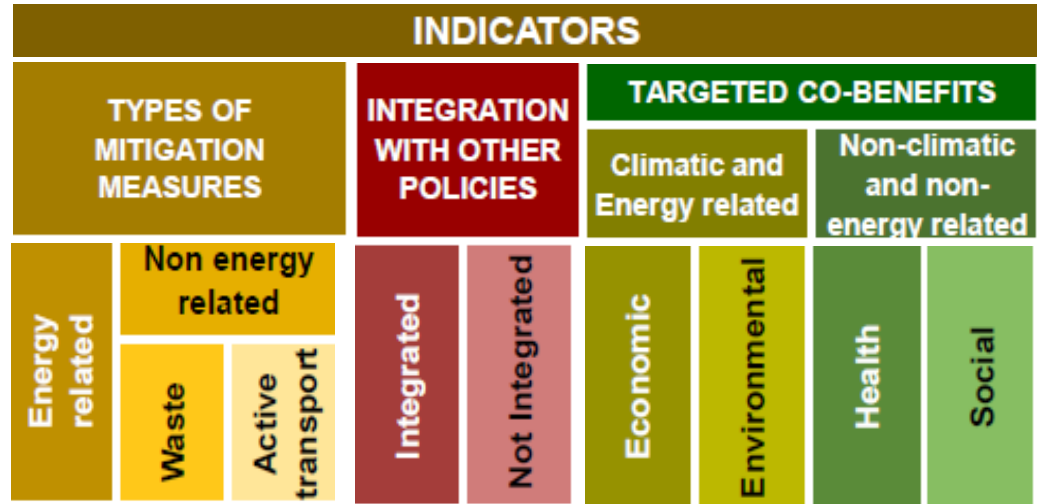
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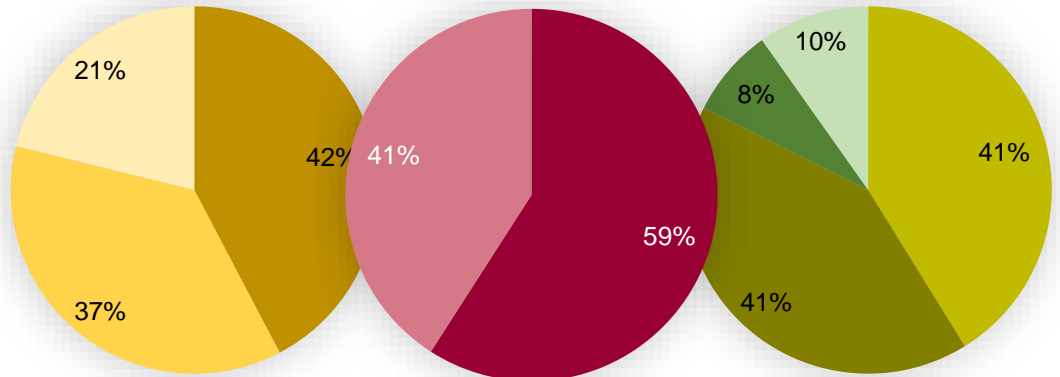
Online Survey Findings

Variations in Councils' Climate Change Policies and Targeted Co-benefits

CATEGORIES OF COUNCILS



B. Climate Change Addressed Broadly Under 'Sustainability' (n=22) (but no specific policy for Climate Change)



Key Findings

Wide variations in Councils' Climate Change-related Policies and Targeted Co-benefits:

- Councils in the GMR with higher populations (over 50,000 inhabitants) undertake more climate change-related activities which result in more benefits than councils which are located outside the GMR with smaller populations (less than 15,000 inhabitants)
- Councils with a specific climate change policy more effectively integrate climate change actions across different sectors in a consistent manner and achieve maximum policy benefits compared to councils that do not have a dedicated climate change policy

Key Findings

Consideration of Co-benefits from cross-sectoral key mitigation measures.

Mitigation Measures		Sectors						Targeted Co-Benefits			
		Energy	Transport	Building	Waste	Land-use	Water	Climate & Energy Related		Non-climate & Non-energy Related	
								Economic	Environment	Health	Social
Energy related	Energy Efficiency	●	●	●			○	●	○	○	○
	Renewable Energy	●		●		○	○	●	○		○
	Co-generation	●		●			○	●	○		○
	Fuel Switching	○	●					●	○	○	○
	Water Efficiency	○		○			●	●	○		○
Non-energy related	Waste Management	○			●	○		●	●	○	○
	Sustainable/ Active Transport	○	●	○		○		○	○	○	○
	Life Style & Behaviour Change	●	●	●	●	○	●	○	○	●	●

Keys: ● Targeted; ○ Impacted



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Key Findings

Preference for ‘climate- and energy-related’ co-benefits over ‘non climate- and non-energy-related’ co-benefits:

- ❑ Overwhelming preference for ‘energy-related mitigation measures’ over other measures. Emphasis is overwhelmingly on direct ‘financial benefits’...
- ❑ GHG abatement and monetary savings as the main targeted benefits explicitly considered in the decision making process
- ❑ Over reliance on direct ‘monetary considerations’ excludes wide range of environmental, social and health benefits with longer term economic outcomes (i.e. non-climatic & non-energy related benefits) from incorporation in the policy process

Key Findings

Limited Consideration of Health Co-benefits in Councils' Climate Change Policies:

- ❑ Limited qualitative reporting which lacks any methodology, as well as reference to evidence to support health co-benefits
- ❑ Lack of 'know-how' and capacity to quantify health co-benefits
- ❑ Lack of incentives in pursuing health co-benefits due to jurisdictional limitations
- ❑ Health co-benefits get side-lined in a policy discourse that stresses the need for immediate quantification of results and direct outcomes.

Conclusion

Planning for climate change and improved public health in NSW councils are currently not happening through an integrated approach

- ❑ Local governments' climate change-related policies in NSW rarely analyse whether their GHG reduction strategies also produce health co-benefits.
- ❑ This suggests a need for broader policy direction from the State to local governments to link planning for climate change with improving health.
- ❑ This will require inter-agency coordination and training to conduct health analyses; development of tools and methods for identifying, quantifying, and incorporating health-related co-benefits.
- ❑ Legislative changes to support actions are currently beyond local governments' sphere of control.

Acknowledgement

- ❑ This research is closely related to the CRC for Low Carbon Living (CRCLCL)'s Project RP2028: Development & Trial of a Co-benefits Calculator and is being partially funded by CRCLCL. We gratefully acknowledge CRCLCL's support for this research.
- ❑ We are also grateful to the council officers (75 in total) who participated in this study and shared valuable information and critical insight without which it would not be possible to undertake this research.
- ❑ We also thank the NSW Office of Local Government (OLG) for publishing the news item about this research requesting councils to participate in the online survey in their newsletter – Sustainability Snippets.



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Thank you



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