



Collaboration on Energy and
Environmental Markets



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Framing the Challenge

Resilience – uses (*and abuses?*)

Introduction to the Resilience Narratives: Buzzword Lemmings

What is Resilience:

- A) a buzzword
- B) a concept of profound importance
- C) a term of common speech
- D) a word of multiple meanings in different contexts
- E) All of the above

The answer is, of course, all of the above.



In 2012, resilience was highlighted as the buzzword of the year by Time Magazine.[1] Its use has proliferated in everything from national and development policy debates to

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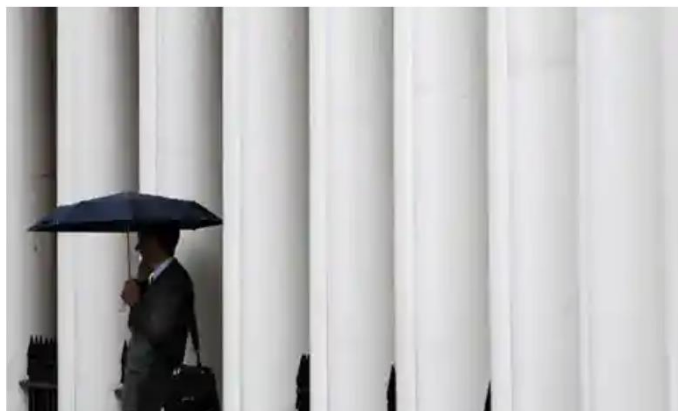
Working in
development

Resilience: meaningless jargon or development solution?

Donors, recipient governments and implementing agencies are selling 'resilience' to the public without a clear definition or a money-back guarantee

Misha Hussain

Wed 6 Mar 2013 03:02
AEDT



▲ Resilience is global development's new buzzword - but what does it really mean? Photograph: Stefan Wermuth/REUTERS

'Resilience' is probably the sexiest new buzzword in international development. But as its popularity has grown, so has criticism of the use of ill-defined terminology in a sector that claims to be accountable.



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Resilience in context

- Self-reliance and resilience
do these habits seem familiar to communities in the PICTs?
- Resilience as ‘bouncing back’
How far do you fall first?



