

Review of connecting with and preparing communities for major emergencies in Victoria

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an alternative format telephone **(03) 8684 7900**
or email igem@justice.vic.gov.au

Inspector-General for Emergency Management

Department of Justice & Regulation
GPO Box 4356, Melbourne, Victoria 3001

T (03) 8684 7900

E igem@justice.vic.gov.au

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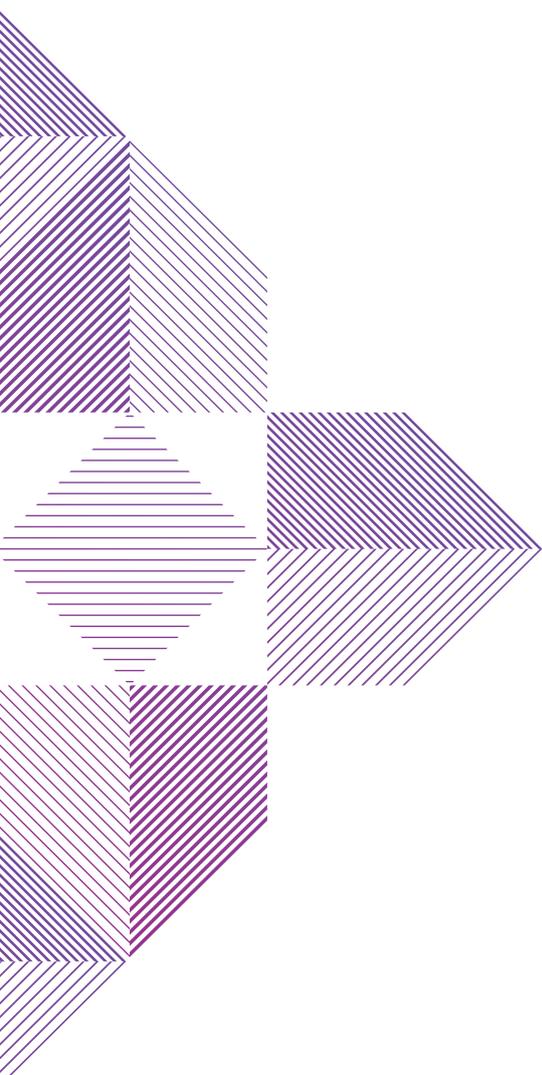
Contents

Acronyms	4
Executive Summary	5
1. Introduction	10
1.1 About this review	10
1.2 Objectives	11
1.3 Stakeholders	11
1.4 Acknowledgements	11
2. Background	12
2.1 What does it mean to be prepared?	12
2.2 Emergency management reform	13
2.3 The emergency management arrangements	13
2.4 The challenging task of encouraging householder preparedness	16
2.5 Review scope	16
2.6 Assessment criteria	17
3. VICSES: FloodSafe and StormSafe Programs	20
3.1 To what degree is the program evidenced-based?	23
3.2 To what extent are the programs effective	24
3.3 To what extent does the suite of programs meet principles of better practice?	29
3.4 Summary	31
4. CFA: Bushfire Safety Programs	32
4.1 To what extent are programs evidenced-based?	39
4.2 To what extent are the programs effective?	40
4.3 To what extent does the suite of programs meet principles of better practice?	46
4.4 Summary	48
5. Discussion and implications	49
6. Concluding remarks	57
7. References	58
Appendix 1: Project approach	60
Appendix 2: Community Telephone Survey and Sampling	64
Addendum	70

Acronyms

CFA	Country Fire Authority
CEMP	Community Emergency Management Plan
CMA	Catchment Management Authority
DELWP	Department of Environment, Land, Water and Planning
EMC	Emergency Management Commissioner
EMV	Emergency Management Victoria
FRV	Fire Ready Victoria
HBAS	Home Bushfire Advice Service
HBSAT	House Bushfire Self Assessment Tool
IGEM	Inspector-General for Emergency Management
LFG	Local Flood Guides
LIMP	Local Incident Management Plan
MERI	Monitoring, Evaluation, Reporting and Improvement
NDRGS	National Disaster Resilience Grants Scheme
NSDR	National Strategy for Disaster Resilience
PAVS	Property Advice Visit Service
SAP	Strategic Action Plan
StreetBAS	Street Bushfire Advice Service
VBRC	Victorian Bushfires Royal Commission
VFR	Victorian Floods Review
VICSES	Victoria State Emergency Service

Executive summary



Experience with the 2009 Black Saturday bushfires and the widespread floods of 2010–11 have come at considerable cost to Victorians and prompted major reform to the state's emergency management arrangements.

Victoria continues to be at risk of bushfires, floods and storms. Knowledge of these kinds of risks, and how to adequately prepare and respond makes an important contribution to a community's resilience.

Many emergency management organisations are involved in connecting with and preparing communities for emergencies. The *Emergency Management Act 2013* defines the sector as:

...comprising all agencies, bodies, departments and other persons who have a responsibility, function or other role in emergency management.

The emergency management sector agencies have a major role in developing community preparedness. The challenge is enormous, as preparedness relies on both individual traits, action and change, as well as development of cohesive communities.

The *Emergency Management Manual Victoria* details the prevention/mitigation and risk reduction activities of these many organisations.

This review examined activities undertaken by the Country Fire Authority (CFA) and the Victoria State Emergency Service (VICSES)—two agencies that play a critical role in assisting Victorian communities to understand their emergency risk and what they need to do to prepare.

Approach

The Inspector-General for Emergency Management (IGEM) examined whether agencies were delivering programs that:

- were evidence-based
- were supported by ongoing monitoring and evaluation of their effectiveness and are continuously improved
- met principles of better practice for community education, awareness and engagement.

IGEM examined documents and conducted interviews with stakeholders, agency representatives and subject matter experts. IGEM also conducted a telephone survey of householders from a number of locations across Victoria known to be at risk of either floods or bushfires.

The Victoria State Emergency Service

VICSES conducts and delivers community education, awareness and engagement programs for a range of hazards, including the FloodSafe and StormSafe programs for flood and storm hazards. The aim of these programs is to foster an understanding of risk within the community and to encourage safe behaviour and the protection of property.

Beyond a pilot StormSmart initiative in Wodonga in 2006, a dedicated community education, awareness and engagement program for storms has not been developed. This is, in part, because of prioritisation of a flood education program (and in part, because of resource constraints).

The contemporary FloodSafe program has evolved from a pilot program implemented in Benalla in 2006 that saw large increases in householder preparedness for floods. The pilot was extended to metropolitan areas in 2007 through a partnership with Melbourne Water.

More recently, VICSES has implemented the first two years of the planned three-year project in flood-prone areas across Victoria.

Its implementation is funded through the National Disaster Resilience Grants Scheme and draws on VICSES community education staff and volunteers.

FloodSafe program activities and materials encourage an understanding of flood risk, flood warnings, what to do to prepare and where to get help. The FloodSafe program also involves a media campaign, engagement activities and program resources. Local Flood Guides are also developed to provide information on flood risk, tailored to flood-prone locations.

VICSES is committed to evaluating the FloodSafe program's effectiveness. VICSES has evaluated the Benalla FloodSmart pilot, FloodSafe delivery in metropolitan Melbourne and FloodSafe delivery more broadly across the state. Evaluations of the pilot in metropolitan Melbourne, and the first two years of the statewide project, have not documented the same changes in householder preparedness that were observed in the Benalla pilot.

It is clear that the effectiveness of these programs is evaluated and VICSES has attested to a number of improvement initiatives. An area of improvement identified in this review is to implement the FloodSafe program through a continuous improvement framework that enables lessons from these evaluations to be documented, program improvements identified and improvements tracked.

IGEM assessed the FloodSafe program against evaluative criteria for better practice community education, awareness and engagement. IGEM identified elements of better practice, as well as opportunities for improvement of the existing program.

Based on two sources of data – IGEM's community survey and VICSES evaluation of its programs – it appears that few people in Victoria are prepared for floods.

The Country Fire Authority

The Country Fire Authority (CFA) delivers a long-standing suite of programs designed to produce a range of outcomes that contribute to safer communities. The programs and resources promote bushfire risk awareness, information on how to prepare and an awareness of the kinds of information and warnings people might experience in the event of an emergency.

CFA community engagement activity increased markedly in the aftermath of Black Saturday and the Victorian Bushfires Royal Commission (VBRC). This activity has recently been evaluated.

CFA has also implemented some new initiatives and examined their effectiveness. These include the Property Advice Visit Service (PAVS), increased use of social media and a community-based emergency planning approach.

IGEM found that CFA programs meet many characteristics of evidence-based programs. CFA has conducted a number of major evaluations, annual post-season community telephone surveys of householder attitudes, perceptions and preparedness action, and examined individual programs.

A number of components expected in evidence-based programs are evident, including monitoring indicators of program effectiveness and review by people with subject matter expertise.

Evaluations have highlighted that program logics have not always been in place until after programs have been implemented. Based on these findings all existing and new programs have developed program logics.

Evaluators have noted the absence of the development of a clear rationale relating the needs of communities to program objectives, and how program activities contribute to the intended outcomes.

CFA has examined householder preparedness in high bushfire risk communities and evaluated effectiveness of a range of programs. There are generally high levels of risk awareness and most people have undertaken some actions to prepare their homes (but these appear to be the more easy-to-do activities). Most people have also considered what to do in the event of an emergency, but few people would have what agencies consider a comprehensive plan.

IGEM found that the majority of people in extreme bushfire risk areas had interacted with emergency management organisations, and this interaction tended to be with CFA. Those that interacted with CFA were more likely to be aware of their risk and have prepared an emergency plan, an emergency kit and prepared their homes.

CFA's most recent evaluation noted that while programs have produced outcomes, there has been little change in most household preparedness measures since the VBRC. This is, in part, because these measures need to be updated. This also needs to be viewed in context of the raft of changes that have occurred in this period.

The majority of people, while aware of risk and believing themselves to be prepared, appear to be underprepared for major bushfires.

IGEM assessed the suite of community engagement programs against evaluative criteria based on principles of better practice and elements of evidence-based practice.

Discussion

This review took place at the beginning of a period of significant reform in emergency management in Victoria.

Emergency Management Victoria (EMV) plays a key role in implementing the Victorian Government's emergency management reform agenda.

The *Victorian Emergency Management Strategic Action Plan 2015-18* (the SAP) outlines a number of actions intended to build community resilience. This includes the development of a framework – the SAP Resilience Framework – that provides guidance on how this should be done.

IGEM notes that the SAP actions incorporate many of the principles of better practice community education and engagement.

The programs examined in this review have evolved with a hazard-specific focus in the absence of sector-level guidance for an all hazards-all agencies community resilience approach.

Any findings and recommendations made in this review need to consider these reforms.

As the State continues to implement these reforms, it is important that it embraces an approach where lessons are learnt and activities continuously improve. Monitoring, evaluation, reporting and review are an important part of organisational accountability and allow performance against objectives to be assessed.

Agencies have demonstrated a commitment to monitoring against program outcomes, but it is not clear how lessons are learnt or acted upon. A key observation made during the conduct of this review was the absence of a transparent framework adopted by either VICSES or CFA that reports on monitoring and evaluation outcomes and clearly links lessons to program improvement.

The ultimate test of program effectiveness is how people behave in the event of an emergency.

RECOMMENDATION 1

IGEM recommends that:

- EMV lead the sector in continuous improvement of community engagement programs using monitoring, evaluation, reporting and review processes.
- The sector should utilise the policy and guidance developed to support the reform including:
 - the SAP Resilience Framework
 - the Monitoring and Assurance Framework for Emergency Management.

While there was evidence that agency programs could lead to increased householder preparedness, IGEM has seen little recent evidence of the effectiveness of these preparedness activities in helping people during events in Victoria.

Understanding how people respond during emergencies is important, because the evidence suggests that many people may be unprepared or underprepared.

There were few examples identified of explicit target setting for levels of householder preparedness. In the absence of this kind of target setting, it is unclear how, or over what time frame, community education and engagement programs contribute to short to medium-term preparedness outcomes.

An increased focus on program outcomes during and after emergencies can help identify shortcomings in householder preparedness and assist with the continuous improvement of agency programs.



Image courtesy VICSES, photo: Andrew Arnold

RECOMMENDATION 2

IGEM recommends that:

- As EMV leads the sector transition to the development and implementation of the SAP Resilience Framework, consideration should be given to:
 - incorporating explicit target setting in preparedness outcomes
 - the development and implementation of measures that allow assessment of the effectiveness of preparedness activities during emergencies.

Householder preparedness for bushfires, floods and storms is encouraged and promoted by CFA and VICSES under the existing emergency management arrangements. The effectiveness of these activities are, in part, reliant on individuals taking action.

The difficulty of the task to help prepare communities cannot be understated. It is also difficult to attribute increased householder preparedness to any single program or interaction with the emergency management services.

Research examined during the conduct of this review highlighted the many factors that influence and inhibit householder preparedness.

While many Victorians indicate that they are prepared for major emergencies, it is likely that many of these people are underprepared.

IGEM cannot confidently report on the state of readiness of Victorian communities for major emergencies. Agencies – and other parts of government – do not routinely collect information that enables reporting on the state of readiness of at-risk communities in Victoria.

In the absence of information relating to community preparedness outcomes, the effectiveness of agency programs, and observations of changes in community preparedness since 2009, cannot be presented as compelling and evidence-based reports.

This is also, in part, because the task of assisting communities to prepare for major emergencies is a difficult one. There are many recognised barriers to people taking action to be prepared (despite being provided with information to assist them). There has been much reform in the last five years to develop, extend and improve programs that help people prepare for major emergencies.

In interviews conducted as part of this review, it became apparent that agencies were waiting for guidance from the SAP Resilience Framework before further embracing a resilience-building agenda in their programs.

IGEM notes there are opportunities to foster improvement in community education, awareness and engagement.

However, because of the complexities with householder preparedness, IGEM does not expect there to be broadscale increases in levels of preparedness under the existing emergency management arrangements with the current suite of community education, engagement and awareness programs.

OBSERVATION

The sector does not routinely collect or report on the state of readiness of at-risk communities.

In the absence of such reporting, IGEM cannot confidently identify whether Victorians are prepared for major emergencies they may experience.

Better practice community education and engagement involves a well-understood and engaged community that participates in program design and implementation, an understanding of social networks and an approach that builds social capital.

These principles would need to be supported by an effective approach to monitoring, evaluation and continuous improvement. They also need to be supported by agencies with an organisational culture and leadership that is supportive of community engagement. Better practice community education and engagement would take place as part of a broader approach to community safety and include a mix of incentives and consequences to encourage voluntary behaviour change supported by legislation and regulation.

In addition to the SAP Resilience Framework, the actions outlined in the SAP include many elements of better practice identified during this review. These include community profiling, and the identification and development of community leaders.

The sector will need to consider how it measures the impact and outcomes of actions guided by the SAP Resilience Framework.

The emergency management reforms commit the State to increased public participation in emergency management. Greater participation in community education, awareness and engagement can be fostered through a clear understanding about how and under what circumstances this participation takes place. Guidance such as the Victorian Auditor-General's Office's Better Practice Guide on Public Participation in Government Decision-making can be used to clearly outline the nature and extent of public participation in an agencies' decision-making.

A clearer direction for public participation in community education, awareness and engagement programs encourages clearer expectations between communities and the emergency management sector.

RECOMMENDATION 3

IGEM recommends that:

- As the State transitions to a community resilience building agenda and increasingly fosters public participation in emergency management, the sector should consider the elements of better practice outlined in the Victorian Auditor-General's Office's Better Practice Guide: Public Participation in Government Decision-making.

Concluding remarks

There are many ways that the emergency management sector connects with and helps prepare individuals, households and communities for major emergencies. This review examined the approach of two agencies that take a lead role in preparing communities for bushfires, floods and storms.

The information examined in this review and its findings highlight large differences in the levels of preparedness for floods and bushfires. A number of factors are involved in motivating householders to undertake actions to prepare and there can be many things that inhibit householders becoming better prepared.

This review goes some way towards providing confidence that agencies are delivering community education, awareness and engagement programs that produce the intended outcomes and are effective for some people.

The programs examined in this review can achieve intended community preparedness outcomes. However, the information canvassed as part of this review indicates that despite considerable efforts, it is likely that many people remain unprepared or underprepared for major emergencies they may face. There is still much work to be done.

This review was conducted at an early stage of Victoria's contemporary emergency management reform. IGEM provides recommendations that build on the existing work already undertaken by agencies to understand effectiveness and foster continuous improvement through:

- more transparent monitoring, evaluation and reporting on progress towards community preparedness outcomes
- focusing attention on long-term outcomes (for example responses during emergencies)
- clearer statements about how and to what extent the public participate in decisions about how to prepare for emergencies.

All recommendations are consistent with priorities for reform identified in the SAP.

Actions outlined in the SAP incorporate many elements of better practice. These actions provide an opportunity for agencies to reflect on long-standing programs and those highlighted as case studies in this review as the State transitions to a community resilience building agenda.



Image courtesy CFA



Image courtesy VICSES

1. Introduction

1.1 About this review

The Inspector-General for Emergency Management (IGEM) is a legislated appointment established under the *Emergency Management Act 2013* (the Act) to:

- provide assurance to government and the community in respect of emergency management arrangements in Victoria
- foster continuous improvement of emergency management in Victoria.

Supporting the achievement of these objectives, IGEM undertakes system-wide reviews, including reviews of the emergency management functions of responder agencies and government departments as defined in the Act.

IGEM develops an Annual Forward Plan of Reviews (the plan) in consultation with the emergency management sector (the sector). In addition, IGEM may also conduct reviews at the request of the Minister for Emergency Services (the minister) under the provisions of Section 64(1)(b) of the Act.

In developing this plan, IGEM invited responder agencies and government departments to identify key issues or risks facing the sector.

The sector is defined in the Act as:

...comprising all agencies, bodies, departments and other persons who have a responsibility, function or other role in emergency management.

IGEM also considered strategic issues emerging from recent events and reviews of emergency management arrangements in Victoria.

