

**Climate Change Adaptation
Good Practice - Case Study**

**Green Cross Australia:
*Harden Up Protecting Queensland***



About Adaptation Good Practice

Adapting to climate change is a relatively new concept to many. It is important to learn from practitioners who are undertaking adaptation activities that are beginning to have tangible outcomes. Documenting examples of good practice and identifying the criteria that makes them work, enables those interested in adaptation to learn about how to take action.

There are expectations that Adaptation Good Practice (AGP) includes a definite start and finish to a project. However climate change practitioners' experiences show that adaptation projects are often steps in longer learning journeys. There are no golden rules on how to adapt and often practitioners across Australia are inventing the wheel that drives future AGP.

This case study of Green Cross Australia's *Harden Up Protecting Queensland* program is part of a series of 16 case studies that recognise exemplars for AGP in Australia. Through the development

of these stories of successful adaptation it was refreshing to see an emergence of similar experiences and challenges regardless of the project or location. A synthesis of these stories can be seen in the Synthesis Report 'Climate Change Adaptation Good Practice: Key lessons from practitioners experiences', which will help practitioners to understand that they are not alone in their challenges and to see some of the clear lessons learned about what drives good practice in adaptation.

Harden Up is a unique non government organisation project, setting new directions towards using social media to engage younger age cohorts.

Following the Snapshot there is a more in depth narrative of the experiences, learnings and network links to stimulate further engagements and knowledge sharing among the growing community of adaptation practitioners.

This project was funded by the Australian Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education

For further information contact:

Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education

Email: stakeholderrelations@climatechange.gov.au

The Adaptation Good Practice project was undertaken by D. Rissik and N. Reis from the National Climate Change Adaptation Research Facility.

© Commonwealth of Australia (Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education) 2013. ISBN 978-0-9922764-8-5. This work is licensed under the Creative Commons Attribution 3.0 Australia Licence. To view a copy of this license, visit <http://creativecommons.org/licenses/by/3.0/au>. The Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education asserts the right to be recognised as author of the original material. The views expressed herein are not necessarily the views of the Commonwealth of Australia, and the Commonwealth does not accept responsibility for any information or advice contained herein.

Acknowledgements : Sean Rooney, independent consultant.

Case study snapshot

Green Cross Australia: *Harden Up Protecting Queensland*

Green Cross Australia (GCA) is a national environmental organisation that helps Australians adapt to climate change in ways that embrace sustainability and community resilience. To achieve this, GCA works with respected business, research, community and government partners to enable Australians to take informed, practical action in response to climate change.

In partnership with organisations drawn from across the public, private, community and research sectors, GCA's small team of passionate professionals design and deliver a range of programs and events. Individually, each GCA program targets a specific climate change issue. Collectively, the portfolio of GCA's programs and events promotes and builds household and community scale adaptive capacity in response to climate change.

Coastal communities around Australia are encouraged to take a photo or two as part of the Witness King Tides project. The king tide photos help build a picture of the threat posed by sea level rise for our communities and help track the future impact of climate change.

One such GCA program is *Harden Up – Protecting Queensland*.

Queensland (QLD), Australia's second largest state in area, is home to over 4.5 million people. The State has over 7400 km of coastline and is home to the internationally renowned Great Barrier Reef, as well as a number of world class beaches and waterways, national parks and rainforests.

QLD is prone to climate related natural disasters such as floods, droughts, bushfires, tropical cyclones, storms and storm surges.

A string of recent extreme weather events over the past few years in QLD has highlighted the need for households, businesses and communities to be better prepared for extreme weather. In response, GCA developed and implemented *Harden Up – Protecting Queensland*. This program is a state-wide, web-based approach to building resilience in response to extreme weather hazards and risks.

The key project aim is to encourage Queenslanders to assess their vulnerability to key natural disaster hazards, and take practical action to become more self reliant and resilient in the face of extreme weather events. The website is a neat use of online technology blending social and digital media.

The project journey

Green Cross Australia (GCA) achieves both national reach and local impact through designing and delivering programs that utilise web based technologies and social/digital media.

A string of recent extreme weather events over the past few years in QLD has highlighted the need for households, businesses and communities to be better prepared for extreme weather. In 2010 GCA was approached by a Natural Disaster Resilience Program Officer from the QLD Government Department of Community Safety to explore how they might work together to build climate resilience in QLD communities. This government interest was based on Green Cross Australia's demonstrated achievement in building self-reliance and empowering local action in response to climate change through their programs and partnerships.