Resilience

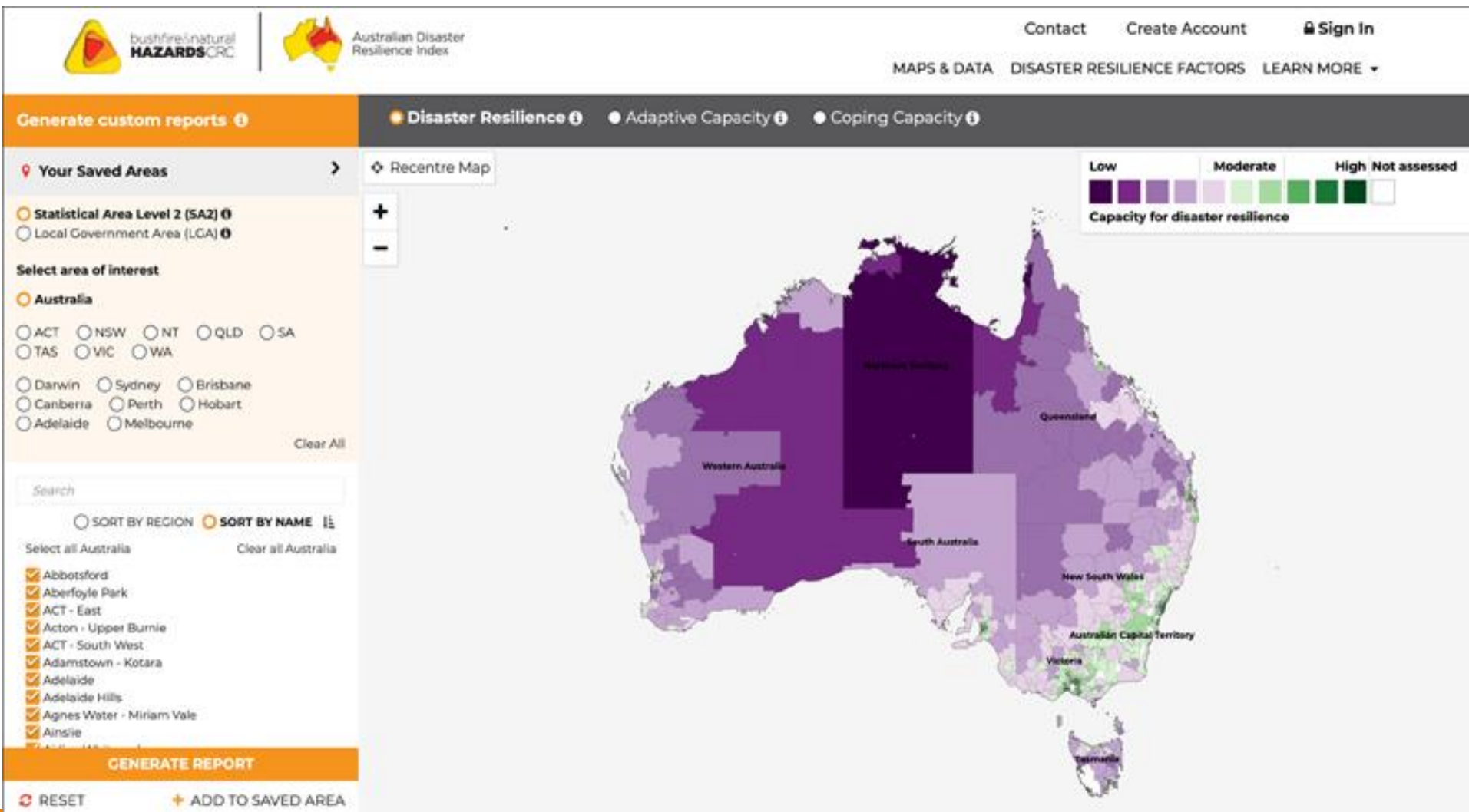
Bouncing
back



25. CHANGING HABITS FOR SELF-RELIANCE AND RESILIENCE

1. Frugal hedonism
2. Home based work
3. Daytime lifestyle and sleeping patterns
4.
5. Multi-tasking

Resilience in context – *how well you are doing depends on what you're counting?*



Energy resilience:

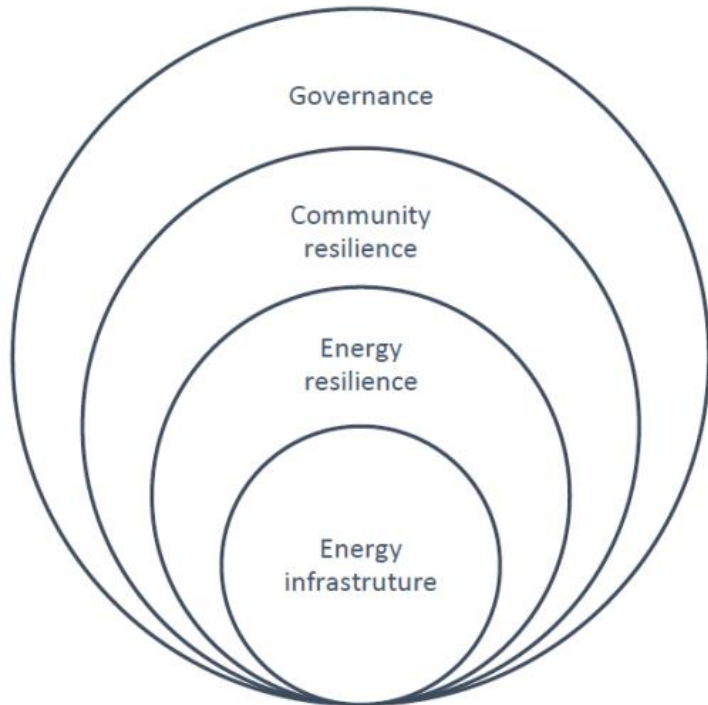
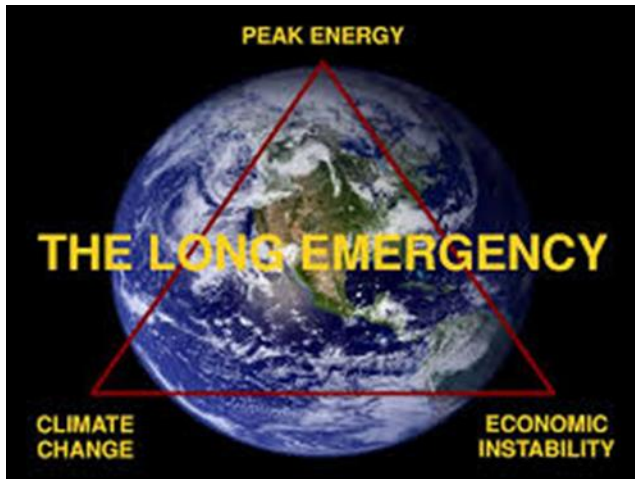


Figure 2: Framework for Community Resilience (To 2019)