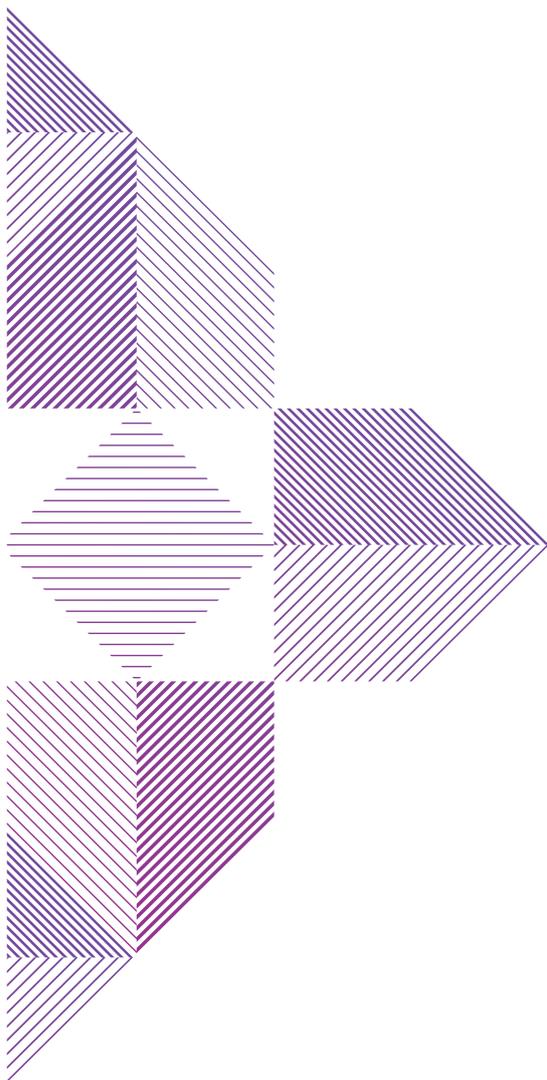
IGEM assessed these issues based on:

- the significance of the risk and whether it justified the commitment of IGEM resources
- the potential for a review to lead to sustainable and systemic improvement
- whether recent reviews had examined similar issues
- whether improvement actions were in the process of being initiated or early stages of implementation.

This review, *Connecting with and preparing communities for major emergencies in Victoria*, is one of three reviews in the 2015 Annual Forward Plan of Reviews.

In preparing the final report for the minister, IGEM provided draft copies to, and invited comment from, all relevant agencies to which this report relates. Comments received by IGEM from relevant agencies have been taken into account for this final report.

IGEM has done this to meet the legislative obligations contained in section 70 of the Act and to meet its objective of fostering continuous improvement of emergency management in Victoria.



1.2 Objectives

The objective of this review was to identify opportunities to improve sector connections with Victorian communities in support of their enhanced preparedness for, and resilience to withstand and recover from, the consequences and effects of major emergencies.

1.3 Stakeholders

The key stakeholders for this review are:

- Catchment Management Authorities (CMAs)
- Country Fire Authority (CFA)
- Emergency Management Victoria (EMV)
- Melbourne Water
- municipal councils
- Victoria State Emergency Service (VICSES)
- Victorian communities, particularly those living with a high risk of bushfire and/or flood.

1.4 Acknowledgements

The Inspector-General particularly thanks the residents of communities who provided their time to share their experiences of, and insights into, preparedness for major emergencies. In doing so they provided a valuable contribution to informing this review.

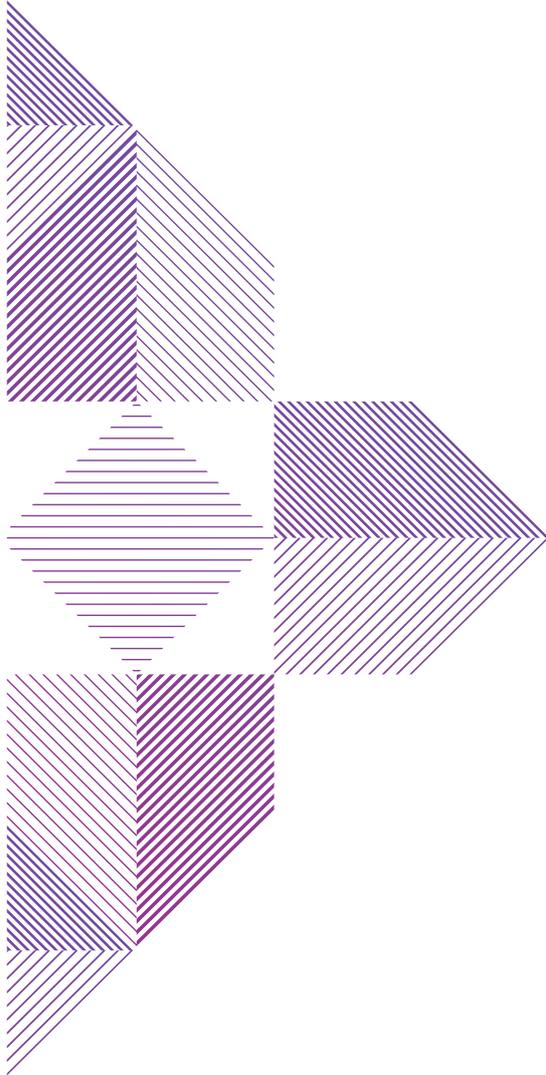
IGEM acknowledges the cooperation and support received from Victorian Government departments, local government and agencies in preparing this review.

IGEM also thanks VICSES and CFA members for their assistance with information and clarification in relation to agency documentation and reports. This affirms the sector's commitment to working as one for continuous improvement in the state's emergency management arrangements.

During this review IGEM noted the great contribution by the volunteer members of VICSES and CFA who have provided these agencies with additional capacity to deliver community engagement programs that are targeted and resource intensive. These include FloodSafe doorknocking, VICSES school visits, the Property Advice Visit Service (PAVS) and Bushfire Planning Workshops.

In conducting this review IGEM acknowledges that the resources available to VICSES and CFA are commensurate with the size of their organisation, particularly in the context of the number of volunteer and paid staff available to conduct community engagement activities. The review considers the quality of the engagement activities and processes undertaken rather than the quality of the actual program itself or the information delivered by it.

2. Background



Victoria has experienced a number of major emergencies over the last decade and continues to be at-risk from different hazards. Floods, bushfires and storms continue to pose risks to Victorian communities^[1]. This review examined how the emergency management sector connects with and prepares communities for three of these priority risks; major bushfires, floods and storms.

2.1 What does it mean to be prepared?

There are a number of definitions of preparedness depending on the context^[2, 3]. At the householder level, preparedness includes both physical and psychological components^[4]. Preparedness can involve making changes to one's household and property, the development of an emergency plan and the preparation of an emergency kit^[5]. Preparedness can encompass activities designed to assist householders to prepare for, respond to and recover from emergencies (Box 1).

The Australian Government Attorney-General's Department's *Guidelines for the Development of Community Education, Awareness & Engagement Programs* identify the following preparedness outcomes at the individual/householder level^[6]:

- awareness and recognition of the risk
- knowledge of hazard behaviour and hazard safety measures
- planning for the event of a hazard
- physical preparations of property and household
- psychological readiness involving confidence and self-reliance.

Box 1: The relationship between preparedness and recovery

"Preparation is about more than having an escape route, a torch and a shelf of tinned food. Protecting life is always your first priority, but making sure you protect the things that make up who you are will help you to recover. It is about anchoring you to the past, and helping start a new life. For me it's an old footy jumper and my granddad's war medals. For someone else it might be their kid's teddy bear and their vinyl collection."

John Richardson, Emergency Services National Preparedness coordinator, Australian Red Cross Emergency Services National Preparedness coordinator

The Council of Australian Governments' *National Strategy for Disaster Resilience* (NSDR)^[7] describes the characteristics of a resilient community, including many elements of preparedness.

The Victorian emergency management sector reform has been driven by the desire to reduce the impacts of major emergencies and is informed by the findings from previous emergencies.

Policy guidance and principles have been drawn from the national emergency management and community resilience building agendas.

2.2 Emergency management reform

This review was undertaken during a period of significant emergency management sector reform promoting community resilience and the fostering of shared responsibility for emergency management between the community and the emergency management sector.

The 2009 *Victorian Bushfires Royal Commission Final Report*^[8]; the *Review of the 2010–11 Flood Warnings & Response*^[9] (the Victorian Floods Review (VFR)), the NSDR^[7], the *Victorian Emergency Management Reform White Paper* (the White Paper)^[10] and the associated legislative and institutional reforms have all highlighted the role of prepared communities in emergency management and firmly embedded a community resilience building agenda in state policy and strategy.

An underpinning principle of the reforms is emergency management founded on community participation, resilience and shared responsibility.

EMV plays a key role in implementing the Victorian Government's emergency management reform agenda.

IGEM has been tasked in the Act with assuring the government and the community that the reform agenda is achieving the objectives including continuous improvement of activities.

The *Monitoring and Assurance Framework for Emergency Management*, a requirement detailed in the Act, provides the sector with a starting point for a coordinated and collaborative approach to sector-wide assurance.

Preparing communities for emergencies plays an important role in contributing to community resilience. The NSDR does not define community resilience, however, it does outline the types of outcomes expected in disaster-resilient communities^[7, P. 6-13]. Individuals and communities are more resilient and better able to cope with and recover from major emergencies if they understand the risks they face, know what actions they need to take, and are appropriately prepared and skilled to take those actions.

The *Victorian Emergency Management Strategic Action Plan 2015-2018* (the SAP) includes a number of actions to foster community resilience^[11], including:

- identification and development of community leaders
- engaging with young people to build emergency management awareness and capability
- the use of community profiling to understand community diversity, values and needs
- development of a resilience framework (the SAP Resilience Framework).

The SAP Resilience Framework will provide guidance for promoting shared responsibility and self-reliance in sector activities, communications and publications in the periods before, during and after emergencies. This guidance is to be embedded in emergency management planning at state, regional and local levels.

2.3 The emergency management arrangements

Many Victorian emergency management organisations are involved in connecting with and preparing communities for major bushfires, floods and storms. The Emergency Management Manual Victoria identifies a large number of organisations that play a role in community awareness, education and engagement before, during and after major emergencies.

There are a range of ways that the sector connects with communities to prepare for major bushfires, floods and storms (Box 2).

This review examined activities undertaken by two emergency management organisations delivering dedicated programs that aim to prepare Victorian communities for major bushfires, floods and storms; CFA and VICSES.

Box 2: Examples of sector connections with communities to encourage preparedness for major floods, fires and storms

A person living or moving for the first time into a flood-prone community may be exposed to a variety of information, awareness raising and engagement activities and warnings to assist preparedness during a flood. These might include:

- a planning scheme overlay identifying their property as flood-prone^[12]
- a CMA or local government workshop on prevention options^[12, P. 29]
- a LFG, possibly in multiple languages, with flood risk information, warning information or maps and flooding history^[13]
- a doorknock visit from VICSES^[14]
- VICSES engagement and awareness activities as part of the FloodSafe program^[15-18]
- a flood warning that might come from the Bureau of Meteorology or by telephone

Similarly in bushfire-prone communities, residents may:

- have a planning overlay such as a Bushfire Management Overlay^[19]
- drive regularly past Fire Danger Rating signs
- observe a sign indicating the location of a Neighbourhood Safer Place^[20]
- hear or see pre-season preparedness messages on radio or television
- receive a visit from CFA
- have attended a Bushfire Planning Workshop or Fire Ready Victoria (FRV) information session^[14, 21]
- have installed the Fire Ready App.

Victoria State Emergency Service

VICSES is established under the *Victoria State Emergency Service Act 2005* to undertake the functions listed below. This legislation, along with other legislation (principally the *Emergency Management Act 1986* and *Emergency Management Act 2013*), provides operational and strategic guidance to VICSES with regard to:

- assisting municipal councils and auditing their emergency management plans
- providing response activities during flood, tsunami, earthquake and storm
- providing rescue services, including search and rescue on land and in water
- assisting other agencies in relation to their emergency management response and duties
- assisting in the response to any major emergency in Victoria.

VICSES is obliged to work with the Emergency Management Commissioner (EMC), to comply with operational standards and to deliver against the SAP and the relevant work plan. VICSES, as part of the emergency management sector, is guided by the White Paper priority of 'Building community resilience and community safety'.

VICSES is required to contribute to a whole-of-sector approach to emergency management and promote a culture of community focus, interoperability and public value.

VICSES strongly aligns its operations with preparedness. Their mission statement in the Corporate Plan 2015-2018 states its mission as:

Partner with community and other agencies to provide timely and effective emergency services whilst building community preparedness and resilience ^[22, P. 1].

Its operations fall into five strategic themes, with 'community awareness' of most relevance to the development of preparedness. The actions in its Corporate Plan focuses on the development of a community resilience strategy and a strengthening of community awareness of VICSES services and opportunities for volunteering.

VICSES receives funding from a range of sources to deliver community education activities including through a partnership with Melbourne Water, a series of National Disaster Resilience Grants Scheme (NDRGS) grants and through government funding.

VICSES conducts and delivers community education, awareness and engagement programs for a range of hazards; the FloodSafe, StormSafe, TsunamiSafe and QuakeSafe programs ^[23].

The FloodSafe and StormSafe programs are designed to assist communities to prepare for floods and storms.

The background and funding arrangements for these two programs are discussed in detail in Section 3.



Country Fire Authority

CFA is established under the *Country Fire Authority Act 1958* to prevent and suppress fires in the country and peri-urban areas of Victoria. This legislation, along with other legislation (principally the *Emergency Management Act 1986* and *2013*), provides operational and strategic guidance for CFA.

In the performance of its functions, CFA must also contribute to a whole-of-sector approach to emergency management and promote a culture of community focus, interoperability and public value.

CFA is also required under legislation to issue warnings and provide information to the community in relation to fire for the purposes of protecting life and property as well as declare days of Total Fire Ban. Both functions play a role in peoples' awareness of their risk, and subsequently their preparedness.

CFA is obliged to work with the EMC, to comply with operational standards and to deliver against the SAP and the relevant work plan.

CFA, as part of the emergency management sector, is guided by the White Paper priority of 'Building community resilience and community safety'.

CFA's vision is:

To work together with communities to keep Victorians safe from fire and other emergencies

This will be measured by four long-term outcomes:

- *Reduce the incidence and impact of fire emergencies on the community*
- *Reduce the impact of non-fire emergencies on the community*
- *Be a highly trusted and respected fire and emergency service*
- *Increase community resilience to fire and non-fire emergencies.*

To support these outcomes, CFA has prepared five strategic priorities, including one of community resilience.

The language used throughout CFA's strategic documents is generally resilience-focused, however two of the success factors identified for the community resilience priority are aligned with the features of preparedness as described in the NSDR, namely:

- joint (sector and community) local action plans are implemented in Victoria's high risk communities
- an increased number of Victorian at-risk households demonstrate appropriate action to ensure their own safety before, during and after an emergency, based on sound advice.

The NSDR, through the associated grants program managed by EMV, provides support for the delivery of resilience components of the CFA strategic and operational program.



image courtesy CFA

This review was conducted following a period of significant scrutiny, reform and oversight of approaches to connect with and prepare Victorian communities for bushfires following the February 2009 Black Saturday bushfires.

The 2009 Victorian Bushfires Royal Commission (VBRC) examined the circumstance surrounding the February 2009 fires, including the preparation, planning and response by governments, emergency management organisations, communities and householders [8].

VBRC found that:

...many people did not have a well-thought out plan and were left to make their own decisions without the benefit of assistance from the authorities. [8, p. 5].

VBRC recommended the State revise its approach to bushfire community safety and made a number of specific recommendations about the conduct of bushfire community safety education.

EMV's *Bushfire Safety Policy Framework* was first developed in 2010 [24]; and updated multiple times [20]. The current version includes activities and objectives across the following five themes:

- *Awareness and education*
- *Community capacity building*
- *Local community fire planning*
- *Fire danger information and warnings*
- *Bushfire safety options.*

CFA's activities in community education, awareness and engagement take place as part of this broader framework.

CFA has developed a suite of community education, awareness and engagement programs to assist communities to prepare for bushfires.

2.4 The challenging task of encouraging householder preparedness

Preparing households for major emergencies appears to be an inherently difficult and complex task.

Recent research has identified many recognised inhibitors or critical factors.

Preparedness for major emergencies is complex and aims to bring about behaviour change and the capability for action. Behaviour change in particular is dependent on a range of factors including changing human behaviours and individual traits such as beliefs, prior exposure, biases, trust and perceptions [25], [26], [27].

Preparedness also relies on community factors, such as the development of networks and cohesive communities [26].

Historically, behaviour change has been most successful when underpinned by legislation, incentives and penalties [26].

Early efforts to promote preparedness relied on a simple model of information provision leading to behaviour change and action [28].

The agencies are responding to the difficult task of moving from this simple model to a far more complex and difficult model requiring locally focussed effort, genuine community consultation and factoring in the raft of complex human and societal factors.

Encouraging householder preparedness for major emergencies poses a number of challenges to VICSES and CFA and there are likely to be limits to the effectiveness of agency programs.

2.5 Review scope

The scope of this review focuses on householder preparedness and examines CFA and VICSES programs that connect with and prepare Victorians for major bushfires, floods and storms. These agencies are major contributors to the sector's delivery of householder preparedness activities for bushfires, storms and floods.

The review focuses on education for flood hazards, due to the lack of any dedicated storm education and awareness program.

The scope was also restricted to activities undertaken prior to the onset of major emergencies and did not involve a technical review of program materials.

This review examined the background, design, implementation and effectiveness of selected VICSES and CFA community education, awareness and engagement programs across hazard-prone locations in urban, rural and regional city areas.

The review adopts the following terminology:

- the FloodSafe and StormSafe programs refer to each of VICSES flood and storm community education, awareness and engagement programs, respectively
- CFA's programs refer to the suite of community education, awareness and engagement programs delivered by CFA
- programs is used to refer to community education, awareness and engagement programs.

2.6 Assessment criteria

IGEM examines whether community education, awareness and engagement programs are evidence-based, how they are monitored and evaluated, whether they are effective and their alignment with principles of better practice.

This review could not examine VICSES or CFA programs against well-established, agreed performance standards—these do not currently exist.

Guidance is available from a number of sources, including:

- national guidelines on community education, awareness and engagement ^[6]
- the Australian Government Attorney-General's Department's NSDR ^[29]
- commonly accepted approaches to engaging communities through different levels of public participation ^[30, 31].

In the absence of agreed performance standards, IGEM developed an assessment framework based on whether programs:

- are evidence-based
- are supported by ongoing monitoring and evaluation of their effectiveness and are continuously improved
- meet principles of better practice for community education, awareness and engagement.