© NCCARF 2013

Figure 1: Greencross is a Queensland based Non Government Organisation (NGO).

The key project aim is to encourage Queenslanders to assess their vulnerability to key natural disaster hazards, and take practical action to become more self reliant and resilient in the face of extreme weather events.

In response to the approach from the State Government, GCA developed and implemented *Harden Up Protecting Queensland*. This program is a state-wide, web based approach to building resilience in response to extreme weather hazards and risks. It is heartening to hear of current discussions to expand this website to other States.

Drivers for adaptation action

In 2010, GCA was approached by a natural disaster resilience program officer from the QLD Government Department of Community Safety to explore how they might work together to build climate resilience in QLD communities.

→ Adaptation action

Through the clever use of information technology, Green Cross Australia's online activities:

- Produce fun, educational resources for children to learn about the stresses our planet faces
- Encourage young people to use their creativity to participate in a cleaner, greener future
- Inspire young people to become emergency volunteers
- Help coastal communities understand the risk of sea level rise in their local area through a community photography initiative
- Educate home owners about severe weather risks in their local area, and help households prepare for them in an engaging way
- Provide a comprehensive green building guide for people rebuilding after natural disasters.

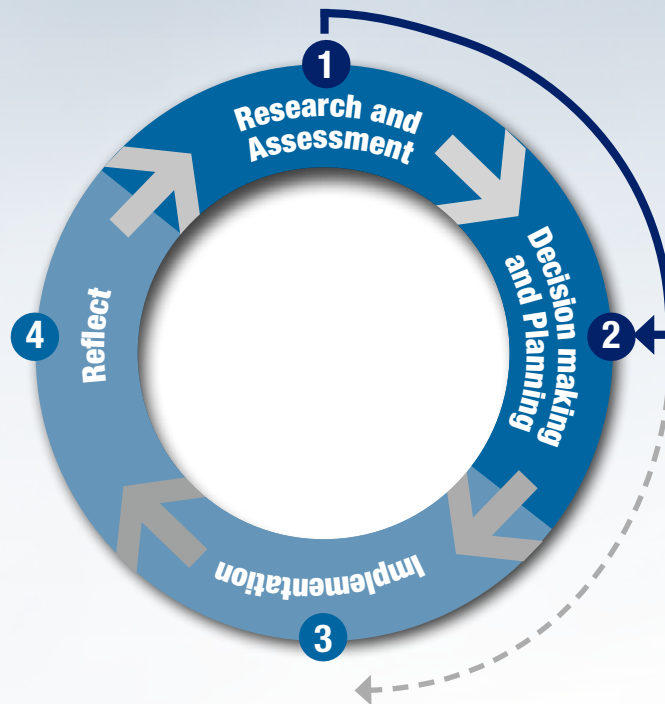


Figure 2: Green Cross Australia: *Harden Up Protecting Queensland* Adaptation Good Practice phase

Risks and impacts addressed

Extreme weather events in QLD.

Outcomes achieved

Since launching in late 2011, the *Harden Up – Protecting Queensland* program has seen over:

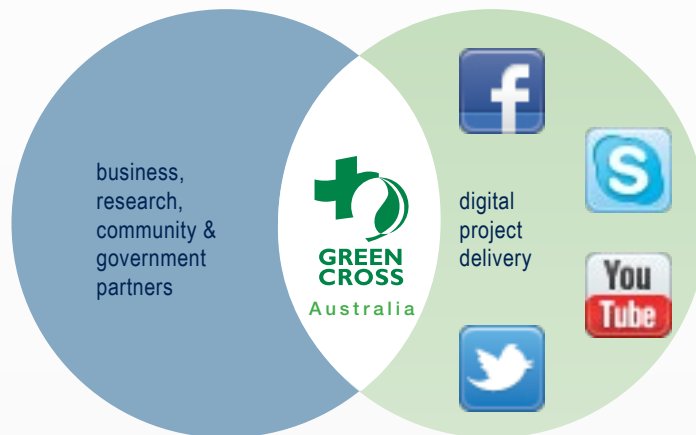
- 35,500 people access the website
- 155,000 pages of content viewed with visits lasting around 5 minutes on average
- 18,000 discrete actions have been taken to prepare for extreme weather in QLD.