TERMINOLOGY

Build back better (BBB)	'The use of the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies, and the environment.'	UN 2016
Climate change adaptation (CCA)	'The ability of a system to adjust to climate change to moderate potential consequences or to manage the consequences of those impacts that cannot be avoided.'	ICAO 2020
	'Anticipating the adverse effects of climate change and taking appropriate action to prevent or minimise the damage they can cause, or taking advantage of opportunities that may arise.'	EU 2020
Climate change mitigation	'A human intervention to reduce emissions or enhance the sinks of greenhouse gases.'	IPCC 2018
Community resilience	'The ability of individuals, communities, organizations or countries exposed to disasters, crises and underlying vulnerabilities to anticipate, prepare for, reduce the impact of, cope with and recover from the effects of shocks and stresses without compromising their long-term prospects).'	IFRC 2014
Disaster risk reduction (DRR)	'The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to 11 hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.'	UNISDR 2009
Energy access	'A household having reliable and affordable access to both clean cooking facilities and to electricity, which is enough to supply a basic bundle of energy services initially, and then an increasing level of electricity over time to reach the regional average.'	IEA 2019
Energy resilience	'Resilience in an energy system can be defined as its ability to reduce the impact of shocks and stresses, including the capacity to anticipate, absorb, adapt to, and rapidly recover from such events and to transform where necessary.'	ARUP 2019
Energy security	'The umbrella term for energy availability, resource affordability, environmental sustainability, energy efficiency and technology.'	Raghoo et al. 2018

Energy Resilience as a higher level or lower level framing (e.g. arup vs IEA)

ENERGY RESILIENCE IN AN INTERCONNECTED WORLD Future-proofing energy systems: The Energy Resilience Framework

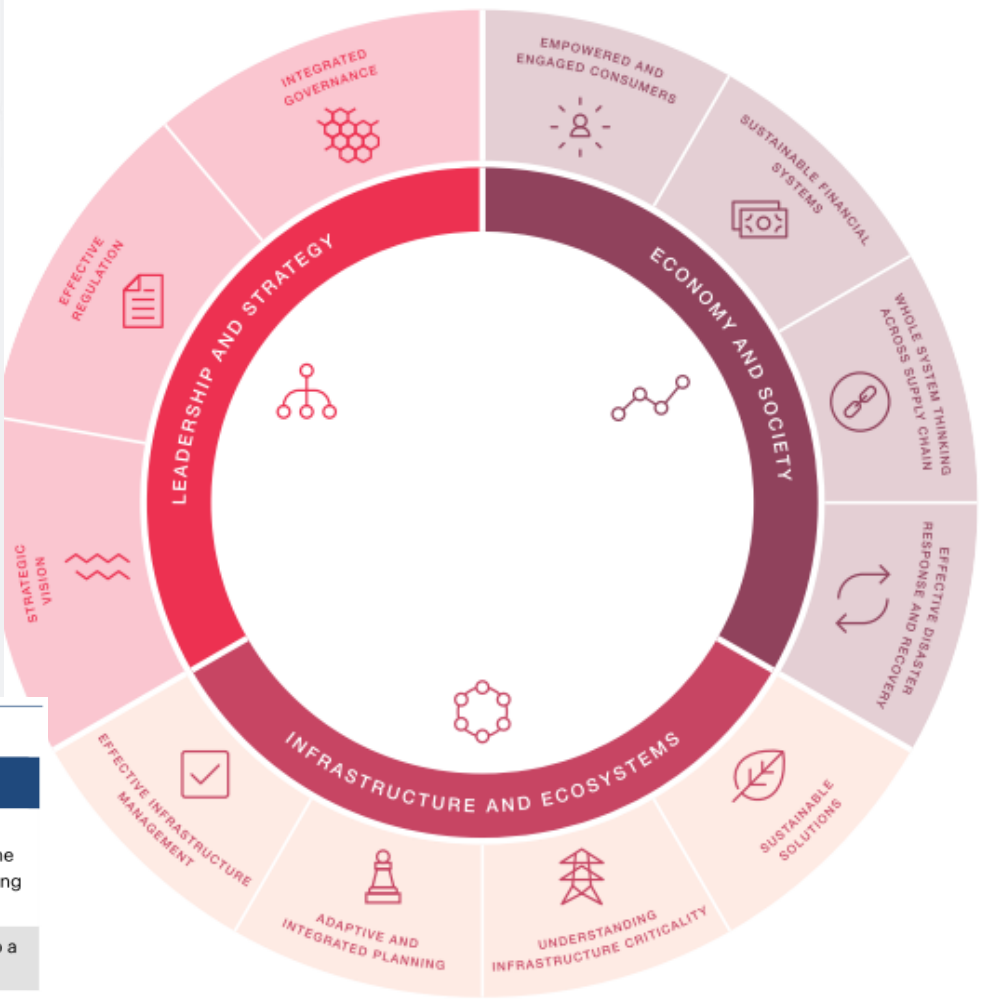
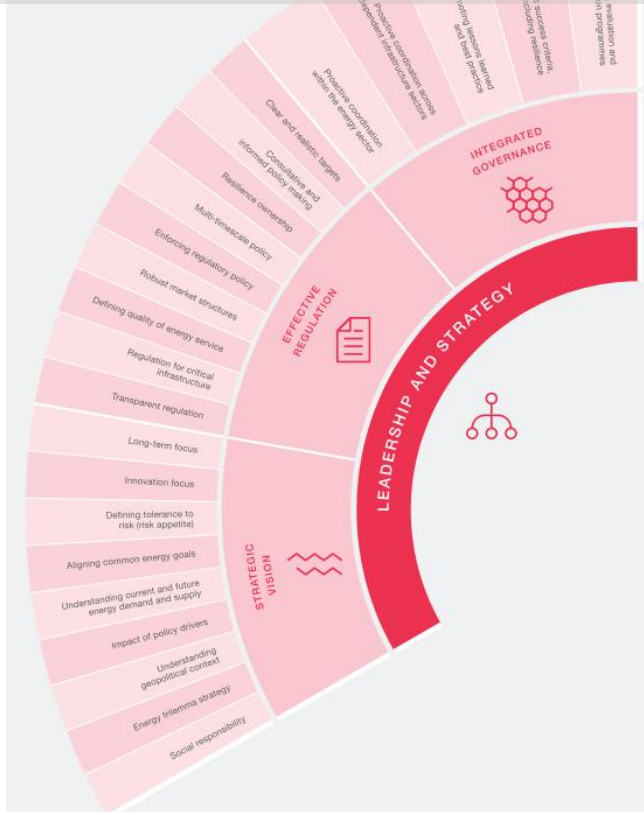