Evidence-based programs

Delivering community education, awareness and engagement programs that are evidence-based allows government and the community a level of confidence that programs produce the expected results, and that these results are attributed to the programs.

What does an evidence-based program look like? While no universal definition exists, in public health or medical research we might expect to see a systematic review of evidence or a 'randomised controlled trial' that experimentally tests effectiveness ^[32]. We might also expect evidence-based programs to include the following components ^[adapted from 33, 34]:

- clear rationale: based on a theory of change that is documented in a clear logic or conceptual model (perhaps outlining what the program is, what it will do and how success will be measured)
- evidence of effectiveness: supported by documentation that it has been effectively implemented in the past with credible and positive effects
- endorsed by experts: reviewed and deemed appropriate by a panel of informed experts.

These are not presented as rigid assessment criteria, but are used as possible points of comparison in assessing community education, awareness and engagement programs.

The review of program effectiveness conducted as part of the development of the *Guidelines for the Development of Community Education, Awareness and Engagement Programs* also contributes to the evidence base ^[6].

Monitoring, evaluation and continuous improvement

Monitoring, evaluation and reporting are an important part of agency accountability and allow government and stakeholders to assess performance against objectives and ensure the identification and implementation of sustainable improvement.

While there is some link to the assessment against evidence-based programs, better practice program delivery involves monitoring, evaluation and continuous improvement.

IGEM examined the approach that agencies use to understand the effectiveness of community education, awareness and engagement programs and continuously improve them. IGEM also examined the effectiveness of these programs (and the rationale or appropriateness of these programs, when the evidence allowed for this).

Evaluations of the effectiveness of community education, awareness and engagement tend not to be routinely undertaken ^[6, P. 212].

IGEM's expectation of better practice is that agencies understand program effectiveness and that this understanding is linked in some way to ongoing improvement in program design and planning. Monitoring, Evaluation, Reporting and Improvement (MERI) Frameworks are one approach to doing this.

MERI Frameworks facilitate:

- improved understanding of program effectiveness (through assessment of activities, outputs and outcomes)
- priority setting for monitoring and evaluation (through the use of program logics and identification of key evaluation questions)
- more transparent reporting on program outcomes.

MERI Frameworks can be embedded in broader planning frameworks, fostering continuous improvement.

There are examples of these types of frameworks in use in the sector. Examples include the Department of Environment, Land, Water and Planning (DELWP) 2015 *Monitoring, Evaluation and Reporting Framework for Bushfire Management on Public Land* and the multi-agency approach to evaluating and improving community education and engagement activities in development in NSW ^[35, 36].

Better practice community education and engagement

IGEM assessed agency programs against evaluative criteria for principles of better practice in community education and engagement ^[37].

The criteria were developed by an independent research centre and based on a review of national and international community education and engagement practices.

The seven criteria form the basis of an evaluation matrix (Table 1). Each criterion can be rated as one of five levels of maturity (immature, basic maturity, moderate maturity, mature and advanced maturity).

These criteria allow for an assessment of the extent to which agency programs for floods, storms and bushfires meet established principles of better practice.

Not all criteria are assessed as part of this review. IGEM assessed VICSES and CFA programs against five of the seven criteria. The 'use of continuum of measures' and the 'govern and embrace' criteria are excluded from this assessment (because they are either difficult to assess or considered beyond the scope of this review). These criteria are included in Appendix 1, but do not form part of IGEM's assessment.

Table 1: Evaluative criteria for community education and engagement programs for bushfires, floods and storms ^[37]

EVALUATIVE CRITERIA	DESCRIPTION
Understand the community	The extent to which agencies understand the at-risk population through the collection of baseline data (e.g. Australian Bureau of Statistics data, community surveys) and via true community engagement methods ¹ (e.g. community meetings, citizen juries, workshops).
Foster participation	The extent to which the various groups within an at-risk population are involved in the agreement regarding power, ownership and level of participation required to develop and implement community education and engagement programs. This includes partnering with groups that are more socially vulnerable (e.g. disabilities, old age, non-English speaking, lack of experience).
Leverage and build social capital	The extent to which social capital is leveraged and supported by community education and engagement programs for floods, storms and bushfires.
Use effective risk communication techniques	The extent to which community education and engagement programs provide tailored information on risk, community roles, the efficacy of suggested preparedness measures, and how to implement measures.
Evaluate, learn and improve	Evaluations: The extent to which programs are evaluated before and after emergency events, and lessons are incorporated into the improvement of future programs. Positive Change: The extent to which programs show progress in enhancing householder preparedness for floods, storms and bushfires
Use a continuum of measures	The extent to which incentive, consequence and regulatory measures have been used to encourage householder preparedness for floods, storms, and bushfires.
Govern and embrace	Community engagement must be core to the business of the emergency management sector, with it embedded within the culture and practice of organisations.

¹ The report defines "true engagement" as "inclusive, meaningful engagement where community views are acted upon."

IGEM's Approach

IGEM's approach, illustrated in Figure 1 involved collecting evidence against established lines of enquiry. The lines of enquiry explored the following:

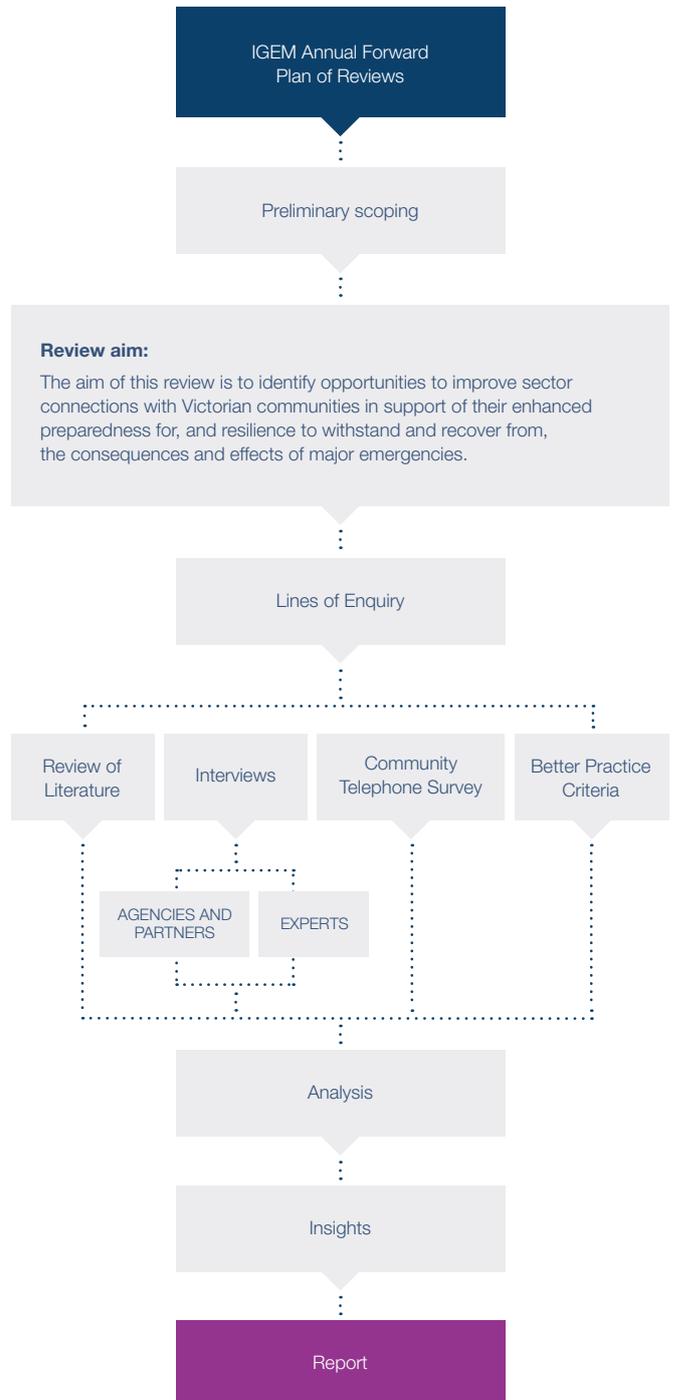
- the relationship between preparedness and community resilience
- levels of householder preparedness for bushfires, floods and storms
- CFA and VICSES programs, their design, implementation and effectiveness
- how the sector and its arrangements encourage community resilience in preparedness activities.

IGEM's approach involved a variety of information-collection methods, including:

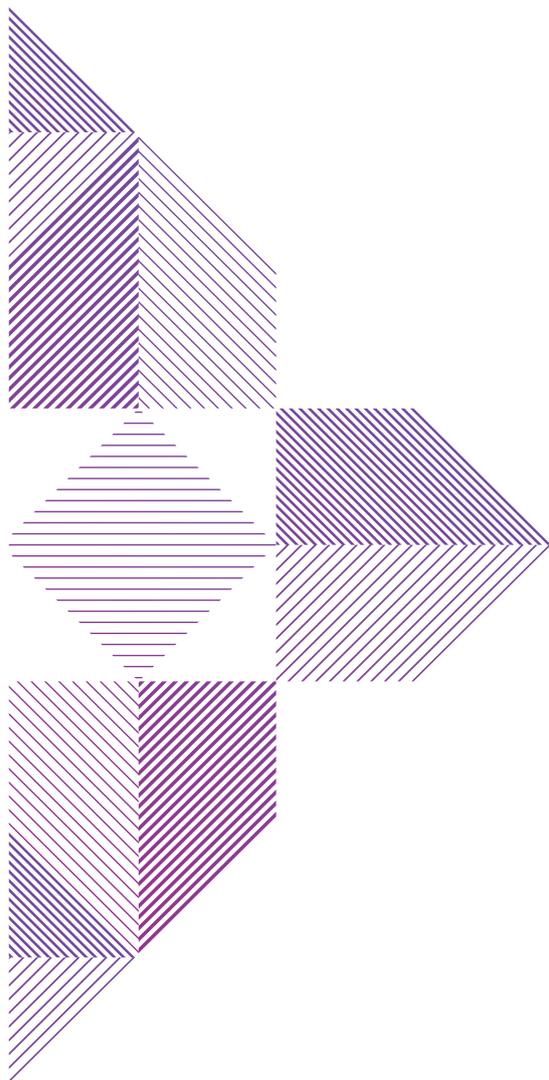
- document analysis (review of legislation, inquiries, policies, plans and agency documents)
- interviews with subject-matter experts, stakeholders and agency representatives from CFA and VICSES
- telephone survey of communities in hazard-prone areas (with known bushfire or flood risk).

IGEM conducted a telephone survey of a number of flood-prone or bushfire-prone locations across Victoria. A survey questionnaire was developed to assess respondents' risk awareness, levels of preparedness and interaction with emergency management agencies. The locations surveyed and the survey questionnaire are provided in Appendix 1 and 2.

Figure 1: Review approach



3. VICSES: FloodSafe and StormSafe Programs



Background to the FloodSafe and StormSafe programs

In 2006, VICSES developed and implemented pilot education programs for flood and storm hazards in partnership with local councils in Benalla and Wodonga, respectively. The pilot programs were funded through grants from the Commonwealth.

Known as FloodSmart and StormSmart, the pilot programs were developed in such a way that allowed them to be tailored to other hazard prone locations in Victoria. Effectiveness of the pilots was evaluated by flood education experts Molino Stewart ^[38].

Following these pilots, VICSES examined the resources and skills required to deliver community education and awareness programs in flood-prone areas across the state ^[38].

In 2007 VICSES commenced a partnership with Melbourne Water for the development and implementation of FloodSmart Metropolitan, a pilot community education and awareness programs for floods and storms appropriate to a metropolitan environment. Effectiveness of the program was evaluated by the Klein Partnership ^[18].

The 2008–13 partnership agreement resulted in:

- more than 1000 community engagement activities across 38 municipalities
- development of 18 Local Flood Guides (LFGs)
- 13,495 properties doorknocked and provided with community education and information.

FloodSmart is run across six regions, one metropolitan and five rural. In its remaining five rural regions, FloodSafe was funded through annual agreements as part of the NDRGS.

VICSES has been unsuccessful in bids for Victorian Government funding for a community education program. In 2009, VICSES received a grant of \$37,000 funding through the Victorian Emergency Grants Program to expand a Victorian FloodSafe program to the communities of Bendigo, Ballarat, Euroa and Seymour. The revised program was based on a nationally consistent FloodSafe program. The VFR recommended that the State undertake a community education program to inform households of their flood risk and allocate core funding for the ongoing delivery of the FloodSafe program.

Following the 2010-11 floods VICSES received funding from the State to employ community education staff ^[9, P.85]. VICSES also received funding from the flood stream of the NDGRS for engagement resources and the delivery of education programs for the first year of a proposed three year project. The NDGRS flood stream is one third Commonwealth funding, one third State funding (through DELWP) and one third VICSES in kind. VICSES have continued to receive State and NDGRS funding with 2015/16 the final year of the proposed three year project.

The NDRGS funding has enabled VICSES to build its foundational resources for engaging with flood-prone Victorian communities on their flood risk. This review takes place partway through the final year of the NDGRS funded FloodSafe project delivery.

A dedicated community education, awareness and engagement program for storms has not been developed to the same extent following the Wodonga StormSmart Pilot.

VICSES has prioritised the implementation of the FloodSafe program following the VFR (in part, because of resource constraints). VICSES have not sought funding for a dedicated storm education and engagement program, nor has funding been provided by government for such a program.

At the time of this review, VICSES employed twelve Community Resilience Coordinators. These coordinators facilitate community education and awareness programs that are delivered by volunteers. VICSES units may also have Community Education Facilitators. These are volunteer roles in community education, supported by nationally accredited competency-based training.

In 2016-17, the NDRGS-funded project will transition to an ongoing program (pending funding). At the time of this review, there was no recurrent funding once the NDGRS agreements have concluded.

About the FloodSafe and StormSafe programs

The aims of the FloodSafe and StormSafe programs are to:

...foster an understanding of risk within the community and to encourage safe behaviour and the protection of property. ^[23, P. 20].

The FloodSafe and StormSafe programs consist of three components; resources and toolkits, engagement activities and an annual awareness campaign (FloodSafe week and StormSafe week) ^[17].

In addition to raising awareness of flood and storm risk, VICSES programs encourage community members to prepare a home emergency plan and Emergency Kit as general emergency preparedness actions.

VICSES has developed a number of brochures, guides, fact sheets and other publications to help communities prepare for emergencies, including an Emergency Toolkit flipchart, a home emergency plan workbook, FloodSafe and StormSafe brochures, toolkits for businesses and caravan parks, presentations and presenter notes and videos ^[39]. Some of these resources are available in languages other than English ^[23, 40].

The FloodSafe program also includes the development of LFGs (Box 3, P.22). These guides are tailored to local areas and include information on:

- historical floods
- flood extents (with accompanying maps)
- flood warnings, local emergency broadcasters and emergency contacts
- how to prepare and respond
- what to do after a flood.

Box 3: Local Flood Guides

VICSES has worked with municipal councils to develop LFGs in an effort to increase the community’s understanding of how flooding may affect them.

The VICSES website currently has over 60 LFGs available, categorised by local area or municipality. The guides include information and recommendations on how community members can actively prepare and respond to flood events. The main parts of each LFG include:

- maps of the area (including flood extents)
- the types of warnings issued
- information on how to prepare
- what to put in an emergency kit
- who to contact for assistance or more information
- a checklist of the key messages.

There have been a number of VICSES initiatives to make LFGs more accessible, including:

- the recent launch of the Robinvale LFG in six languages (in conjunction with the Robinvale Network House)
- the development of a Flood Safety booklet in the Easy English style which has subsequently been translated into Dari (in partnership with Greater Shepparton City Council, Ovens and King Community Health Service and the Communication Access Network).



Engagement activities undertaken by VICSES include events to launch LFGs, attendance at community events, VICSES-run community BBQs and presentations to community groups such as Rotary Clubs, Lions Clubs and Neighbourhood Community Houses [23, 40]. VICSES may also visit flood-prone residents to advise them of their risk and how to better prepare [41].

The role of flood education programs and the need to continue them has been recognised in flood management strategies and by the VFR.

For example Melbourne Water’s 2007 *Flood Management and Drainage Strategy* recognised the low level of general flood awareness and preparedness in communities at-risk of floods. The strategy also identified enhanced community education, flood awareness and preparedness as one of five strategy objectives [38].

Melbourne Water’s 2015 *Flood Management Strategy* proposes a Key Performance Indicator of a:

40 per cent increase in the number of people, directly affected by flooding, who are aware of their risk.

This target is to be achieved by 2021 and is above a baseline of 42 per cent of people aware of their risk.

The strategy outlines a number of actions to develop and evaluate education and awareness programs delivered in priority locations [42].

How are the FloodSafe and StormSafe programs currently delivered in Victoria?

At the time of this review, VICSES employed twelve Community Resilience Coordinators. These coordinators facilitate community education and awareness programs that are delivered by volunteers. VICSES units may also have Community Education Facilitators. These are volunteer roles in community education, supported by nationally accredited competency-based training.

There are significant differences between the approach to delivering the FloodSafe and StormSafe programs [17]. The delivery of the FloodSafe program is funded in two ways in Victoria.

In its Central region (metropolitan Melbourne), the FloodSafe program is funded as part of a five-year partnership agreement with Melbourne Water [43, 44]. The 2008–13 agreement resulted in:

- more than 1000 community engagement activities across 38 municipalities
- development of 18 LFGs
- 13,495 properties doorknocked and provided with community education and information.

In its remaining five rural regions, FloodSafe is funded through annual agreements as part of the NDRGS.

The StormSafe program is not delivered to the same extent as the FloodSafe program. The StormSafe program continues to promote a week-long media campaign and is supported by resources such as brochures, presentations and posters. However, the StormSafe program has no dedicated funding and no dedicated program delivery for engagement activities. There is some scope within the Melbourne Water agreement to deliver it alongside the FloodSafe program, where practicable^[17]. Volunteers play an important role in the delivery of the StormSafe program, and may promote it alongside other VICSES engagement activities.

Once it was established that the StormSafe program was largely a week-long media campaign, the scope of IGEM's review was further restricted to examining the FloodSafe program only.

IGEM examined whether the FloodSafe program is evidence-based, how it is evaluated, whether it is effective and its alignment with principles of better practice.