Emerging outcomes

- Ongoing discussions to rollout online program to other states

The project

Harden Up provides reliable data and is packaged with a user friendly interface that personalises the issue of climate change adaptation for the benefit of end users, whether individuals or community groups. They type in a geographical address to obtain a climate history and the historical risk, and are led through a series of detailed questions with the option to link with a community. The program provides a checklist to build up resilience to hazard and events and leads towards producing an action plan that feels empowering.



© GCA

Figure 2: Green Cross Australia operating model combining partnerships and web-based technology

Risks and impacts addressed

The *Harden Up* program acknowledges that the risks related to cyclones and storm surges, severe storms, floods, or bushfires depends on where you live in QLD. Understanding of the past weather events that are specific to an individual's household/community is an important starting point in identifying local climate risks and preparing for future extreme weather events.

Information and knowledge gaps

Jeff Callaghan, a retired senior forecaster from the BoM, had conducted detailed research of the history of QLD's weather. Through this research, Jeff developed a rich archive of thousands of historical weather events, many of which are logged in the BoM's official databases, and some were researched from the archives of the State Library of Queensland, ships' logs and other historical records. Jeff collated and catalogued over 3,000 weather events going back to the 1800s and this evidence base underpins Green Cross

Understanding of the past weather events that are specific to an individual's household/community is an important starting point in identifying local climate risks

Australia's *Harden Up* program. Jeff's participation as Chair of the *Harden Up* Steering Committee was enabled through a CSIRO introduction to then head of the QLD BoM, Jim Davidson.

Response strategy

The aim of the *Harden Up – Protecting Queensland* program is to encourage Queenslanders to assess their vulnerability to key natural disaster hazards and to take practical action to become more self-reliant and resilient in the face of extreme weather.

Launched in late 2011, *Harden Up* is a web-based program that enables Queenslanders to assess their vulnerability to weather related hazards, and to take practical steps to enhance

their ability to prepare for, withstand, and recover from, adverse weather events.

Specifically, *Harden Up* encourages Queenslanders to:

- Be aware - identify their personal risk exposure to cyclone, bushfire, severe storms and storm surge
- Prepare - take practical actions to reduce hazard exposure
- Help others - build community resilience by getting involved in local volunteering programs.

Be Aware

The *Harden Up* program provides a disaster resilience web portal through which historical weather information and future projections can be accessed. This information helps people understand

the history of severe weather in their community and consider any likely future risks. The website provides information relating to over 3,000 QLD-specific, historical weather events from over the past 150 years. Specifically, a summary of historical weather data is provided at suburb/town scale for flood, bushfire, cyclone, storm surge, and severe storm events. This data is complemented with detailed information for each specific weather event, including access to media reports detailing the event, its immediate impacts and aftermath.

In addition to historical information regarding extreme weather events in specific communities, the program provides location-specific climate projections based on leading scientific research. Furthermore, the program also sources relevant local preparedness materials from government, utility and agency providers that are specific to the local area. This combination of this information enables users to consider future weather related hazards in their community and connect to relevant local services.

Prepare

Building on an understanding of past extreme weather events, and the likely future climate, the *Harden Up* website provides an easy to use, interactive tool that enables the user to tailor a *Harden Up* plan to suit the climate hazards specific to their location, and specific to their circumstances (such as dwelling type, if they have children, are pet owners, are carers of elderly or people with disabilities, etc).

On the website, the user is led through a series of interactive questions specifying the types of actions they need to take