Table 1 Key electricity security terms and definitions

Term	Definition
Adequacy	The ability of the electricity system to supply the aggregate electrical demand within an area at all times under normal operating conditions. The precise definition of what qualifies as normal conditions and understanding how the system copes with other situations is key in policy decisions.
Operational security	The ability of the electricity system to retain a normal state or to return to a normal state after any type of event as soon as possible.
Resilience	The ability of the system and its component parts to absorb, accommodate and recover from both short-term shocks and long-term changes. These shocks can go beyond conditions covered in standard adequacy assessments.

Sources: Based on [European Commission JRC](#) and [IEA Electricity Security](#).

Community Energy Resilience



Community energy resilience – context still matters

VS



Planning is essential
but many potential pitfalls

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PLANNING

MUCH WORK REMAINS TO BE DONE BEFORE WE CAN ANNOUNCE
OUR TOTAL FAILURE TO MAKE ANY PROGRESS.



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COMMITTEES

JUST LIKE TEAMWORK. ONLY WITHOUT THE WORK.

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FORESIGHT

THOSE WHO SAY IT CANNOT BE DONE
SHOULD NOT INTERRUPT THOSE BUSY PROVING THEM RIGHT.

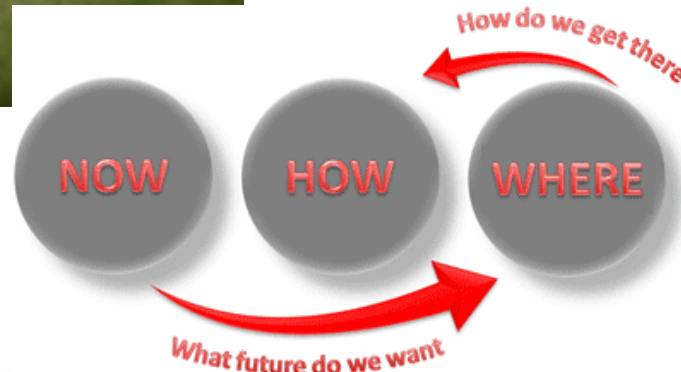


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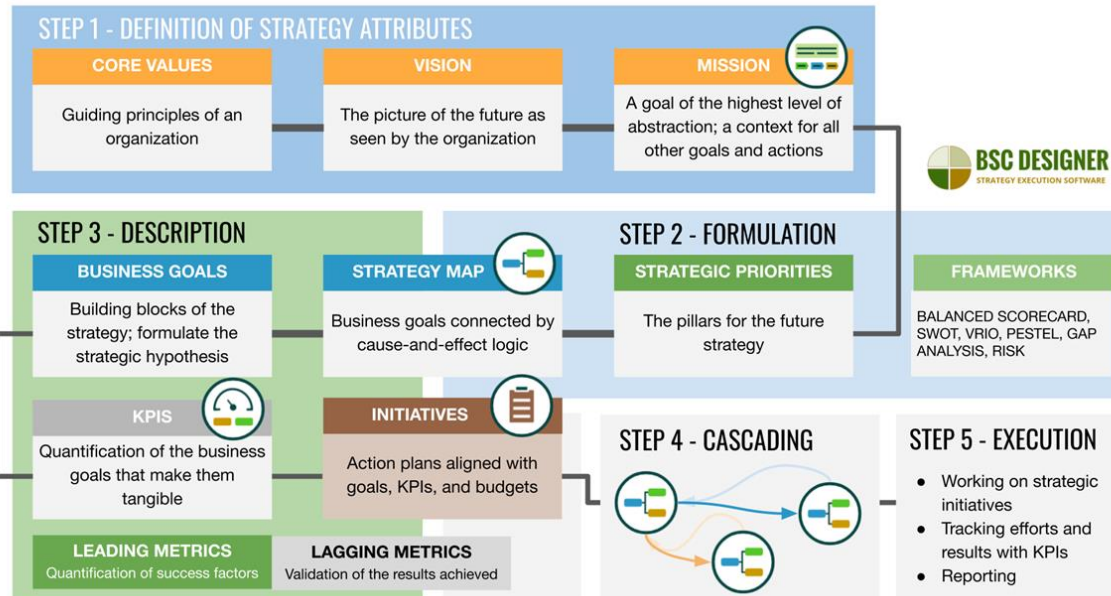
Planning (*not plans*)