3.1 To what degree is the program evidenced-based?

IGEM examined the development of the FloodSafe program against points of comparison for evidence-based programs (Section 2.6).

IGEM found that the FloodSafe program met many of the components expected in evidence-based programs.

The design of the FloodSafe program, originally known as 'FloodSmart' drew on hazard education and awareness programs in NSW (FloodSafe) and Victorian fire education programs (Bushfire Blitz and Fire Safe Victoria). The FloodSafe program was piloted in Benalla in 2007 (FloodSmart)^[45].

Evaluation of the pilot indicated that the program could increase levels of community preparedness. VICSES commissioned flood education experts to evaluate the Benalla FloodSmart pilot and provide advice about its applicability in urban contexts^[45, 46]. The FloodSmart pilot program led to increased risk awareness, decreases in people unprepared and increases in home emergency plan (Box 4).

Box 4: The FloodSmart Benalla Pilot^[16, 45, 47]

VICSES, in partnership with Benalla Rural City Council, developed and implemented the Benalla FloodSmart pilot program in 2006.

The program drew on community networks and leaders, VICSES volunteers and staff as well as the Benalla Rural City Council.

The purpose of the pilot was to:

- raise awareness of flood risk within the Benalla community
- improve community capacity to prepare, respond and recover from flood events
- promote VICSES and Benalla Rural City Council as proactively seeking to address flood risk
- develop and improve the suite of resources available to educate and engage at-risk communities
- develop a program considered world's best practice for flood education.

The FloodSmart pilot strongly emphasized that flood preparation is 'every resident's responsibility', not just agencies such as VICSES. It was based on three stages of response to a flood event – preparation, evacuation and relocation.

The Benalla FloodSmart pilot was delivered in three phases, these being; program development, community information materials (such as brochures, posters and signage) and dynamic local campaigning (such as community presentations, focus groups and doorknocks).

In 2008 an evaluation of the pilot program looked at community awareness before, immediately after and two months after the pilot program^[45]. The results found a noticeable and immediate difference in community levels of 'awareness' and 'preparedness':

- following the pilot, respondents who thought they were at-risk of being flooded increased from 61 to 86 per cent
- residents who believed they were unprepared for a flood decreased from 31 to 2 per cent
- the percentage of survey participants who reported having a home emergency plan 2 months after FloodSmart increased from 8 to 24 per cent
- in addition, 65 per cent of respondents reported that the program's information was "very easy to understand".

The pilot program became FloodSmart Metropolitan and has been delivered in partnership with Melbourne Water in the metropolitan area of Melbourne since 2007 and became a statewide project in 2012/13 and is still being delivered at the time of this review.

The Benalla FloodSmart pilot received a high commendation in the 2008 Australian Safer Communities Awards.

VICSES commissioned flood education experts to review international flood and other hazard education and awareness programs and develop better practice criteria to inform program design ^[45, 46]. At the time, the FloodSmart pilot met eight of the ten better practice criteria identified by flood education experts.

The pilot program met a relatively high number of better practice criteria. At the time, only two other programs identified internationally were found to meet at least five of the ten better practice criteria ^[45, P. 24]. IGEM has also sighted program logic for the FloodSafe program that outlines how program activities contribute to the intended outcomes ^[48].

Collectively, this indicates the program has a clear rationale, was reviewed by experts and was demonstrably effective.

FINDING

The FloodSafe program incorporates many characteristics expected in evidence-based programs. These include:

- a clear program rationale
- meeting many better practice criteria
- review by flood education experts
- demonstrable improvements in householder preparedness measures.

3.2 To what extent are the programs effective?

IGEM examined two components in relation to the FloodSafe program. Firstly, the monitoring, evaluation and improvement of the program and secondly, evidence of program effectiveness. The second component drew on agency documents and the IGEM community survey.

What approach does VICSES use to monitor, evaluate and continuously improve programs?

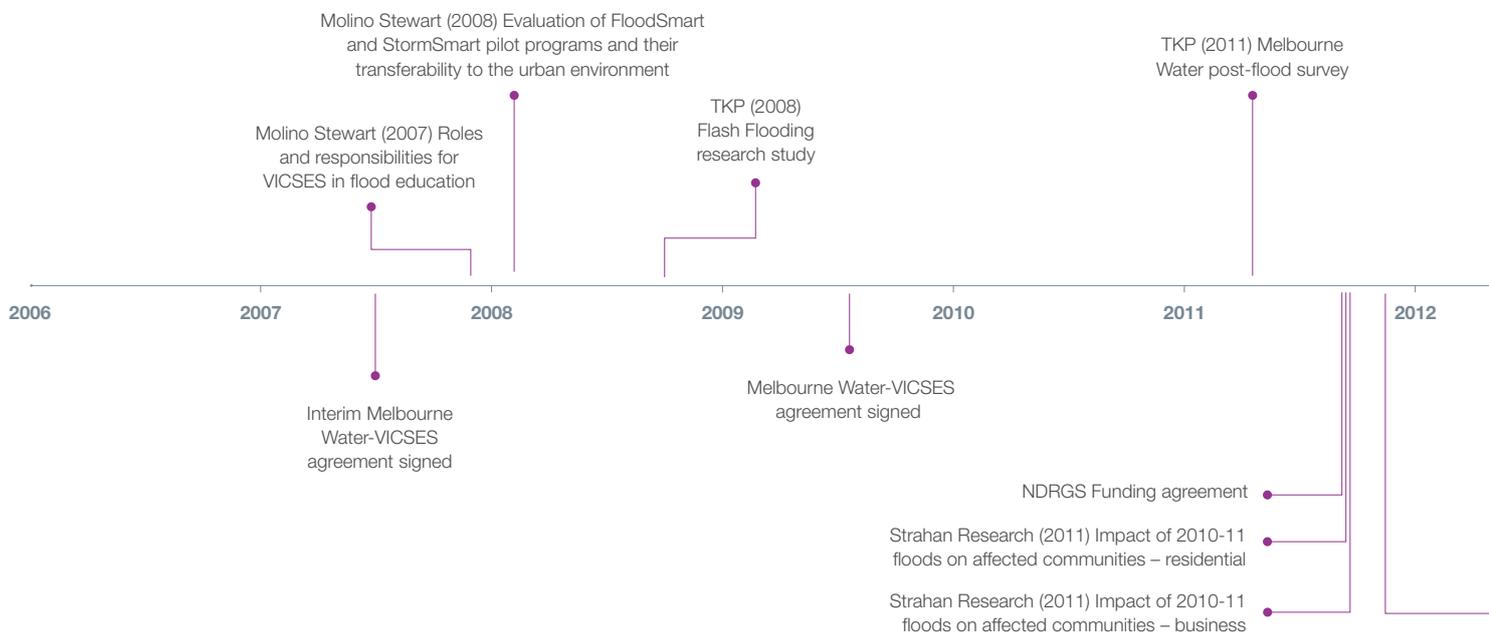
VICSES has committed to evaluating the FloodSafe program's effectiveness. This commitment is evidenced in VICSES strategy ^[49], funding agreements and in a body of evidence investigating effectiveness.

VICSES and its funding partners have undertaken a number of evaluations and studies of the FloodSafe program's effectiveness (Figure 2).

These have examined:

- the FloodSmart and StormSafe pilots ^[45]
- program delivery within the metropolitan Melbourne area as part of the Melbourne Water-VICSES partnership ^[18]
- program delivery in the remaining VICSES regions under the NDRGS ^[15, 50]
- perceptions of LFGs ^[51]
- a cost-benefit analysis of FloodSafe and community-based emergency planning in Carisbrook ^[52].

Figure 2: Timeline of studies, evaluations and significant events guiding and informing VICSES community engagement and preparedness activities



While VICSES has evidence of evaluating program effectiveness, it is less clear how lessons are documented, improved upon or how their implementation is tracked. VICSES attest to a number of continuous improvement initiatives following these evaluations, including:

- development of more tailored LFG templates based on local feedback (for different riverine and flash flooding in urban and rural contexts)
- development of mapping specifications, in consultation with the DELWP, intended to ensure consistent maps.

Implementing evaluations and improvement initiatives as part of a transparent continuous improvement approach such as a MERI Framework presents an opportunity for further improvement.

FINDING

VICSES has committed to evaluating effectiveness of the community flood education and engagement program, FloodSafe, and has undertaken a number of evaluations. VICSES attest to a number of improvement initiatives following these evaluations.

These evaluations are not currently undertaken in a monitoring, evaluation and continuous improvement framework.

In the absence of such a framework, it is unclear how programs are improved based on the lessons learnt from these evaluations.

What does the information indicate about program effectiveness?

In assessing effectiveness, IGEM examined evaluations of the FloodSafe program (metropolitan Melbourne and regional delivery models). IGEM’s assessment also draws from its community telephone survey and its analysis of documents reporting effectiveness of VICSES programs or their component activities^[14, 53-55].

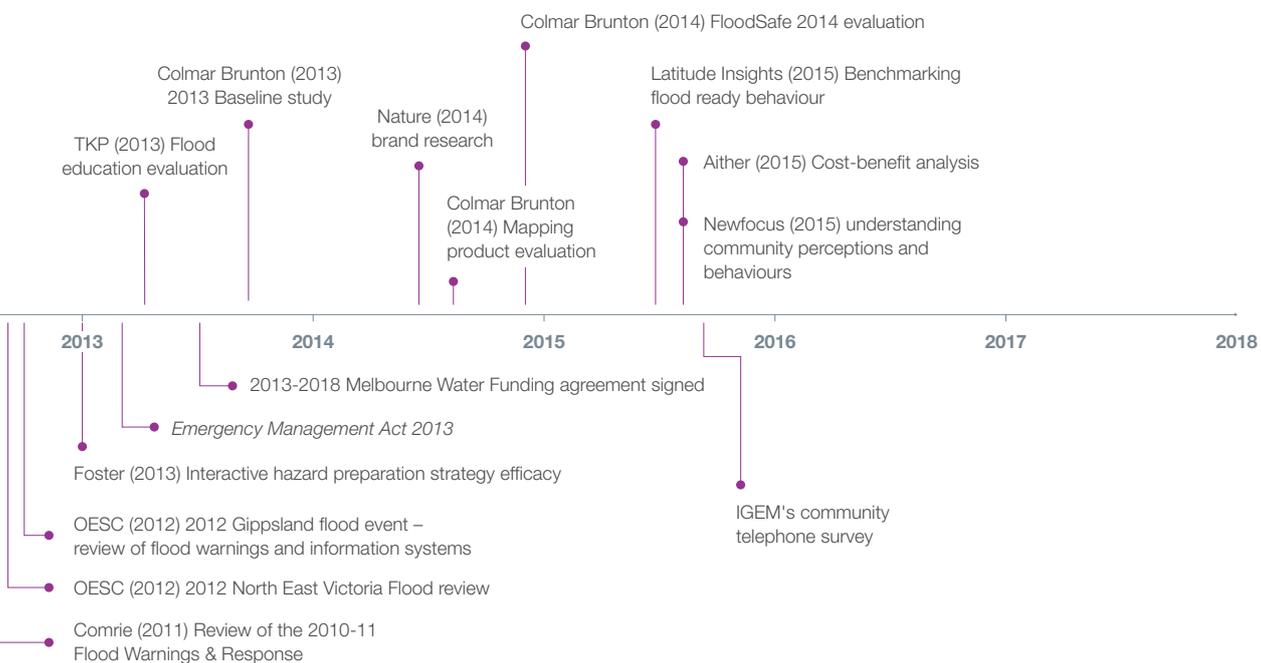
FloodSafe program delivered under the Melbourne Water-VICSES partnership

The effectiveness of the FloodSafe program delivery in VICSES central region, which includes metropolitan Melbourne, was evaluated by VICSES and Melbourne Water in 2013^[16]. Interviews were conducted with 520 households across eight municipalities. Each householder interviewed was targeted by VICSES for flood education under the FloodSafe program. Households were interviewed 15 weeks after a visit from a VICSES representative. During the VICSES visit, householders would have either a face-to-face discussion or would have been left a brochure in the letter box if no one was home.

All households targeted were considered flood-prone, and these properties were expected to experience flooding, on average, once every 100 years (or a 1 per cent chance of flooding in any given year).

Results were compared to information collected in 2008^[56].

Results from the broader program evaluation do not show the same kinds of changes in preparedness documented in the Benalla FloodSmart pilot^[16, 45, 47]. The program appears to have been ineffective for convincing the majority of householders of their flood risk.



Results indicated:

- limited recall of VICSES flood education activities, with 4-in-10 people recalling VICSES activities
- the program was unsuccessful in raising risk awareness, with large proportions of residents continuing to believe that their property was not going to flood
- examples of perceptions of high levels of preparedness, but few respondents appeared to have undertaken actions to get them better prepared (with some notable exceptions in some locations).

Few people had prepared an emergency kit (2-16 per cent, depending on the municipality but notably 50 per cent in Maribyrnong) or an emergency plan (3-11 per cent depending on the municipality but notably 56 per cent in Maribyrnong). The VICSES evaluation documented differences in levels of preparedness between municipalities that appeared to be quite random but it was suggested that these could be because of differences in how the program was delivered^[56].

The evaluators suggested that the program alone was insufficient, noting that:

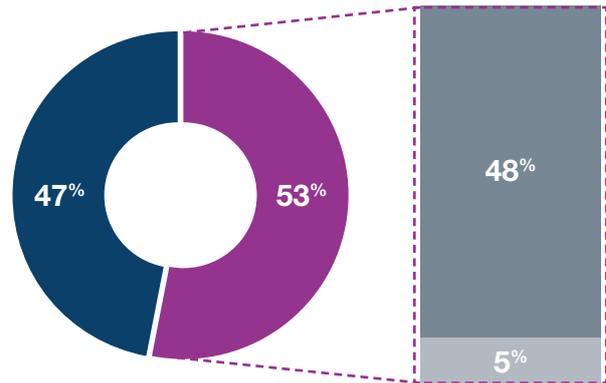
...there does appear to be an embedded perception of low risk of flooding (due to the type of people, their flood experience and/or the program) and this lack of 'urgency' hinders action. ^[18, P. 9]

These results tend to be consistent with other observations of program effectiveness described below.

The VICSES doorknock component of the FloodSafe program was examined as part of research by the then Fire Services Commissioner^[14].

Residents targeted by VICSES were asked about their recall of the program, whether they read and kept the information and whether they made changes as a result of the information provided. Of the 106 houses targeted by VICSES, 27 residents recalled a visit and 29 remembered receiving an information kit (56 residents in total, see Figure 3). Most people kept their information (77 per cent), but few people appeared to act on the information to prepare. Of the 56 people who recalled the program, five people indicated that they adopted recommendations (including developing emergency plans, repairing gutters and other structural modifications to their home).

Figure 3: Recall of the VICSES doorknock program and the percentage of householders visited who acted on the interaction^[14]



- No recall of interacting with VICSES
- Recalled interaction
- Recalled interaction with VICSES
- Recalled interaction with VICSES and took action

IGEM surveyed 91 residents of Knox City whose homes are at-risk of above-floor flooding, on average, every 100 years (or a 1 per cent chance of flooding in any given year). A number of the survey respondents had previously been affected by flooding (1-in-5 respondents), bushfire (3-in-10 respondents) and storms (5-in-10 respondents).

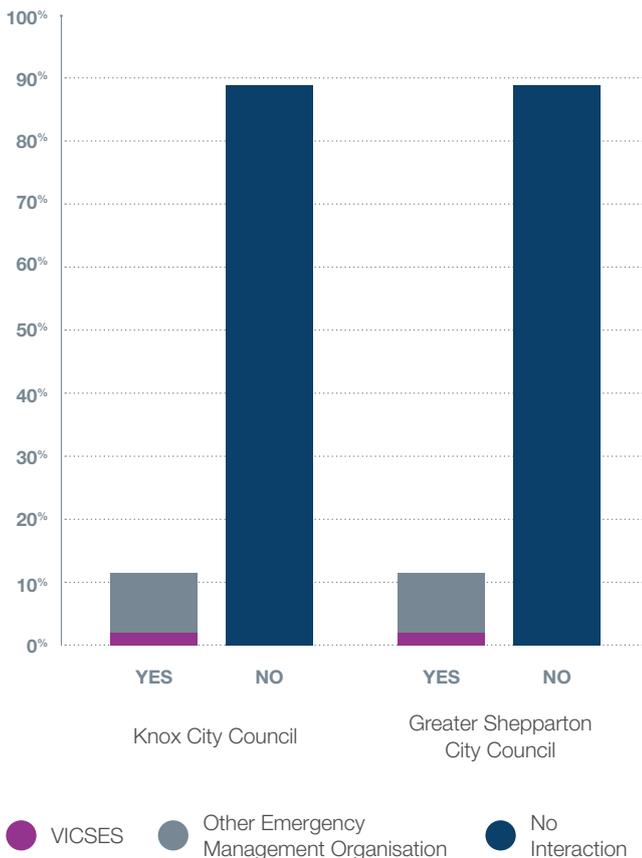
Very few people in these areas reported interaction with emergency management organisations.

Respondents were asked:

In the last two years have you been visited at home by an emergency management organisation or participated in any activities, programs, training or community planning relating to emergency preparedness or response to flood, bushfire or storm (other than visits during an emergency)?

One in ten people indicated that they had interacted with an emergency management organisation (Figure 4). Of those people who had experienced an interaction, 2-in-10 indicated that they had received a visit at their homes by VICSES or had been provided with an information kit. Those who interacted with an emergency management organisation either interacted with CFA (half of all interactions) or discussed emergencies through the local school, practised evacuations at the local retirement home or discussed emergency awareness and fire drills as part of their community group.

Figure 4: Interactions with emergency management organisations and reported interactions with VICSES



The IGEM survey results of these flood-prone residents also indicated:

- most people think the area that they live is at-risk of floods, bushfires or storms (6-in-10 respondents) but few residents considered that their property could be affected by flooding (some 71 per cent of respondents considered flooding to be either extremely unlikely or somewhat unlikely)
- few residents have prepared an emergency plan for flooding (2-in-10 respondents) but more people had an emergency kit (4-in-10).

One way to assess the effectiveness of the VICSES program would be to compare the levels of preparedness of the people who interacted with VICSES with the flood-prone people who did not interact with VICSES.

The low number of reported interactions with VICSES in households in Knox City made it difficult to make meaningful comparisons in this case.