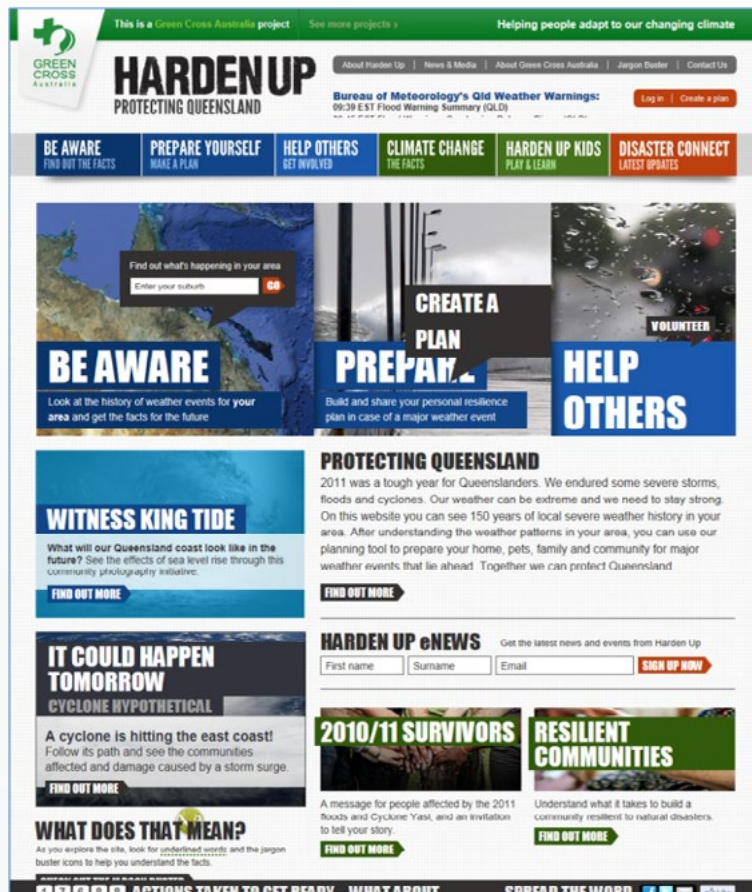


Figure 3: the *Harden Up - Protecting Queensland* website homepage

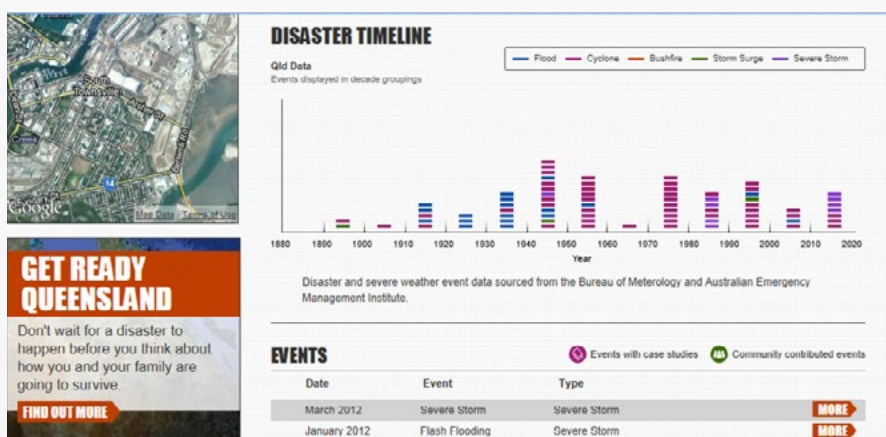


Figure 4: location specific weather event information on *Harden Up* website

in order to better prepare themselves, their families, pets and properties for extreme weather hazards specific to their community.

The output of this process is an Action Plan that details the specific actions required in order for the user to prepare their home, family, and community for likely extreme weather events. The Action Plan is also assessed with the overall level of preparedness of the household estimated. And finally, the user is prompted to:

- Share their plan with others
- Share their tips for disaster preparedness, and/or
- View the tips provided by others.

Help Others

Having taken the first steps in preparing your household, *Harden Up* prompts the user to encourage and assist others in their communities to also take action.

The website provides links for the user to explore how they can:

- Become a volunteer
- Take action in their community, and/or
- Connect with their neighbours.

Helping others is important as *Harden Up* asserts that '*communities that work together survive together*'. Given this, the website provides prompts and pathways which enable the user to connect to others to assist them in preparing for emergencies and avoiding unnecessary loss and damages, overall benefitting the wider community.

CLIMATE TRENDS – TOWNSVILLE-THURINGOWA REGION

Climate data and projections were compiled by the Queensland Climate Change Centre of Excellence, based on information from the Bureau of Meteorology and CSIRO. Projections assume a high future emissions scenario which global emissions tend to be currently tracking. The range displayed covers 80% of outcomes from climate models. For more detail on projections for your region, and potential impacts, click on the "Climate Q" regional summary above. The number of hot days is the number of days per year above 35°C. This will vary from location to location, within the region. The number of hot days quoted below refers to Townsville.