PLANNING

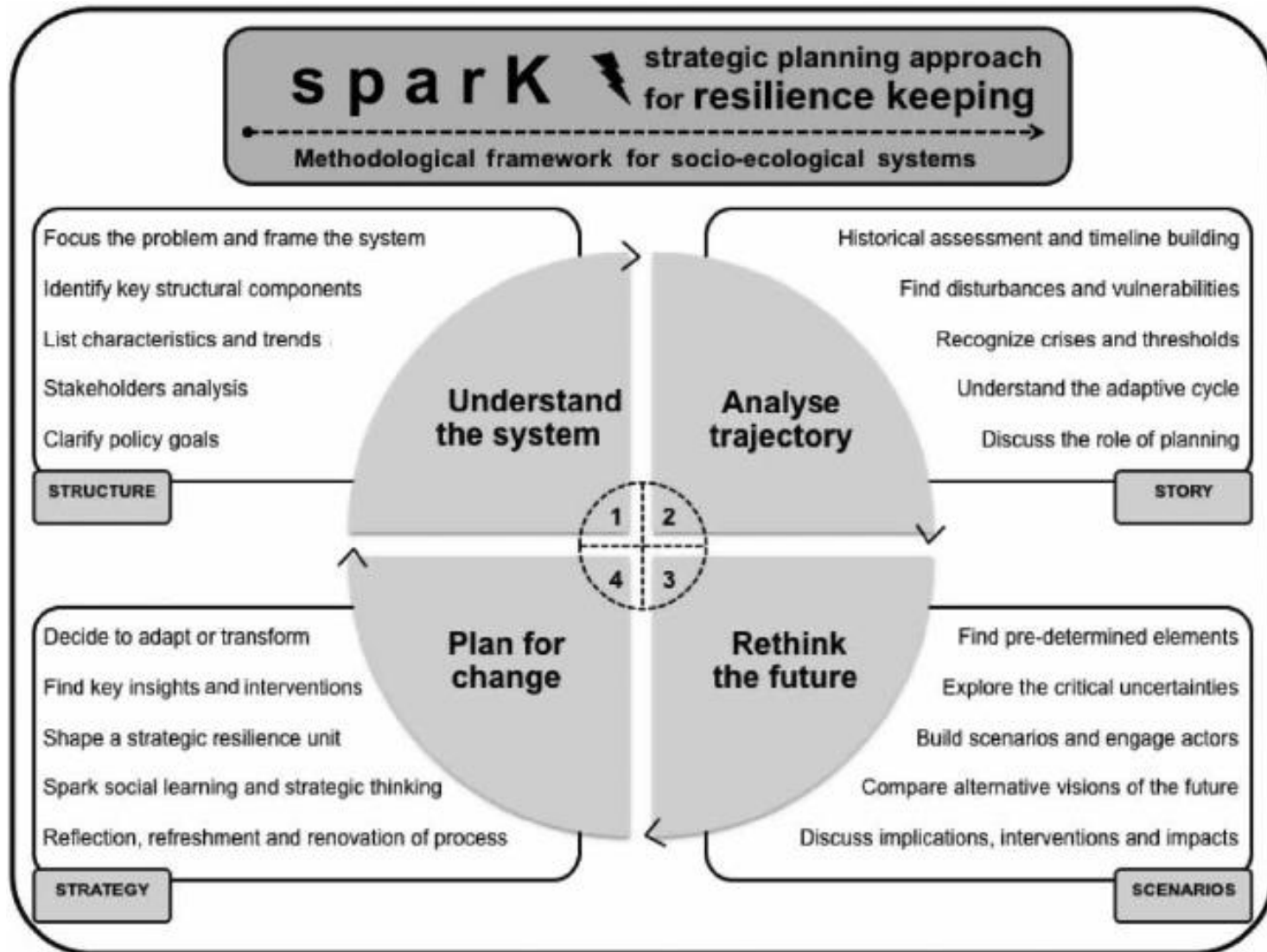
(noun) the process through which governments, businesses, and residents come together to shape their communities.