FloodSafe programs outside metropolitan Melbourne

The effectiveness of the FloodSafe program in areas outside of metropolitan Melbourne was evaluated by VICSES in 2014 [15]. This evaluation followed two years implementation of a planned three-year program delivery.

A telephone survey of 625 residents across five VICSES regions canvassed interactions with VICSES, experience with flooding, perceived risk of flooding and planning for floods and other emergencies (among other things). Results were compared with a baseline survey conducted in 2013 [50].

Results from the 2014 evaluation do not show the same kinds of changes in awareness and preparedness documented in the FloodSmart Benalla pilot (although these are not directly comparable). The 2014 evaluation found:

- few people interacted with VICSES, recall VICSES information or were aware of, or participated in, community activities (but awareness of VICSES activities and materials, when prompted, was much higher)
- more people recognised that their community had been affected by flooding in the past, but overall, there has been little change in the proportion of people who think their properties are either extremely or somewhat likely to be affected by flooding (from 17% in 2013 to 15% in 2014)
- there has been limited change in perceived levels of preparedness
- most people had not prepared an emergency kit or an emergency plan.

While measures of preparedness, averaged across the state, show little change since 2013, the evaluation indicates that respondents who interacted with VICSES were more risk aware and were more likely to have a plan and a kit.

Those that interacted with VICSES were:

- more likely to think that their area could flood; 31 per cent of respondents who interacted with VICSES thought that flooding was 'extremely likely' compared to 18 per cent of respondents who didn't interact with VICSES
- more likely to have an emergency plan; 44 per cent of respondents who interacted with VICSES had an emergency plan compared to 31 per cent of respondents who didn't interact with VICSES
- more likely to have an emergency kit; 28 per cent of respondents who interacted with VICSES had an emergency kit compared to 14 per cent of respondents who didn't interact with VICSES.

Interacting with VICSES contributes to higher levels of self-reported householder preparedness, however, the majority of people do not appear to have undertaken actions advocated by VICSES to prepare for floods.

IGEM surveyed 201 residents of Greater Shepparton whose homes would experience above-floor flooding, on average, every 35 years (a 2.87 per cent chance of flooding every year).

Two in ten respondents had previously experienced an emergency (most of this experience was with flooding). IGEM's survey results indicated:

- Very few people identified interacting with VICSES. 1-in-20 respondents indicated that they had interacted with VICSES through either a doorknock or receipt of an information kit. Respondents indicated other interactions with emergency services (14 per cent indicated an emergency services doorknock, 5 per cent indicated an activity through a community group and 39 per cent indicated interactions with a CFA-branded event).

- Seven in ten respondents considered that the area they live was at-risk of floods, bushfires or storms. More than half of these respondents considered that the likelihood of flooding where they lived was either somewhat or extremely likely. Some 38 per cent of all respondents considered flooding where they lived as either somewhat or extremely unlikely.
- Few residents had prepared an emergency plan for floods (2-in-10 respondents had a plan for floods) but more people had an emergency kit (4-in-10). These are similar proportions to what was found for respondents in the Knox City Council municipality.

Again, the low number of reported interactions with VICSES made it difficult to make meaningful comparisons in this case.

Other evidence of program effectiveness included an examination of community survey responses during the North East Victorian floods in 2012, a cost-benefit analysis of the FloodSafe program and a community-based emergency planning initiative in Carisbrook.

Community responses to the 2012 North East Victorian floods were examined by the then Office of the Emergency Services Commissioner^[55]. There were notable differences between levels of householder preparedness and responses in some locations examined. This was, in part, attributed to a tailored and targeted FloodSafe program (other factors included a flood warning system, a flood response plan and a levee system).

There was a notable lack of evidence of effectiveness during emergencies. There is some anecdotal evidence that the FloodSafe program is producing intended outcomes^[52, 55]. Evidence from the 2010–11 floods indicated that few people had a written emergency plan. Of the households and businesses that had an emergency plan, 4-in-10 plans were implemented.



image courtesy VICSES

3.3 To what extent does the suite of programs meet principles of better practice?

IGEM assessed the FloodSafe programs against the evaluative criteria for community education and engagement developed for this review.

The FloodSafe program ranged from *Basic Maturity* to *Moderate Maturity* when assessed against these criteria. IGEM's assessment is summarised in Table 2 with the rationale for each rating detailed in Table 3.

FINDING

VICSES FloodSafe program, when assessed against better practice criteria for community education and engagement, is found to incorporate some elements of better practice.

The FloodSafe program is assessed at a basic or moderate level of maturity.

The FloodSafe program could be improved through a greater understanding of community, increased public participation, greater leveraging of social capital, greater adoption of effective risk communication techniques and more-robust evaluation linked to program improvement.

Table 2: Assessment of VICSES FloodSafe program against evaluative criteria for community education and engagement programs for bushfires, floods and storms

EVALUATIVE CRITERIA		IMMATURE	BASIC MATURITY	MODERATE MATURITY	MATURE	ADVANCED MATURITY
Understanding of the community			✓			
Foster participation				✓		
Leverage and build social capital			✓			
Use effective risk communication techniques				✓		
Utilise a continuum of measures						
Evaluate, learn and improve	Evaluations			✓		
	Positive Change			✓		
Govern and embrace						

Table 3: Rationale for the evaluative criteria used to assess the VICSES FloodSafe program

CRITERIA	RATIONALE
<p>Understand the community</p> <p>Maturity level: Moderate</p>	<p>Evidence: FloodSafe program resources tend to be generic (with LFGs tailored to specific flood-prone communities), but there is evidence that program delivery and tailored resources reflect an understanding of the diversity of the community. There is some evidence of the use of community engagement methods and/or community surveys and available data. This includes:</p> <ul style="list-style-type: none"> • advocacy of engagement and understanding of makeup of communities in agency guidance documents (e.g. the FloodSafe Community Education Principles advocate community engagement and active community involvement ^[57]; the Community Education Plan template suggests that community indicators are used in the profiling of target communities) • program delivery tailored through an engaged community reference group ^[45, 55] and community consultation on LFGs • the use of surveys to understand communities ^[58] • some tailored program resources reflect community make up ^[23, 40] (e.g. a Flood Safety booklet has been produced in Easy English style and the Robinvale Local Flood Guide is produced in six languages) • evidence of community profiling in some regions ^[23].
<p>Foster participation</p> <p>Maturity level: Moderate</p>	<p>Evidence: The FloodSafe program involves a generic media campaign (FloodSafe week), generic resources (brochures, fact sheets), a tailored LFG (with community consultation) and a series of engagement activities. There is evidence of the involvement of a community reference group in the design of the local FloodSafe program delivery, where agencies and the public reached agreement on decision making regarding the development and implementation of the FloodSafe program. This includes:</p> <ul style="list-style-type: none"> • participation fostered through community reference groups in the delivery of the FloodSafe program ^[45, 55] • community consultation on LFGs. <p>IGEM notes that VICSES sought feedback on the design and content of the LFGs through market research and these do not appear to be meeting the needs of the community ^[51].</p>
<p>Leverage and build social capital</p> <p>Maturity level: Basic</p>	<p>Evidence: The FloodSafe program seeks to engage existing social networks through identifying local leaders and networks, but has limited opportunity to build social capital. Evidence for this includes:</p> <ul style="list-style-type: none"> • agency guidance advocates active collaboration with local leaders and networks as one of the principles of community education ^[57] • programs delivered through local networks (e.g. service clubs in Shepparton and other types of events in the VICSES Central Region) ^[58, 59]. <p>The current delivery of the FloodSafe program provides limited opportunity to build social capital.</p>
<p>Use effective risk communication techniques</p> <p>Maturity level: Moderate</p>	<p>Evidence: The FloodSafe program involves a media campaign (FloodSafe week), a suite of mostly generic resources, tailored LFGs and engagement activities. Components of the program are developed in context to the at-risk population's needs (reflecting geographical and hazard context); and include tailored information on risk, community roles and how to implement measures. Evidence for this includes:</p> <ul style="list-style-type: none"> • use of a community reference committee in the design and implementation of local FloodSafe delivery (providing opportunities to tailor the FloodSafe program to at-risk populations' needs) • generic FloodSafe resources in 34 different languages ^[23] (providing tailored information to at-risk populations) • tailored information in the form of LFGs (which includes flood risk specific to a location, historical flooding information, local streamflow gauges, householder preparedness measures, important community landmarks and facilities and the role of communities) ^[60]. Generic FloodSafe information is available in 34 languages ^[23] and Local Flood Guides may be available in multiple languages ^[40]. <p>IGEM notes that VICSES sought feedback on the design and content of the LFGs through market research ^[51]. This feedback has allowed VICSES to improve the effectiveness of this risk communication tool.</p>
Evaluate, learn and improve	
<p>Evaluations criterion</p> <p>Maturity level: Moderate</p>	<p>Evidence: The FloodSafe program has been evaluated, compared with baseline data and is evidence-based. Evaluations consider measures of program effectiveness. Lessons learnt are recorded, but it is not clear how programs have been improved. This includes:</p> <ul style="list-style-type: none"> • multiple program evaluations that compare with baseline data ^[15, 18, 45, 52] • little evidence that lessons learnt lead to program improvement ^[Section 3.2].
<p>Positive change Criterion</p> <p>Maturity level: Moderate</p>	<p>Evidence: Positive change has been measured with evidence-based evaluations in short-term campaigns and over one year, when compared to a baseline. Evidence includes:</p> <ul style="list-style-type: none"> • documented positive change in preparedness measures following the short term Benalla FloodSmart campaign ^[45] and over one year when compared to a baseline in the 2015 VICSES FloodSafe evaluation ^[15, 50]. <p>IGEM notes that positive increases in preparedness measures do not appear to have been documented for the VICSES Central Region.</p>

3.4 Summary

VICSES conducts and delivers community education, awareness and engagement programs for a range of hazards, including the FloodSafe and StormSafe programs for flood and storm hazards. The aim of these programs is to foster an understanding of risk within the community and to encourage safe behaviour and the protection of property.

VICSES has prioritised the development and implementation of flood education. VICSES has not sought funding for a dedicated storm education and engagement program, nor has funding been provided by government for such a program.

StormSafe was not examined in detail as part of this review once this fact was established.

The FloodSafe program consists of a media campaign (FloodSafe week), community engagement activities and a suite of toolkits and publications. The objectives of the program are to encourage risk awareness and promote safe behaviour and the protection of property. The program activities and materials encourage an understanding of flood risk, flood warnings and where to get help. They also provide information on how to prepare and the LFGs include flood risk information tailored to flood-prone locations.

IGEM examined the degree to which the VICSES FloodSafe program is evidence-based, the VICSES approach to examining effectiveness, the evidence of the FloodSafe program's effectiveness and how the FloodSafe program compares to better practice principles of community education and engagement.

IGEM found that VICSES is delivering evidence-based programs. The pilot phase of the FloodSafe program met many of the characteristics expected in evidence-based programs; underpinned by a clear rationale linking activities to outcomes, reviewed and improved by flood education experts and demonstrated effectiveness.

VICSES is committed to evaluating program effectiveness. IGEM has sighted evaluations of the FloodSafe pilot and program evaluations of FloodSafe delivery in VICSES Central region and in other regions across the state. VICSES also attest to a number of improvement initiatives. Implementing these activities in a MERI continuous

improvement framework is one opportunity for improvement. In the absence of such a framework it is unclear how lessons from these evaluations are documented, improved upon or how implementation of improvements are tracked.

The Benalla pilot led to increased householder preparedness. It appears that the program has yet to achieve the same level of increase in householder preparedness in flood-prone areas following two years into a planned three-year project.

Evidence of the effectiveness of the FloodSafe program from VICSES evaluations, and from other sources, indicated that the program can lead to small increases in householder preparedness. Interacting with VICSES leads to small increases in risk awareness and preparatory actions (such as having an emergency plan and an emergency kit). There were isolated locations where householder preparedness was much higher, but these were the exception.

There was little information about the effectiveness of VICSES programs in minimising the impact of flood events or facilitating recovery.

IGEM assessed the FloodSafe program against evaluative criteria based on principles of better practice for community education and engagement. There was evidence of some elements of each principle of better practice incorporated in the program. Opportunities for program enhancement exist through:

- greater understanding of the community
- increased public participation in the design and implementation of programs
- enhanced understanding and use of social networks
- more locally tailored program design
- more explicit incorporation of lessons learnt through monitoring and evaluation.

4. CFA: Bushfire Safety Programs

CFA delivers a range of programs that connect with and prepare communities for bushfires in Victoria (Table 4 P.34).

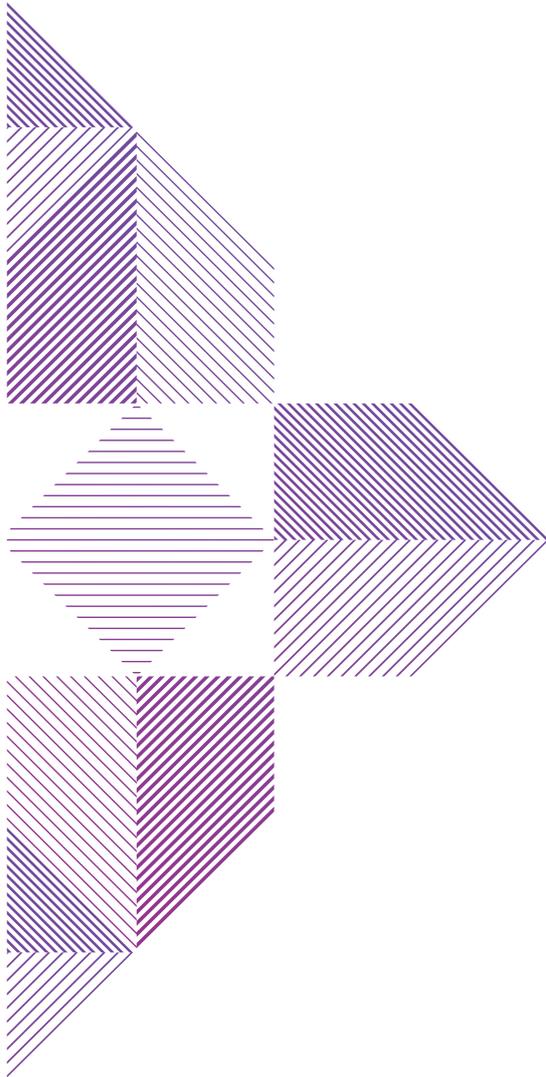
CFA has been delivering community education and awareness programs for many decades (for example, the Community Fireguard program) ^[67]. IGEM's assessment examines the period following the February 2009 Black Saturday bushfires and the approach used by CFA – and others – to examine program effectiveness.

CFA's current programs are consistent with the objectives of Victoria's *Bushfire Safety Policy Framework*. The specific objectives of CFA's bushfire safety programs vary depending on the focus of the program. More generally, these programs promote bushfire risk awareness and encourage individuals and householders to understand their bushfire risk. The programs can also encourage householders to understand the types of information and warnings they might experience, identify the actions they can undertake, plan for bushfires and prepare their homes appropriately ^[61, 62].

The delivery formats cover the spectrum from broad information provision spanning general advice to localised one-on-one consultations and collaborative initiatives.

The suite of CFA programs cater to different levels of bushfire risk and diverse communities with differing levels of motivation and participation. A selection of programs are summarised in Table 5 (P.43).

Programs are likely to produce different outcomes. For example, the uninvolved members of the community are targeted through passive media whereas the highly motivated members of the community can form Community Fireguard groups (Figure 5 P.33).



There are also school programs for primary and secondary school students.

CFA developed and implemented a number of new initiatives in response to the VBRC recommendations including the House Bushfire Self Assessment Tool (HBSAT) ^[63] and the Home Bushfire Advice Service (HBAS). There has also been changes in the way some existing programs are delivered to enhance their uptake, improve their effectiveness and impact, with the FRV program targeting special interest or community groups (for example, Rotary and Lions clubs, men's sheds and the Country Women's Association) ^[62, 64, 65].

More recently CFA has:

- developed and piloted a Community Led Planning approach (and confirmed its effectiveness through a demonstration phase)
- developed the PAVS program and the myCFA email database (Figure 6 P.36) for an infographic about the PAVS and myCFA programs).

The PAVS program replaced the Home Bushfire Advice Service and targets at-risk properties for one-on-one advice about their bushfire risk, information on how to prepare and help in undertaking basic assessments of householder preparedness. The program is delivered by career and volunteer members (with some 474 trained volunteer staff and 153 brigades participating in the delivery of the program at the time of this report).