	1971 – 2000	2015 – 2045	2035 – 2065	2055 – 2085
No. of hot days	4	6 - 9	9 - 31	19 - 91
Average annual temperature	23.3 °C	23.9 - 24.6 °C	24.6 - 25.9 °C	25.4 - 27.5 °C
Rainfall	813mm	-12 - +6%	-21 - +12%	-32 - +19%
Potential evaporation	2025mm	+2 - +5%	+4 - +9%	+7 - +15%

Figure 5: *Harden Up* location specific Climate Trends projections

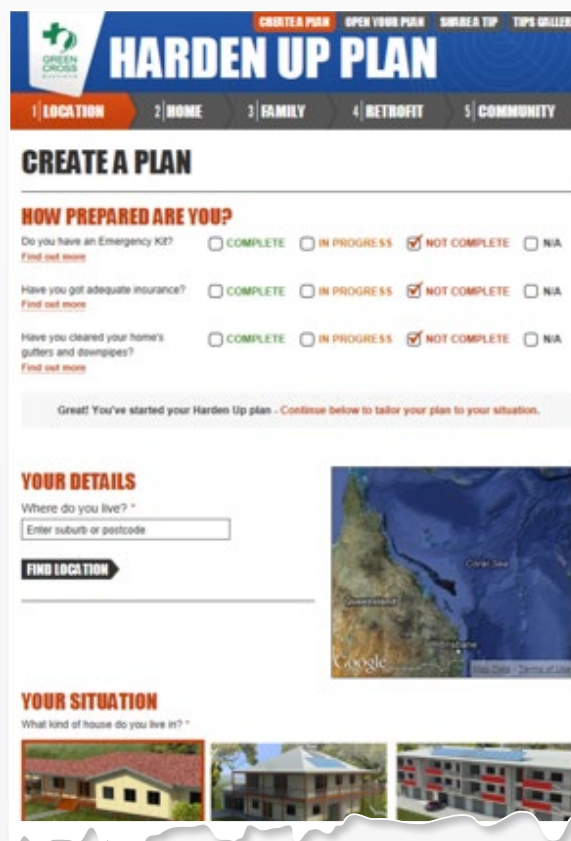


Figure 6: *Harden Up* plan

Implementation phases

- Stage One: Initial concept development and scoping (2010)
- Stage Two: Develop proposal, secure partners and NDRP grant funding (2010)
- Stage Three: Detailed design, development and testing (2011)
- Stage Four: Launch (2011)
- Stage Five: Ongoing operation and evaluation (2012).
- Stage Six: Addition of two modules: Townsville cyclone hypothetical visualisation working with Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Townsville City Council; and Master Planned Community Resilience Tool working with Green Building Council of Australia, Manidis Roberts, Urban Land Development Association (ULDA), Lend Lease and Stockland.

Outcomes achieved

Since 2009 GCA has deployed six award winning websites engaging with 290,000 Australians, inspiring them to undertake 185,000 measurable actions to address climate change. Across all of GCA's program areas over 725,000 pages of media rich, research based sustainability and resilience materials have been accessed in the past four years.