Five Steps of Strategic Planning Process



Resilience planning frameworks



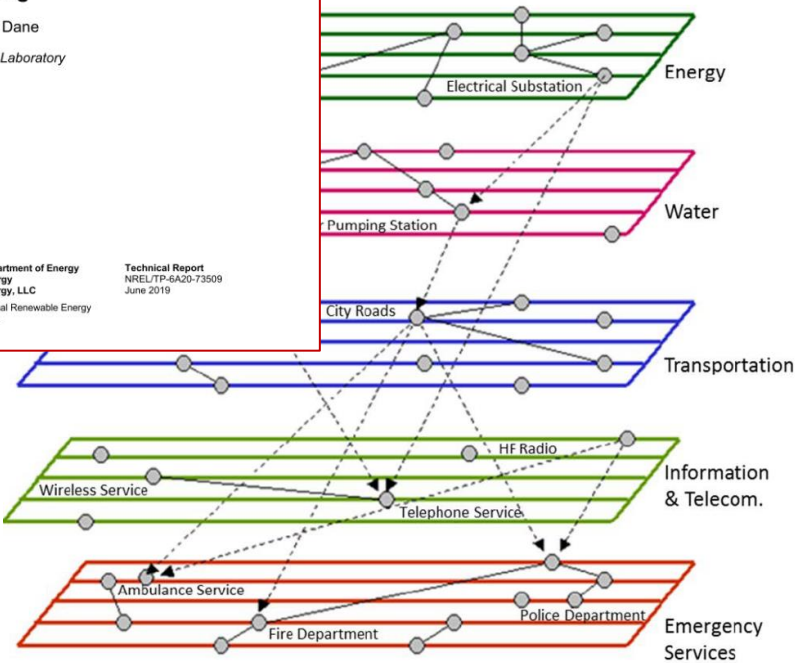
Energy oriented resilience planning



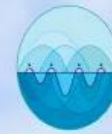
Resilience Roadmap: A Collaborative Approach to Multi-Jurisdictional Resilience Planning

Eliza Hotchkiss and Alex Dane
National Renewable Energy Laboratory

NREL is a national laboratory of the U.S. Department of Energy Office of Energy Efficiency & Renewable Energy Operated by the Alliance for Sustainable Energy, LLC. This report is available at no cost from the National Renewable Energy Laboratory (NREL) at www.nrel.gov/publications. Contract No. DE-AC36-08GO28308



Existing frameworks *sustainability oriented*



ISLAND VOICES
GLOBAL CHOICES

SAMOA Pathway
Midterm Review

SAMOA PATHWAY OVERVIEW

What is the SAMOA Pathway ?

The Small Island Developing States Accelerated Modalities of Action Pathway (SAMOA Pathway) is the dedicated, internationally agreed, programme of action for small island developing States (SIDS) for the decade 2014 - 2024.

The SAMOA Pathway was the outcome of the Third International Conference on Small Island Developing States held in Samoa in 2014. The theme of the Conference was "The Sustainable Development of Small Island Developing States Through Genuine and Durable Partnerships."



SAMOA Pathway
<https://bit.ly/2COucu0>

What are the Key Priority Areas in the SAMOA Pathway ?



Sustainable, Inclusive and Equitable Economic Growth with Decent Work for All



Sustainable Energy



Oceans and Seas



Climate Change



Food Security and Nutrition



Water and Sanitation



Sustainable Transportation



Sustainable Consumption and Production



Health and Non-Communicable Diseases



Management of Chemicals and Waste, Including Hazardous Waste



Gender Equality and Women's Empowerment



Biodiversity



Social Development



Invasive Alien Species



Means of Implementation, Including Partnerships



Existing frameworks – SENDAI *disaster oriented*

- Operating at 4 levels – local, national, regional and global
- 1 global outcome, 1 goal, 7 global targets, 13 guided principles, 4 priorities, 4 levels – local national regional global, 38 indicators

1 OUTCOME

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

1 GOAL

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

4 PRIORITIES

Understanding disaster risk

Strengthening disaster risk governance to manage disaster risk

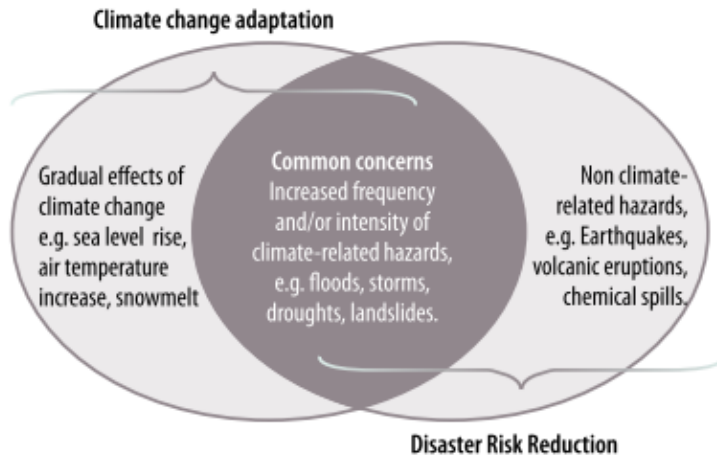
Investing in disaster risk reduction for resilience

Enhancing disaster preparedness for effective response, and to “Build Back Better” in recovery, rehabilitation and reconstruction