Figure 5: CFA's model of community engagement relating CFA activities and programs to community readiness and level of community engagement ^[66]

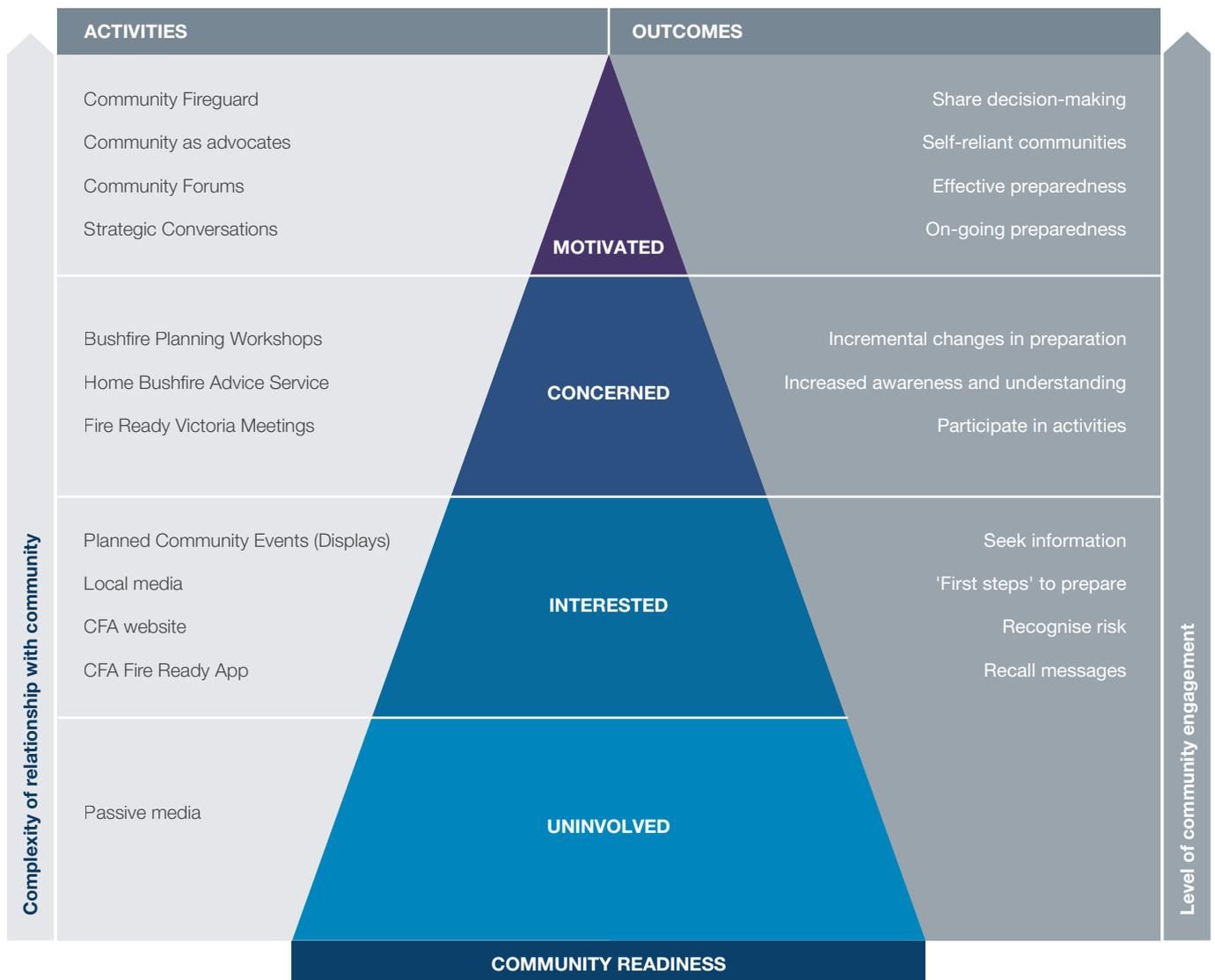


Table 4: Overview of selected CFA programs

PROGRAM	DESCRIPTION
Planned Community Events	Planned community events are attended by CFA volunteers and members and can be delivered to suit the target audience. They might be community markets, expos, fairs/fetes, agricultural shows, shopping centre displays and festivals. The aim of these activities is to engage community members who may not have previously participated in CFA programs. Community events are an opportunity to connect to the local community with local information and context, while providing overall safety and risk messages.
Fire Ready Victoria	Organised community meetings can be the first formal interaction between the community and CFA safety messages. The 60–90 minute program is delivered in a presentation style across the state, including to special interest groups. The information session conveys key messages on bushfire preparedness, local bushfire risk and ways to mitigate these risks. While providing overall information this program encourages further engagement with other CFA programs and information.
Local initiatives	The programs are developed by the local community or local brigade members in response to an identified need. The program delivery and the information provided are tailored to suit the target audience and make best use of the available resources. The programs have clear aims and objectives and allow for evaluation against these. Ultimately, the programs are providing preparedness, safety and risk information to a targeted audience in a way, which suits them.
Bushfire Planning Workshop	An interactive and audience participation program with the participants producing a written effective bushfire survival plan. A facilitated group discussion and decision making process allows community members to understand their risk and risk mitigation options. The program provides the skills for members to develop and maintain their individual bushfire plans. The planning workshops are delivered and targeted to those living in high risk bushfire areas identified by CFA regions.
Community Fireguard	A participatory, intensive program providing a mix of information and practical activities. Topics include living in a high risk environment, personal safety and resilience, preparing your property and the choice to stay and defend a property or leave early. It aims to give members a sound understanding of their bushfire risk and how to manage it. This program is provided to those living in high risk areas with opportunities for members to engage with neighbours and other community members and create small networks. A maintenance program (at least yearly) ensures the Community Fireguard group has current information.
Home Bushfire Advice Service, Street Bushfire Advice Service	A direct response to the VBRC Interim Report recommendation, the HBAS was developed to provide detailed advice to people in high risk areas about their specific bushfire risk and their defensible space requirements, including individual detailed property assessments. Since the initial program there have been a number of other similar programs implemented with the intention of providing information on individuals bushfire risk and their property safety requirements (including Street Bushfire Advice Service (StreetBAS) – an advisory service delivered to more than one property). Programs are delivered by Fire Safety Officers and provide detailed specific reports on issues such as radiant heat exposure or vegetation management to allow the community members to understand their risk and options for mitigation. The program also provides advice to residents who are building or renovating in high risk bushfire areas providing information against the legislative requirements.
Property Advice Visit Service	CFA has developed the PAVS which is delivered to properties in high bushfire risk, based on evidence from previous bushfires relating to properties that burn and how people get information. The program involves visits to people in their homes and aims to encourage risk awareness and information about how to prepare (providing an opportunity for CFA members to provide specific assessments of property preparedness). The program can be delivered by Brigade members with program-specific training and nationally accredited competencies.
myCFA	A service provided by CFA to communicate relevant and updated information to individual subscribers. It includes information such as community meetings, changes to Neighbourhood Safer Places or the status of a HBAS request. The program tailors local information based on subscriber details. It provides an opportunity for CFA to have on-going interaction with community.
School Programs (Fire Safe Kids, Fire Safe Youth)	Fire Safe Kids is a primary school-based interactive program delivered by CFA members to children in their classrooms that includes a range of lesson plans, presentations and giveaways. The program aims to provide an understanding of the dangers of fire and to promote the work of the local CFA brigade. Fire Safe Youth is used as either an introduction to the dangers of fire or as a conclusion to a bushfire curriculum unit for years 7–10. The aim of the program is to develop an understanding of fire safety, including home fire safety and encourages further education and awareness for families.

Householders are also encouraged to sign up to the myCFA email list. Through myCFA, the Chief Officer can e-mail tailored, personalised and local advice. Content of this tailored advice might include:

- explanation of local vegetation clearing rules, such as the meaning of the 10/30 or the 10/50 rule, specific to the rules that apply in a recipients municipality
- activities to help prepare a property
- activities that should be considered by individuals and households in preparation for the fire season
- information about understanding warnings and advice
- where relevant, information about community alert sirens
- notification about the local CFA open day, tailored to a recipients local CFA Brigade.

CFA has noted that these two programs have enhanced the ability of the organisation to take a strategic, risk-based approach that allows targeted and tailored communications.

In addition, CFA also implemented a new social media initiative ahead of the 2015 – 16 bushfire season encouraging people to 'take the pledge' (www.thefiresafetypledge.com.au).

The initiative asked people to pledge their commitment to undertake a series of bushfire safety actions including checking the Fire Danger Ratings and talking with family and friends about fire risk and what they need to do to prepare. A very high proportion of people who have taken this pledge also sign up to receive further information (96 per cent of people).

IGEM notes that the CFA has developed a community based emergency planning program. This program has been piloted, and its effectiveness has been confirmed through a broader demonstration phase, including evaluations of both phases [67, 68]. This multi-agency multi-hazard program is now led by EMV (and is not routinely delivered by CFA).

CFA also produces a range of publications and resources to help Victorian's understand their risk and get prepared. Resources include:

- a range of booklets (ranging from the comprehensive 76 page *Fire Ready Kit* that includes planning templates to the 19 page *Your Guide to Survival* – see Box 5) [69, 70]
- toolkits for businesses and tourism operators
- guidelines (including household landscaping guidelines for high bushfire risk areas and agricultural fire management guidelines)
- brochures with information about Fire Danger Ratings and Total Fire Bans
- brochures tailored to different audiences (including horse owners and pet owners).

CFA's website provides many of these publications in languages other than English.

Box 5: Example of CFA publications designed to help Victorians prepare for bushfires



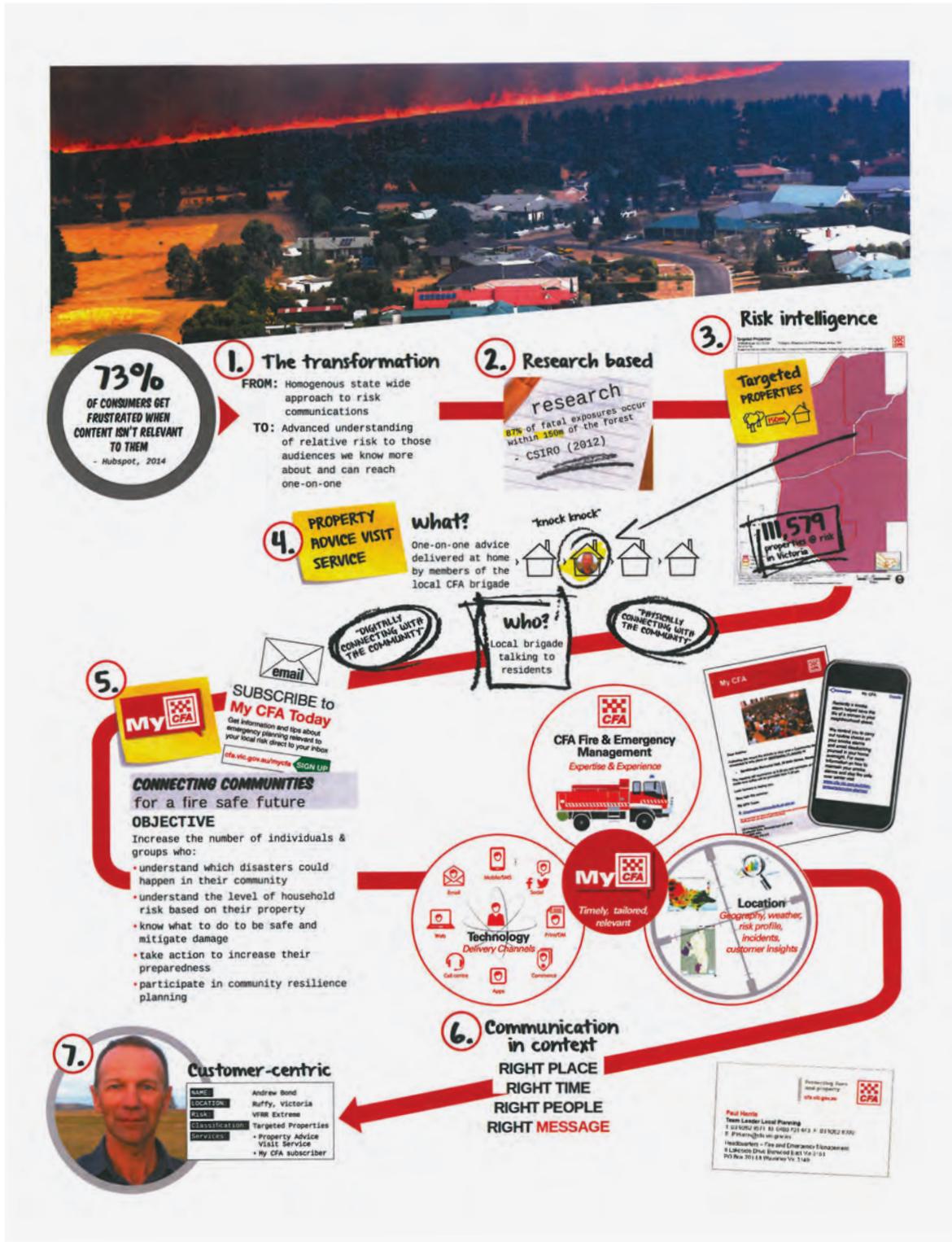
The *Fire Ready Kit* and the *Your Guide to Survival* booklet are two examples of publications produced by CFA to help communities prepare for bushfires [69, 71].

The *Fire Ready Kit* is a detailed and comprehensive publication based on preparing individuals and property for a bushfire. The publication is available online [69] and provides templates, safety information and practical advice for people living in high risk areas of Victoria. The contents include:

- bushfire survival plan templates
- property preparation
- what to expect during a bushfire
- practical skills and safety information should you be unable to leave the property due to fire
- physical and practical requirements to defending your property.

The *Your Guide to Survival* booklet is a condensed version of the complete *Fire Ready Kit*.

Figure 6: Infographic explaining the Property Advice Visit Service and myCFA resource



CFA delivers its programs using volunteer and career staff. Each CFA region has a Community Education Coordinator and draws on a pool of trained facilitators to deliver programs. These activities are also supported by the work of volunteers, who may participate in community or street meetings, visit people at their homes through the PAVS program, attend community events, maintain information displays, a website or social media channels.

One way CFA has responded to the VBRC recommendations is through encouraging delivery of community engagement activities by local volunteers of CFA Brigades. By 2016, each CFA brigade will have a dedicated Brigade Community Safety Coordinator role for coordination of local fire prevention and community preparedness brigade activities. This role will be supported by nationally accredited training competencies. More than 700 brigades had a Brigade Community Safety Coordinator at the time of writing this report.

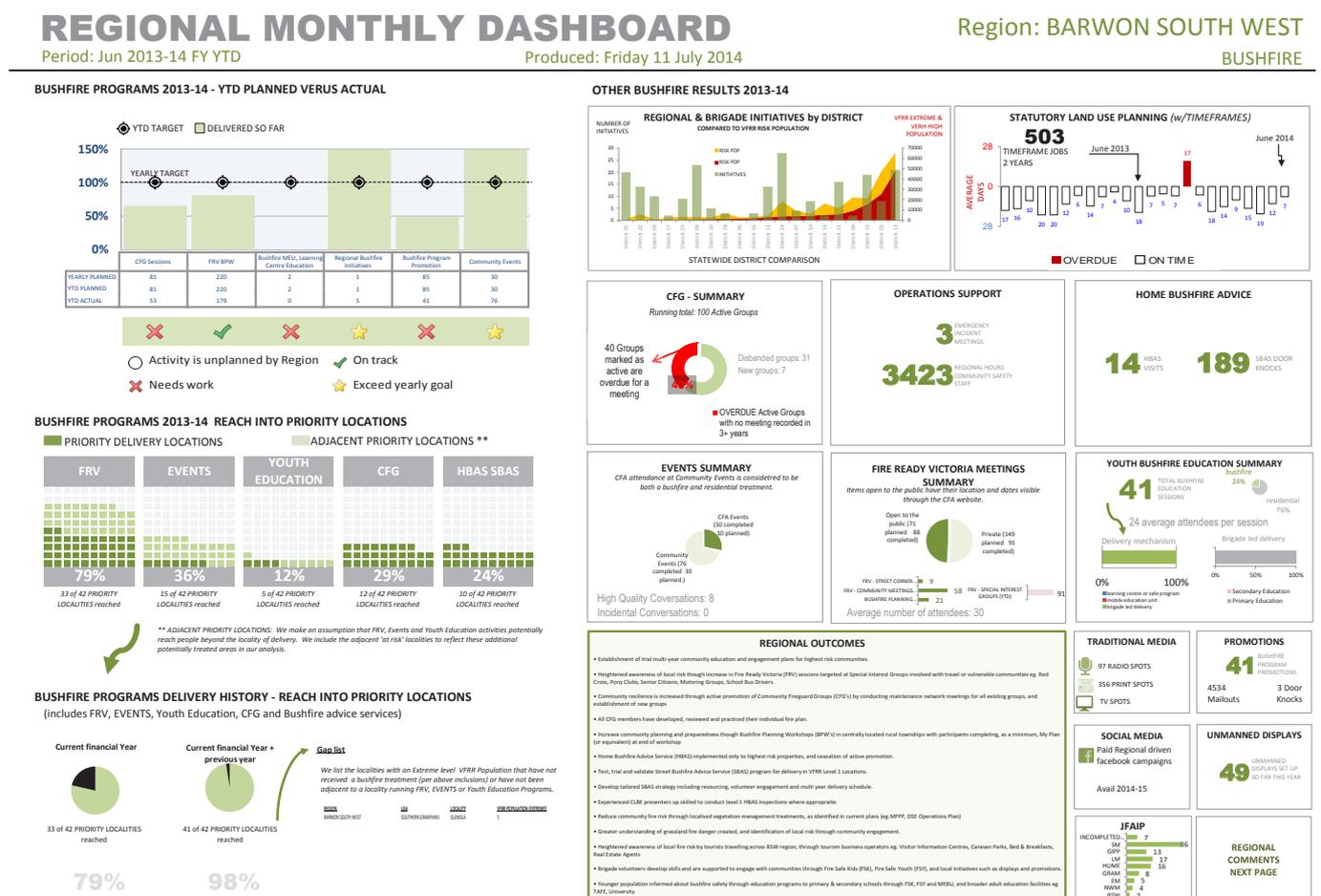
CFA tracks community engagement activities using the Statewide Monthly Dashboard (Figure 7) that reports on delivery of programs, their reach into priority populations, brigade-led initiatives, marketing, media and social media, vegetation management and statutory land use planning referrals [72].

This dashboard tracking tool does not capture all activities undertaken by brigades or CFA staff and is likely to underestimate effort [73].

CFA has also developed the *Brigade Reporting Tool*, an online portal to assist brigades to market and report on their activities.

IGEM examined whether these programs are evidence-based, whether they are effective and their alignment with principles of better practice. IGEM's assessment focused on a selection of the bushfire programs.

Figure 7: Example output from CFA's statewide monthly dashboard



CFA and others have undertaken a number of evaluations and studies of program effectiveness (Figure 8), including:

- telephone surveys of community attitudes, perceptions and preparedness actions of households in high fire risk areas at least every year ^[74-78]
- annual evaluations of program delivery implementation in the 2011–12 and 2012–13 financial years (including reviews of FRV, Bushfire Planning Workshops and Community Fireguard) ^[79, 80]
- major evaluations of program delivery ^[21, 61]
- dedicated research into the Community Fireguard program ^[81, 82]
- evaluations of the effectiveness of the Bushfire Safety Policy Framework, including householder preparedness activities conducted by CFA ^[83]
- evaluations of community-based emergency planning pilot projects ^[67] and demonstration projects ^[68]
- program evaluations of myCFA and PAVS ^[84, 85].

For this review, IGEM drew on two major CFA program evaluations to make its assessments. The focus of the evaluations was community education, awareness, and engagement programs.