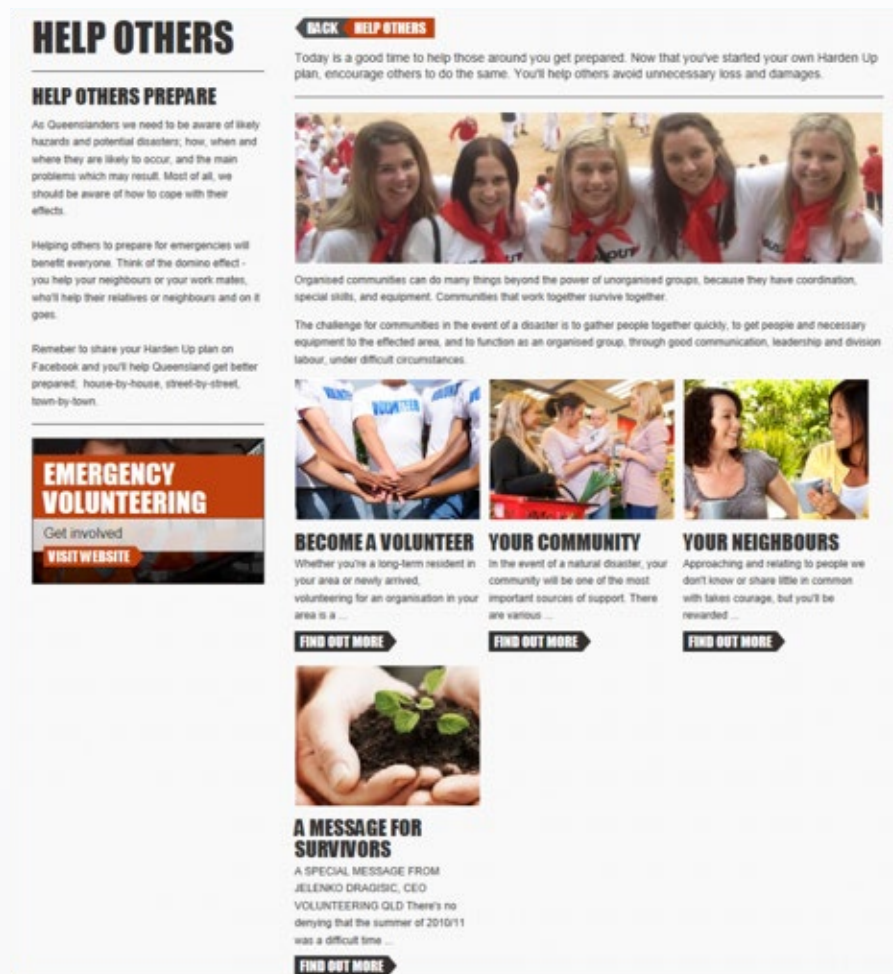


Figure 7: Harden Up Help Others pathways page

Emerging outcomes

Expansion of Green Cross Australia programs with likelihood of *Harden Up* being progressively adopted by other states.

Witness King Tides already taken up in other states.

Critical success factors

AGP analysis of the project

Success of this approach has been driven by strong leadership, engagement with partner organisations, excellent connectivity between all stakeholders and a sustainable vision.

This project is strong in:

- Leadership
- Engagement
- Connectivity
- Sustainability

Leadership

The design, development and operation of the *Harden Up* program was based on the effective and efficient collaboration between partners from across the public, private, community and research sectors. This ground breaking program would not have been possible without the leadership shown by partner organisations and key individuals within them. Specifically, the Insurance Council of Australia, the Property Council of Australia, Local Government Association of Queensland, CSIRO, BoM, and public sector funding agencies provided significant drive and leadership to realise the on-ground impacts that the initial *Harden Up* concept promised in communities across QLD.

→ Leadership lesson learnt:

Stay focused on the concept and collaborate with partners across private, public community and research sectors to reach project goals.

This ground breaking program would not have been possible without the leadership shown by partner organisations and key individuals within them.

Engagement

Harden Up was funded by the Natural Disaster Resilience Program (NDRP) through Emergency Management Australia and the Queensland Department of Community Safety. The program is a true 'cross-sector' partnership with organisations from the public, private and research sectors all working together. Program partners and their contributions to the *Harden Up* program include:

- Queensland Department of Community Safety: grant funding under NDRP
- Queensland Attorney-General's Department: grant funding under NDRP
- Australian Government Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education: grant funding of related Witness King Tides community photography project to raise awareness of sea level rise. The then Queensland Department of Environment and Resource Management (DERM) for improved coastal mapping
- Local Government Association of Queensland: disaster preparation information and promotion via State-wide disaster management network
- Insurance Council of Australia: access to claims history database for *Harden Up* location-specific weather events program
- Residential Tenancies Authority: rental accommodation preparedness guide
- State Library of Queensland: provision of images for *Harden Up* local weather histories program
- Suncorp Insurance: concept development and disaster preparedness tips
- CSIRO: scientific and research input
- Australian Emergency Management Institute – integration of case study data from Disasters Database
- Bureau of Meteorology: scientific and research input
- James Cook University: scientific and research input
- Channel 10: community services announcements for website launch
- Property Council of Australia: property resilience advice, promotion of program to developers through magazines and websites
- Green Building Council of Australia: incorporation of Community Resilience Guideline as a governance point under the current pilot of the Green Star Community tool being deployed across 31 master planned communities
- Volunteering Queensland: community engagement programs on the ground, portal content, support through social media integration
- The Weather Channel: integration of weather warnings and promotion of

Its focus is on self-reliance in response to the impacts of climate change. This approach is empowering and effective...

Harden Up on the main weather page of The Weather Channel website.

→ Engagement lesson learnt:

It takes commitment to be a true 'cross sector' partnership, but the results pay dividends.