7 TARGETS

- ↓ DISASTER MORTALITY BY 2030
- ↓ NUMBER OF AFFECTED PEOPLE BY 2030
- ↓ ECONOMIC LOSS BY 2030
- ↓ INFRASTRUCTURE DAMAGE BY 2030
- ↑ DRR NATIONAL/LOCAL STRATEGIES BY 2020
- ↑ INTERNATIONAL COOPERATION BY 2030
- ↑ EWS AND DR INFORMATION BY 2030

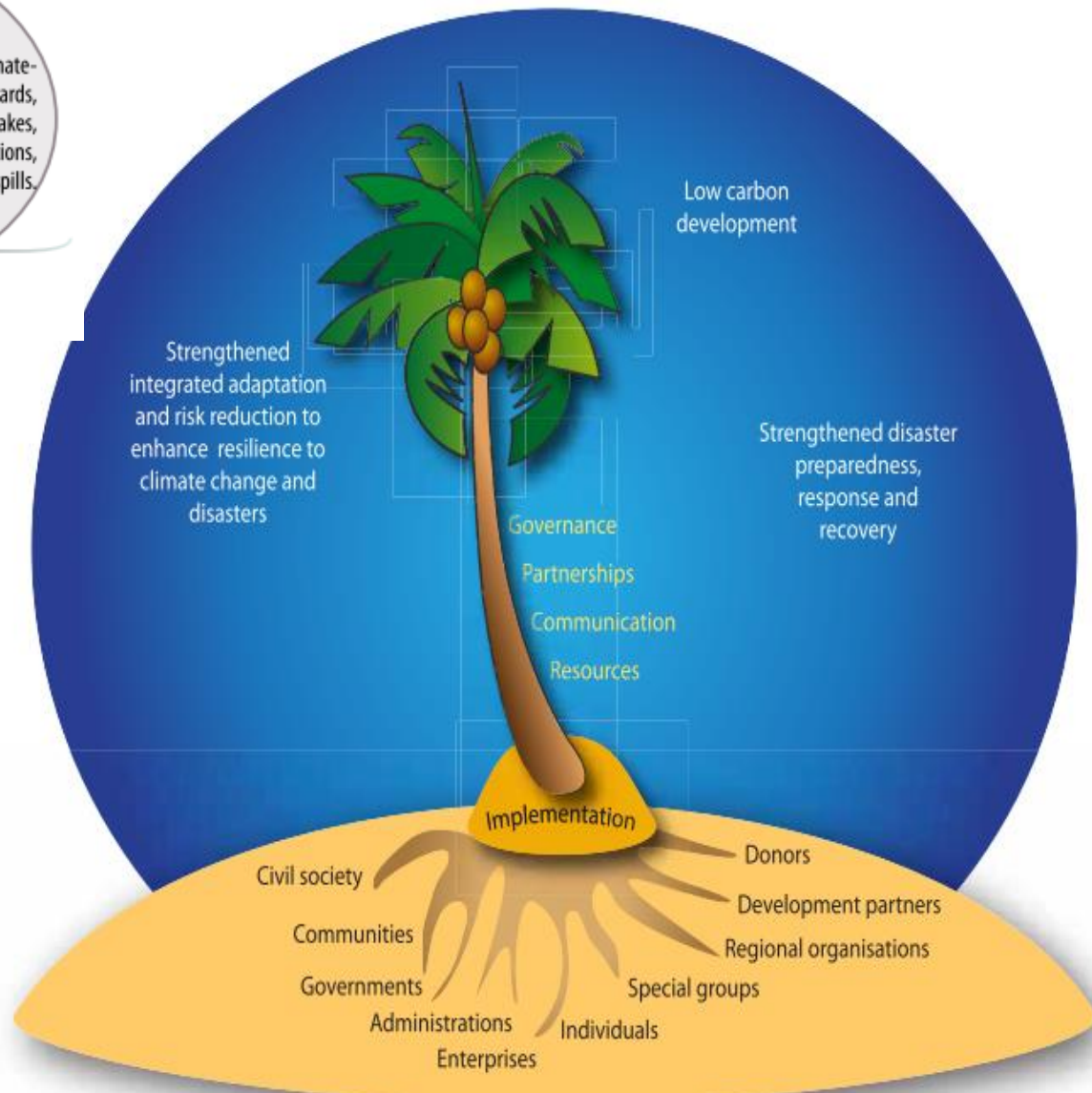
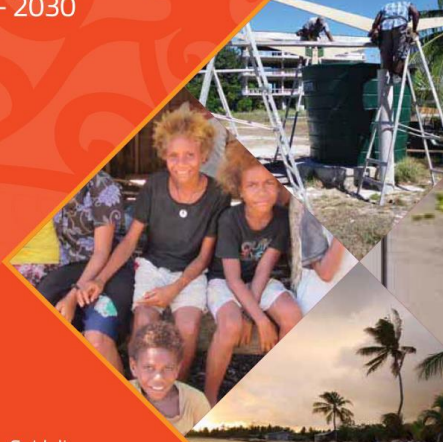
Existing regional frameworks – FRDP *resilience oriented*



Framework for Resilient Development in the Pacific

An Integrated Approach to Address Climate Change and Disaster Risk Management (FRDP)

2017 – 2030



Framework for Energy Security & Resilience in the Pacific (FESRIP)

3 transformative pathways towards a more resilient, renewables-based energy system.