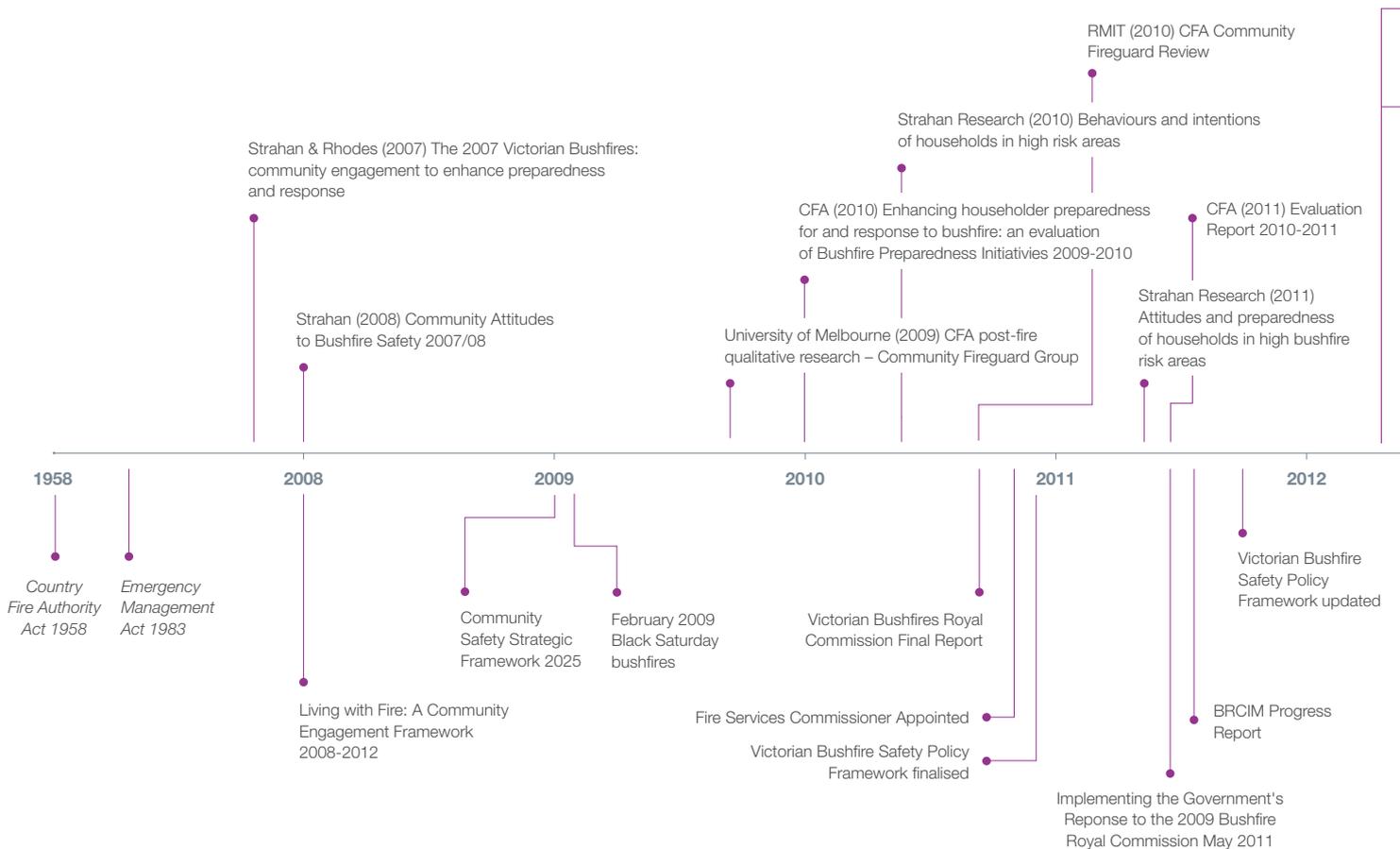
The *Evaluation Report 2010–2011* examined the approach and impact of the FRV, Bushfire Planning Workshops, HBAS programs and CFA's publications ^[21]. It also assessed aspects of the Community Fireguard program, Township Protection Plans, Neighbourhood Safer Places and Fire Danger Ratings.

This evaluation contributed to CFA's response to the VBRC Recommendation 2.4 to:

...regularly evaluate the effectiveness of community education programs and amend them as necessary.

The 2015 *Bushfires Program Evaluation* examined all 65 projects that were part of CFA's broader response to the VBRC ^[61]. This broader evaluation examined the Community Capability theme which included a number of CFA community engagement initiatives. The evaluation was requested by the CFA Board in April 2013 and the evaluation approach and validity of findings was quality assured by an independent consulting firm.

Figure 8: Timeline of studies, evaluations and significant events guiding and informing CFA community engagement and preparedness activities



4.1 To what extent are programs evidenced-based?

In assessing the degree to which programs are evidence-based, IGEM examined each of the major program evaluations conducted by CFA^[21, 61] then assessed them against points of comparison for evidence-based programs (Section 2.6).

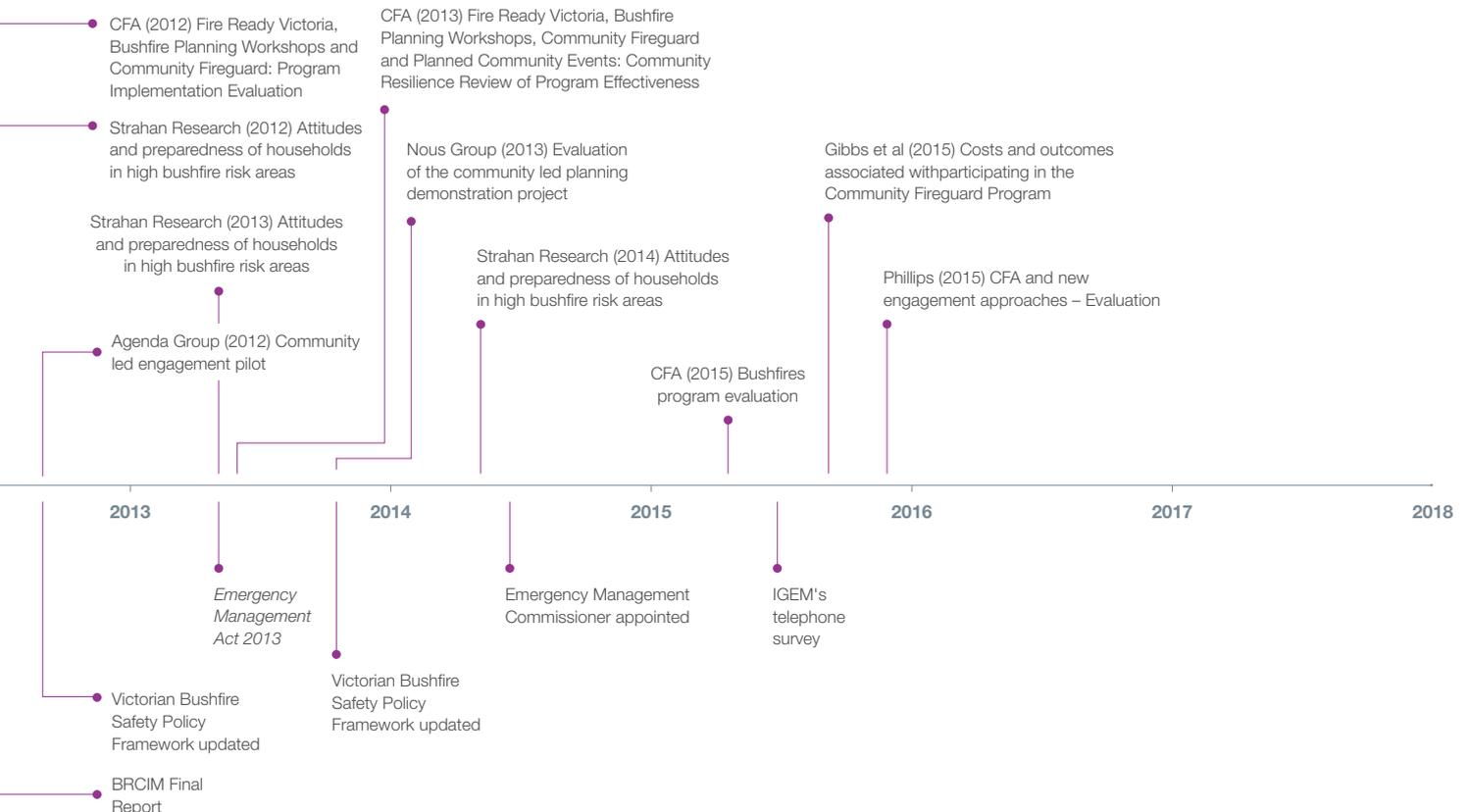
IGEM found that many components of evidence-based programs were met.

The 2011 evaluation documents a review of studies undertaken in the ten years prior to the evaluation, presents a logic model of CFA's approach to encouraging bushfire safety and examines aspects of program effectiveness. The evaluation also summarised the state of householder preparedness at the time of the evaluation.

IGEM noted that at the time CFA had:

- developed a generic logic map to explain CFA's approach (and articulated the underlying theory of programs to support the evaluation – see Figure 9 P.42)
- monitored indicators of program effectiveness and undertaken evaluations
- engaged people with expertise in community education, awareness and engagement in the conduct of this evaluation.

Programs were found to produce worthwhile outcomes for many members of the community.



While a generic map of the logic underpinning the broader CFA approach, it was noted by the evaluators at the time that few programs had well-developed or explicit logic relating program activities to the bushfire preparedness issue, the needs of target groups, the outcomes the program intends to achieve and how the activities contribute to these outcomes ^[21, P. 71]. This observation is examined further in Section 4.2.

The 2015 *Bushfires Program Evaluation* examined the processes used in program delivery, the activities undertaken and the outcomes achieved across the 62 bushfires projects. This evaluation contributes to the evidence base for CFA's programs ^[61]. The evaluation drew on a variety of information sources in its assessment.

CFA documents sighted by IGEM acknowledge the importance of an evidence-based approach in program design, implementation and delivery.

CFA demonstrates a strong commitment to evidence-based decision making supported by strategy and policy ^[66, 67]. This commitment is supported by procedures on knowledge, research and evaluation, and a generic evaluation framework.

Evidence of the application of these principles includes program logics and evaluations for community engagement as well as efforts to enhance and continually improve the existing suite of programs ^[62].

FINDING

CFA's programs incorporate a number of characteristics expected in evidence-based programs. These include:

- a number of evaluations of program effectiveness
- review by people with expertise in community education, awareness and engagement
- demonstration that programs could produce worthwhile outcomes for some people.

CFA's own evaluations have noted concerns with the underlying logic of CFA's programs. CFA has committed to evidence-based decision making and this is supported by organisational strategy, policy and procedural guidance.

4.2 To what extent are the programs effective?

IGEM's examination of program effectiveness involved two components:

- assessment of the approach used by CFA to monitor and evaluate programs and continuously improve them
- examination of the evidence of the effectiveness of CFA programs, including agency documents and IGEM's community survey.

CFA is committed to evaluating program effectiveness. IGEM has sighted a variety of assessments of program effectiveness, including CFA-commissioned surveys of community attitudes, perceptions and preparedness actions and two major evaluations of program effectiveness ^[21, 61]. The 2015 *Bushfires Program Evaluation* assessed the extent to which objectives and outcomes of the Community Capability theme were met. The evaluation also outlined lessons identified.

While the 2015 *Bushfires Program Evaluation* made findings about the effectiveness of CFA community education and awareness activities, it also identified a number of lessons to improve practice that IGEM considers fundamental to continuous improvement. These included ^[61, P. 8-9]:

- spending time on planning, options testing and intervention design
- clear definition of program/project objectives, outputs, outcomes and benefits
- logic models developed during the program planning phase
- clear definition of success for each stakeholder group.

The evaluation also notes:

In order to monitor program/project performance, performance indicators and baselines need to be established from the outset and reviewed regularly to ensure they are appropriate and that outputs are being delivered in ways that lead to improved outcomes ^[61, P. 9].

While there was clear evidence that CFA has undertaken evaluations, it was less clear that lessons are learnt and program approaches improved upon. The 2015 *Bushfires Program Evaluation* noted:

'[it] will not be until areas for improvement are considered and acted on by CFA that the following can translate to changes in practice' ^[61],
P. 8]

IGEM has sighted a number of recent agency documents that foster continuous improvement, including:

- the *CFA Knowledge Strategy* ^[66]
- supporting policy and procedures ^[67]
- the development and use of a generic evaluation framework for the 2015 *Bushfires Program Evaluation* ^[61]
- the draft *CFA Evaluation Design Guidelines* ^[68].

The CFA commitment to evidence-based decision is apparent in the multiple actions in response to the evaluations of its programs and the change in organisational strategy, policy and procedural guidance ^[62]. These include building the evidence-base, an increased focus on logic maps and increased community consultation.

At the time of undertaking this review the CFA tools for measuring preparedness did not transparently align with the full suite of outcomes identified in the strategy and procedural processes.

CFA does not appear to have been implementing a framework under which monitoring and evaluation are translated into program improvements, but has taken steps to support better practice in understanding program effectiveness.

FINDING

CFA has committed to evaluating effectiveness and undertaken a number of evaluations, however, these are not currently undertaken within a monitoring, evaluation and continuous improvement framework.

In the absence of such a framework, it is unclear how programs are improved based on the outcomes of evaluations.



Discussing bushfire risk as part of a home visit conducted through the Property Advice Visit Service program (image courtesy CFA)

What does the information indicate about program effectiveness?

CFA's *Evaluation Report 2010–2011* conducted program-specific evaluations and documented a review of studies into householder preparedness undertaken in the 10 years prior to the evaluation [21]. CFA's review concluded that:

- most people recognised that they lived in a high bushfire risk area (70–90 per cent of respondents)
- people accept they have a shared responsibility to deal with bushfire risk (but more than half of people surveyed indicate they expect assistance from fire agencies to help protect their property)
- people indicate they are well prepared, but often the actual levels of preparation are less adequate than people believe (tending to undertake the easy-to-do actions only)
- most people have considered what to do in the event of a bushfire, but this is not what agencies would consider an adequate or effective plan.

The CFA 2010–11 evaluation also noted that there was evidence that each of the programs examined were achieving worthwhile outcomes and benefits and while many people could be underprepared, a large number of people appear to be prepared and able to respond appropriately.

The evaluation further reported that the three community surveys conducted since 2009 showed no substantial change in reported measures of awareness, preparation and planning.

The evaluation report concluded that CFA programs appear to be most effective for motivated community members. CFA categorised the typical, attitudes, perceptions and behaviours of householders into one of four categories:

- *Active and involved*
- *Ready and interested*
- *Done it already*
- *Not into bushfire.*

The 'Active and involved' group was both motivated to respond to the bushfire risk and active in preparing for bushfire. Three in ten community members fell into this category. CFA programs appeared to be less effective for the remainder of community members.

The 2010-2011 evaluation noted that CFA's approach at the time was heavily reliant on providing information and advice (Box 6), and the logic underpinning its programs relied on people acting when provided with this information and advice (Figure 9). While this logic commonly underpins public safety campaigns, it "...often fails to achieve the desired outcomes" [21, P. 69].

It was noted in the evaluation report that CFA's approach was, at the time, underpinned by some general assumptions (Figure 9), including that 'awareness of risk will motivate people to act' [21 P. 6]. It was also noted that few programs had well-developed or explicit logic to relate program activities to community bushfire preparedness, the needs of target groups, the outcomes the program might achieve or how the activities contribute to these outcomes.

Figure 9: How CFA's community education approach works (at the time of the 2011 evaluation) [21]



The evaluation noted that programs were achieving worthwhile outcomes, but there remains a significant proportion of people in high bushfire risk areas that are less prepared and equipped to respond than they believe themselves to be.

The evaluation also highlighted the lack of an overarching strategy and integrated approach to better address the needs of communities [21, P. 71]. The evaluators called for the approach to be enhanced, noting that:

significant improvement in the preparedness of households in high risk areas may be difficult to achieve unless the current approach is enhanced. [21, P. 71].

Box 6: Limitations of an approach reliant on disseminating information – the example of bushfire survival plans

Excerpt from CFA's *Evaluation Report 2010-2011* [21, P. 73-74].

Many of the programs and initiatives in CFA's approach, such as media campaigns, FRV meetings and various publications, focus on the importance of people developing a written bushfire survival plan. These programs assume that by providing information about the importance of having a plan and providing guides on how to go about it, people will be able to interpret and apply the information and produce a written a plan. Although having a written plan seems like a sound idea, only around 10 per cent of people indicate they have one. When questioned, most people consider that they have a plan, but the evaluation has identified that most do not have what agencies regard as a comprehensive plan, written or not.

The concept of a written plan, while a worthwhile ideal, is unlikely to be widely adopted because it does not reflect the way most people think about or decide what they will do if a fire occurs. Having a written plan is also less important as an outcome than reaching household agreement about what people will do, or considering what to do if unexpected events occur. Making a plan of how a household will respond in a range of bushfire scenarios is a very complex activity requiring many difficult decisions accounting for contingencies and uncertainties. Most people are likely to avoid the challenge posed by such a task, or selectively use the information to reinforce what they intend to do anyway. Telling people they need to have a plan is largely irrelevant because over 90 per cent believe they have one already. Further, while the information provided in publications and meetings attempts to identify the issues and take people through the process, these one-way forms of communication rely on people interpreting the information appropriately and are unable to question or prompt people to reconsider their decisions.

Table 5 outlines how the 2015 *Bushfires Program Evaluation* examined the extent to which the outcomes of the 'Community capability and capacity to live with fire' theme were achieved [61]. Most outcomes were either delivered or partly delivered, except the 'Local communities respond appropriately to bushfire and grassfire risk' outcome, which could not be assessed with the evaluation design adopted.