Connectivity

Harden Up is one of the many initiatives from GCA. All GCA initiatives and programs provide a tangible demonstration of the key principles enshrined in Australia's National Strategy for Disaster Resilience. These being:

- **Disasters will happen:** natural disasters are inevitable, unpredictable and significantly impact communities and the economy
- **Disaster resilience is your business:** governments, businesses, not-for-profits, communities and individuals all have a role to play to be prepared
- **Connected communities are resilient communities:** connected communities are ready to look after each other in times of crisis when immediate assistance may not be available
- **Know your risk:** every Australian should know how to prepare for any natural disaster
- **Get ready – Then act:** reduce the effects of future disasters by knowing what to do and where to go for more information
- **Learn from experience:** we reduce the effects of future disasters by learning from past experiences.

The *Harden Up* is one of a suite of online, climate change adaptation programs that GCA develops and manages. Specifically, the program links to GCA's Townsville

cyclone visualisation and Witness King Tides online programs. Each of these programs demonstrates creative engagement strategies for communicating risk in a science-based way.

Building on the *Harden Up* program's success in QLD, GCA plans to take the approach to other States and Territories. The ultimate aim is to have a national-scale *Harden Up* program. The next step in achieving this vision has commenced with development of a *Harden Up* program for the Australian Capital Territory underway.

→ Connectivity lesson learnt:

Link to other programs to broaden reach. They also stimulate interaction and sharing of good ideas in both directions.

Sustainability

The *Harden Up* program enables households and businesses to proactively prepare for extreme weather. Its focus is on self-reliance in response to the impacts of climate change. This approach is empowering and effective, as individuals take responsibility for the safety and wellbeing of themselves, their families, and their property. Furthermore, they are also encouraged to take an active role in protecting their communities.

The program continues to support ongoing adaptation into the future as the web-based delivery model requires limited ongoing maintenance/updates. Similarly, with plans for deployment in other States/Territories the *Harden Up*

program will continue to grow in terms of reach and impact.

→ Sustainability lesson learnt:

Giving communities the tools to prepare and protect themselves empowers them to continue to take responsibility for their own safety now, and of themselves and others well into the future.

Cost

The *Harden Up* program is a data intensive, location-specific, web-based application enabling climate change adaptation action at household and community scales.

Once the initial upfront costs are covered, the ongoing operational costs are minimal. This equates to a compelling business model that demonstrates good value for money over a sustained period. As a case in point, the *Harden Up* program continues to inspire action and create local impact well beyond the term of the original grant funding.

In considering Green Cross Australia's overall operations, a recent report calculated the organisation's 'social return on investment'. The assessment concluded that '*for every \$22 invested in Green Cross, somewhere in Australia, someone is inspired to take a practical step towards a secure and sustainable future*'.

→ Cost lesson learnt:

Digital programs of this type require significant investment in development and design, but money spent now will support communities to reduce their own costs in the future.

Conclusion

The initial investment by *Harden Up* partners demonstrates commitment to action in response to climate change.

- A true cross-sector partnership, *Harden Up* demonstrates what can be achieved when organisations from across the public, private, community and research sectors harness knowledge, funding and passion, and direct this towards making a difference in Australian communities.
- Specific advantages of the GCA's *Harden Up – Protecting Queensland* program's approach to building climate resilience are:
 - Relevant: the program tailors information to the specific needs of the end user, based on their local climate history
 - Empowering: the program inspires individual action and promotes self-reliance
 - Measurable: all household assessments, plans and individual actions are captured and reported
 - Scalable: the program is replicable in other states/territories
 - Partnership based: demonstrates meaningful collaboration creating shared value and delivering mutual benefits for partners
 - Value for money: provides significant return on investment over a sustained period of time
 - Innovation: effectively leverages information technology combining web-based tools, with digital technologies and social media.



Figure 8: Green Cross Australia's climate change resilience programs

Links to more information and projects

- *Harden Up – Protecting Queensland* website:
<http://hardenup.org/>
- Green Cross Australia website:
www.greencrossaustralia.org/
- Green Cross Australia social return on investment report:
www.greencrossaustralia.org/media/9856704/greencrossaustraliasroi.pdf
- Witness King Tides:
<http://witnesskingtides.org/>
- Bureau of Meteorology
www.bom.gov.au
- The Department of Community Safety
www.communitysafety.qld.gov.au/info/contact.htm
- Townsville cyclone visualisation
<http://hardenup.org/be-aware/weather-events/storm-surge-simulation.aspx>



Australian Government

**Department of Industry, Innovation,
Climate Change, Science, Research
and Tertiary Education**



NCCARF

National
Climate Change Adaptation
Research Facility