- creating effective national and regional energy policies, plans, legislation, and regulations. IRENA and SPC are already working closely with Pacific Island countries to develop renewable energy guidelines, enhance Nationally Determined Contributions (NDCs), and provide implementation support. **SPC in collaboration with PRIF and other partners are currently developing the Framework for Energy Security and Resilience in the Pacific (FESRIP) 2021-2030**, of which the Pacific SIDS has set a vision of 100 per cent renewable electricity.
- support development and implementation of renewable energy and energy efficiency projects that have been severely impacted by the COVID-19 pandemic, such as tourism, agriculture-food production, and fisheries.
- attracting investments to the Pacific SIDS. IRENA's calculations estimate that the Pacific will need to invest approximately USD 5.9 billion in driving this transition through installing an additional 1.8 GW to meet NDC targets. This will be supported through sustainable financing between project developed and investors to drive these priorities throughout this agreement.

Two organisations will work closely to enhance policy, support project development, and attract investments to the Pacific

IRENA and Pacific Community Announce Joint Efforts to Boost Recovery

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The International Renewable Energy Agency (IRENA) and the Pacific Community (SPC) will work together to support Pacific island countries transition their energy systems to renewable energy sources as part of a drive support the post-pandemic recovery.

With around 64 per cent of Pacific island residents living without access to reliable energy, and much of the region reliant on expensive and volatile fossil fuel imports, IRENA and SPC will renew their joint focus on reducing energy costs and improving energy security by increasing access to renewables. The partnership will also seek to deliver the broad socioeconomic benefits of the energy transformation for Pacific island communities.



Draft report - themes for planning and investing in more resilient energy systems

1. Resilience requires refurbished hydro and new solar, but LNG remains a political favourite
2. Planning for climate and resilience is being pegged on to a pre-existing energy access agenda
3. Diversified grid extension can achieve RET targets whilst building resilience

1. Reliance on donor funding constricts the design of energy projects and implementation timeframes
2. The government has a limited understanding of the complexities of energy systems and markets, undermining long-term success
3. Financial constraints of small nation budgets result in maintenance on failure
4. Tokelau's dependency on imported fuel presents huge financial and logistical challenges

1. Planning to mitigate effects of climate change: policy change to increase building standards and minimise loss of infrastructure
2. Implementation of this policy is limited by financial barrier. Government support is limited, people cannot afford to build to new standards

1. Setting a Federal target in energy resilience is needed for communities to maintain energy supply in disasters
2. Mini-grids and standalone power systems (SAPS) offer a pathway to energy resilience
3. Encourage mobility and flexibility in energy supply system infrastructure may minimise damage to infrastructure

Draft report - some insights with relevance to planning

- Extraordinary vulnerabilities both in terms of climate change impacts and other possible shocks, and limited capacities to manage these
 - Limited technical capacity and supply chain difficulties
 - Funding constraints – external and internal, interactions between these
 - Risks “Fix problems rather than pre-empt and design for new circumstances”
- Governance challenges, and opportunities to address these vulnerabilities
 - Strong social capital, Community resilience models
 - Lacking technoeconomic capacity to deliver on visions
 - Complexities of Donor Policies and Foreign Aid Energy Projects
- Opportunities through resilience
 - Effectively augment disaster response initiatives – Build Back Better
 - Diversification and decentralisation of the energy mix
 - Strengthening community responses to energy challenges
 - A more resilient mix of grid, mini/micro grid and off-grid solutions
 - Community participation fosters success of energy projects

Possible insights for PICTs on resilience planning

- We need planning, not plans
 - with all that means for funding programs not just projects, and building regional capacity for ongoing planning
 - Regional models but jurisdictional solutions – best practice models e.g. FRDP
- Where we are now?
 - Information for situational awareness – widest set of stakeholders, vulnerabilities and capabilities. This has to be ongoing
 - Current trajectories – no facts about the future but better and worse processes for exploring it in a useful way, growing range of tools for risk assessments, scenario analysis
- Where do we want to go? Vision and goals
 - Energy access remains the key objective for many PICTs
 - Goals on how you do it (principles) as well as outcomes – *community oriented following subsidiarity (go as local as you can while consistent with resolution)*
 - Integration with water, health, telecommunications and other key infrastructure goals
- How do we get there?
 - Inclusive planning processes – whole of government and beyond, private sector, community – integrated with other key infrastructure, emergency response planning
 - Integrated across supply and demand, grid vs mini-grid vs stand-alone solutions
 - Appropriate autonomy and accountability for decision makers
 - Strategy to initiatives to programs to projects
 - Ongoing review processes – for situation, goals and principles, actions