Table 5: Achievement of outcomes determined in the 2015 *Bushfires Program Evaluation* [61]

OUTCOME	ACHIEVEMENT
Local communities are aware of the level of bushfire and grassfire risk	Partly delivered
Local communities are prepared in line with the level of bushfire and grassfire risk	Partly delivered
Local communities respond appropriately to bushfire and grassfire risk	Evaluation design unable to measure
Local communities and householders are confident in CFA and its ability to deliver bushfire preparedness services	Delivered
Arson related incidents caused by young people are reducing	Partly delivered

2015 *Bushfires Program Evaluation* examined what evidence there was of a change in the community as a result of these projects, including as a result of the Community Capability theme and concluded the following [reproduced from 61, P. 42]:

- There appears to be little change in the community across most measures of interest for this theme.
- Perceptions of the likelihood, threat to life and property in the area and risk of bushfire remained relatively consistent over time among residents in high risk areas. There appears to be a decline among residents in high risk bushfire areas that indicated they have done what they need to do with regard to bushfire safety. However, this may be offset by marginal increases in respondents that indicated they 'know what they need to do and will try and do it' and those that 'have a clear plan of things to do and when'.
- There was little change in undertaking preparatory activities except for declines in having firefighting equipment to protect the house and having adequate access for firefighting vehicles among residents in high risk bushfire areas.
- Among residents in high risk bushfire areas, there appears to be a trend away from 'leave the night before or early on the code red day' to 'wait and see if a fire occurs and whether it is a threat'.

The issues identified in the 2010–11 evaluation remain a challenge to encouraging increased levels of preparedness. Many programs remain focused on an information-dissemination approach. However, CFA has revised some existing programs, such as the Bushfire Planning Workshop, and introduced new programs, such as the PAVS after the 2010–11 evaluation.

IGEM found similarly high levels of risk awareness and householder preparedness in extreme bushfire risk areas examined as part of this review (Appendix 1).

IGEM surveyed risk awareness, emergency preparedness and interaction with emergency service organisations in three extreme bushfire risk areas across Victoria.

IGEM surveyed 206 residents across the Alpine Shire and 201 residents across both the Surf Coast and Colac Otway Shires targeting residents exposed to bushfire risk in their homes, and in properties rated as 'Extreme Fire Danger' under CFA's Victorian Fire Risk Register-Bushfires.

Two-in-three respondents had previously experienced a bushfire, flood or storm. The majority of people who had previously experienced emergencies had experienced bushfires (94 per cent in Alpine Shire and 97 per cent in the Surf Coast and Colac Otway Shires). A high proportion of respondents from the Alpine Shire had also experienced flooding (four in ten).

Most people surveyed were aware that they lived in a bushfire-prone area. Additionally the majority of people considered themselves to live in an area at-risk of bushfires, floods or storms (95 per cent in Alpine Shire and 98 per cent in the Surf Coast and Colac Otway Shires) and think that bushfires are either somewhat likely or extremely likely to affect where they live.

The majority of people thought they were prepared, had an emergency plan and an emergency kit and had taken steps to prepare their homes. The survey indicated:

- most people considered themselves to be moderately, very well or totally prepared for bushfires (with few people identifying themselves as not at all prepared)
- high proportions of respondents indicated they had prepared an emergency plan (eight or nine in ten people, depending on the area), but few of these plans were written (1-in-5 plans was a written plan)
- three in four people had an emergency kit
- most people had taken steps to prepare their home (86 per cent of respondents).

Many people in these areas reported interaction with emergency management organisations. Respondents were asked:

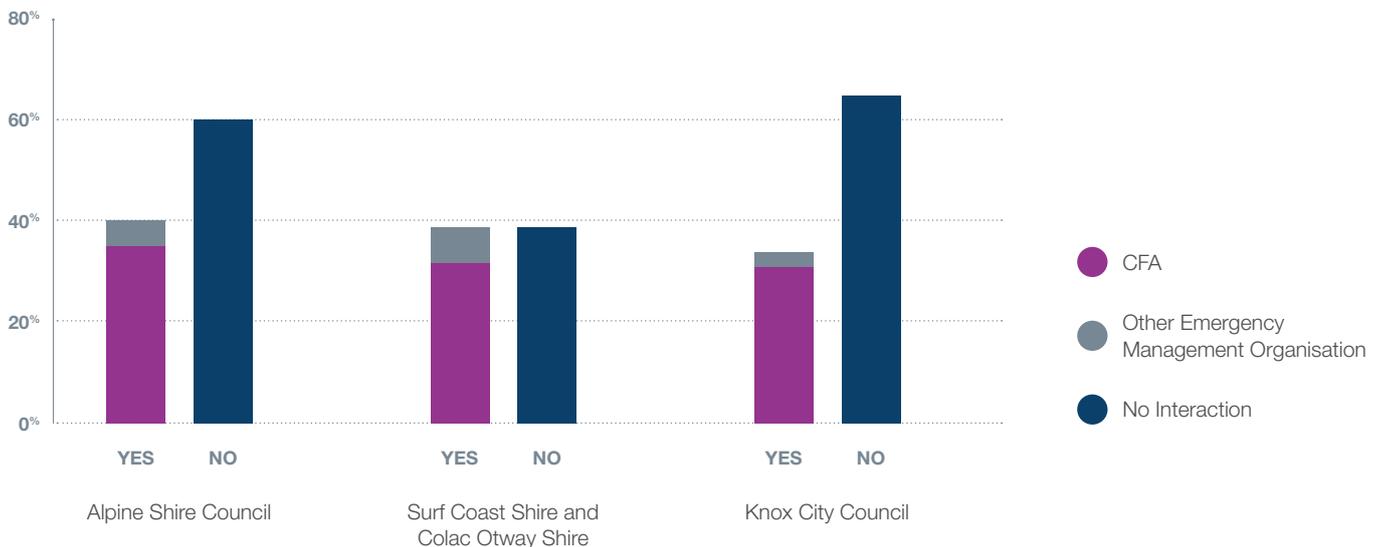
In the last two years have you been visited at home by an emergency management organisation or participated in any activities, programs, training or community planning relating to emergency preparedness or response to flood, bushfire or storm (other than visits during an emergency)?

High proportions of respondents had interacted with agencies (four in ten Alpine Shire residents and six in ten Surf Coast and Colac Otway residents – see Figure 10).



image courtesy VICSES

Figure 10: Interactions with CFA in each of the Alpine Shire Council, Surf Coast Shire, Colac Otway Shire and Knox City Council municipalities



The majority of these interactions were with CFA. Respondents who had interacted with emergency management organisations were asked:

What specific activities, programs, training or community planning were you involved in?

Most of the connections identified by respondents in both the Alpine Shire and the Surf Coast and Colac Otways Shire areas were CFA-branded, and included:

- annual/town hall meetings
- community information and planning sessions
- household inspections
- Community Fireguard
- kit/brochure
- the respondent, or their partner, was a CFA member.

These interactions with CFA led to higher levels of risk awareness and actions to prepare (Figure 11). Respondents who interacted with CFA in the last two years were more likely to:

- think that the area that they live in is likely to be affected by bushfires
- have prepared an emergency plan and an emergency kit
- have undertaken actions to prepare their home.

Most people who indicated they had not interacted with an agency within the last two years were aware of the risk and had taken steps to prepare. However there is no evidence to conclude the actions taken by those that reported recent interactions with CFA are either better or worse than those that had not recently interacted with CFA.

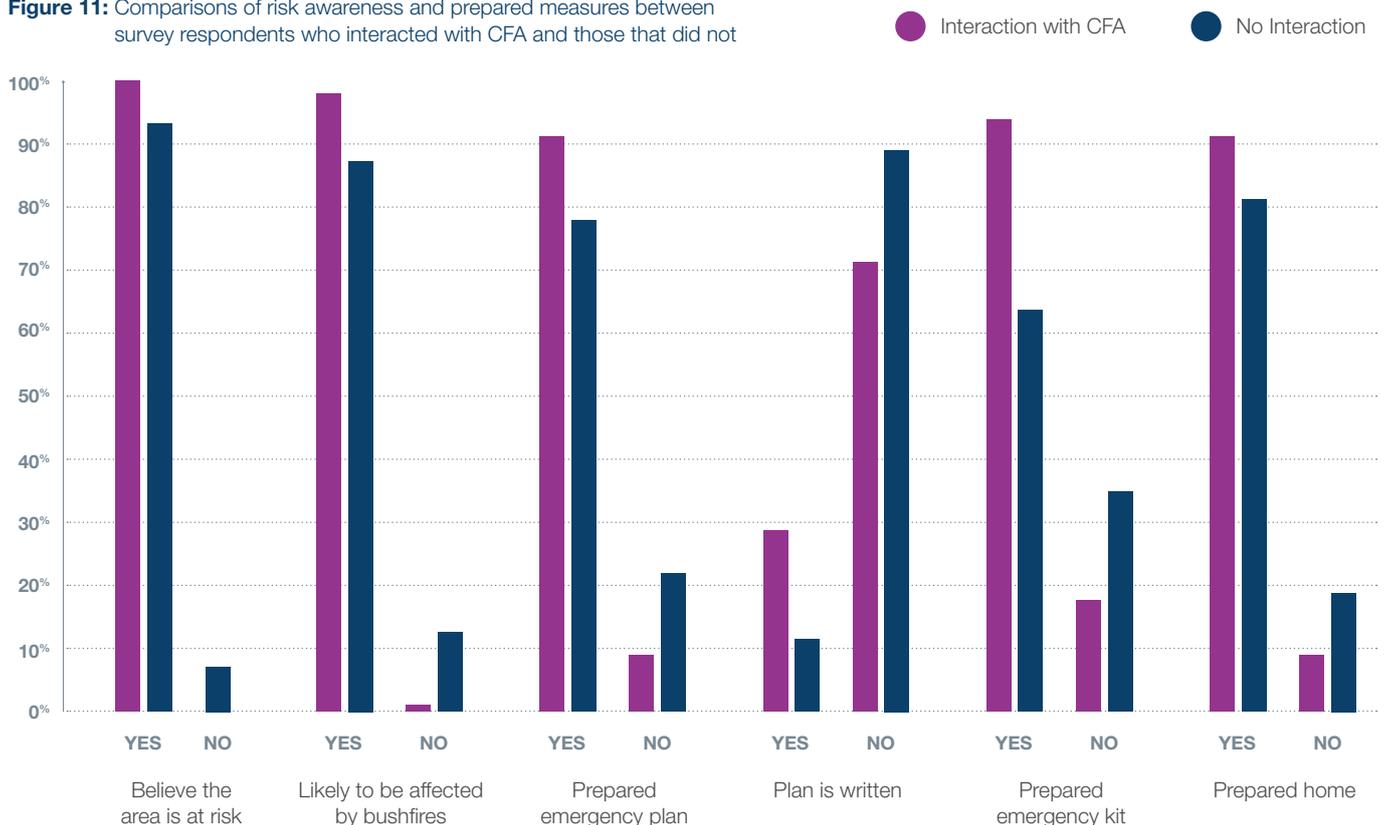
The community survey questions did not allow the quality of preparedness measured to be assessed.

Also, the high levels of preparedness of people who indicated they have not interacted with CFA in the last two years could still be associated with CFA activities. These respondents may have interacted with CFA in the past (beyond the two year period used in the survey questionnaire).

There appears to be an important difference between householder and agency perceptions of levels of preparedness. Many people indicate that they understand the bushfire risk and are prepared. Short and medium term outcomes of CFA programs appear to have been achieved.

While people indicate that they are prepared, the survey questionnaire developed for this review did not allow judgements to be made about the adequacy of actions taken to prepare. In the research and CFA evaluations examined as part of this review, it appears that people may think they are prepared, but have prepared in a way that agencies would not consider comprehensive.

Figure 11: Comparisons of risk awareness and prepared measures between survey respondents who interacted with CFA and those that did not



There is a notable absence of evidence examining how people in Victoria behaved during bushfires in the period following the February 2009 Black Saturday bushfires. This includes evidence examining the effectiveness of planning and preparation activities and whether CFA programs have been effective in preparing people. Recent research indicates that many people who had prepared prior to the Black Saturday bushfires were not adequately prepared [26]. This research further concluded that while on face value the post-2009 community safety endeavours were disappointing there were some improvements in the number of households that planned and prepared to leave early. The research further identified the need for outcome targets for their programs.

CFA has collected anecdotal information about how people have responded during recent bushfires. This information indicates that in some bushfire-prone areas targeted by CFA, communities have responded in the ways that CFA would expect [66]. CFA has also noted responses they consider ‘inappropriate’ [66].

In 2013, the then Fire Services Commissioner examined community responses to three bushfires in the 2012–13 season and rated the effectiveness of community awareness and education activities in those specific locations as ‘Low’ [83], noting:

- participation rates in awareness and education programs were low (for example, in one fire examined, fewer than 40 people attended the eight community meetings prior to the fire)
- awareness and education activities could be better tailored to what different people require to be ‘prepared’
- most of the advice provided by agencies is generic in that it does not address the specific questions people have about the local bushfire threat.

There remain questions about the effectiveness of CFA programs in encouraging people to be adequately prepared to respond to and recover from major bushfires.

4.3 To what extent does the suite of programs meet principles of better practice?

IGEM assessed the suite of CFA programs against the evaluative criteria for community education and engagement developed for this review.

CFA’s programs ranged from *Basic Maturity* to *Moderate Maturity* when assessed against these criteria. IGEM’s assessment is summarised in Table 6 with the rationale for each rating detailed in Table 7.

FINDING

The suite of CFA programs, when assessed against better practice criteria for community education and engagement, are found to incorporate some elements of better practice.

CFA programs are assessed at a *basic* or *moderate* level of maturity.

CFA programs could be improved through a greater understanding of community, increased public participation, greater leveraging of social capital, greater adoption of effective risk communication techniques and more robust evaluation linked to program improvement.

Table 6: Assessment of CFA programs against evaluative criteria for community education and engagement programs for bushfires, floods and storms

EVALUATIVE CRITERIA		IMMATURE	BASIC MATURITY	MODERATE MATURITY	MATURE	ADVANCED MATURITY
Understanding of the community			✓			
Foster participation				✓		
Leverage and build social capital			✓			
Use effective risk communication techniques				✓		
Evaluate, learn and improve	Evaluations			✓		
	Positive Change			✓		

Table 7: Rationale for the evaluative criteria used to assess the CFA programs for bushfires, floods and storms

CRITERIA	RATIONALE
<p>Understand the community</p> <p>Maturity level: Basic</p>	<p>Evidence: CFA programs appear to use community surveys, community engagement and available data resources in a limited way. CFA program resources tend to be generic, but there is some evidence of program tailoring in regions that reflects an understanding of the community. There is limited evidence of the use of community engagement methods and/or community surveys and available data. This includes:</p> <ul style="list-style-type: none"> • some evidence of the development of local community profiles ^[60] • program delivery targets special interest groups, tourist communities and the myCFA service is tailored to local areas • some generic resources are available in multiple languages (e.g. CFA website) • evidence of trained Culturally and Linguistically Diverse presenters.
<p>Foster participation</p> <p>Maturity level: Basic</p>	<p>Evidence: Public participation in decision-making about CFA programs appears to be limited. The programs tend to be generic but there can be tailored programs initiatives in regional areas. Programs are designed and implemented through state and regional decision-making with little participation of community or vulnerable populations. Agencies appear to make all decisions regarding the development and implementation of programs.</p> <ul style="list-style-type: none"> • Evidence of engagement with brigades to develop local service delivery options. • Little evidence of community or vulnerable participating in decisions about the development or delivery of programs.
<p>Leverage and build social capital</p> <p>Maturity level: Moderate</p>	<p>Evidence: CFA delivers a range of generic programs that can be tailored and targeted to different social networks. Some social networks are understood in CFA's approach, and some programs use social networks to assist in their delivery. The Community Fireguard programs builds social capital.</p> <ul style="list-style-type: none"> • Targeting of special interest groups for FRV meetings leverages off existing social networks. Examples include delivery to 'Men's Sheds' and using and building on existing partnerships with neighbourhood houses ^[69]. • The Community Fireguard program is recognised for its ability to build social capital ^[61]. • Tailored and targeted Bushfire Planning Workshops are evidence of standard programs that build on existing networks in the community.
<p>Use effective risk communication techniques</p> <p>Maturity level: Moderate</p>	<p>Evidence: CFA delivers a range of mostly generic programs. Some elements of these programs, or the programs themselves, can be tailored to specific geographical and hazard contexts. Generic programs include FRV and Bushfire Planning Workshop meetings. There are examples of programs that target households in bushfire-prone locations and provide household-specific information (or generic information delivered to at-risk locations). Programs include information on risk, community roles, and efficacy of measures (e.g. Community Fireguard).</p> <ul style="list-style-type: none"> • PAVS/HBAS/StreetBAS programs reflects the geographic and hazard context. These programs provide either tailored advice delivered to the household, or generic advice about bushfire preparedness targeted to at-risk locations. • The suite of programs allows for information to be communicated in a variety of ways (through community meetings, Bushfire Planning Workshops, through tailored advice to householders and through doorknocking at-risk locations). • There are examples of initiatives that adopt effective risk communication techniques (for example, the CFA Fire Safety Pledge).
<p>Evaluate, learn and improve</p>	
<p>Evaluations criterion</p> <p>Maturity level: Moderate</p>	<p>Evidence: CFA has evaluated programs and these evaluations consider measures of effectiveness, however, there has been limited comparison to baseline data. Evaluations consider measures of effectiveness.</p> <ul style="list-style-type: none"> • Evaluations examining program effectiveness conducted following the VBRC ^[21] and more recently ^[61]. • Annual post-season community telephone surveys consider actions taken by the public, intentions and understanding warnings. Annual data has been collected for a number of years ^[74-76]. • Lessons learnt are recorded, but it is unclear if these are acted upon.
<p>Positive change Criterion</p> <p>Maturity level: Moderate</p>	<p>Evidence: CFA has conducted multiple evaluations and collects annual information on levels of householder preparedness. There appears to have been little change in indicators of householder preparedness and the evidence suggests that issues of program effectiveness identified in CFA's 2011 evaluation persist.</p> <ul style="list-style-type: none"> • CFA has conducted major evaluations ^[21, 61]. The most recent evaluation indicated that outcomes from the Bushfires Program have been achieved but there has been little change in measures of interest. • Annual post-season community telephone surveys consider actions taken by the public, intentions and understanding warnings. Annual data has been collected for a number of years ^[74, 76]. Evidence indicates that there has been little change in most indicators of interest.

4.4 Summary

IGEM examined the degree to which CFA's programs are evidence-based, its approach to examining effectiveness, the evidence of program effectiveness and how the suite of programs compares against evaluative criteria for better practice community education and engagement.

CFA delivers a suite of different programs designed to produce a range of outcomes that contribute to safer communities. Programs and resources promote bushfire risk awareness, information on how to prepare and an awareness of the kinds of information and warnings people might experience in the event of an emergency.

CFA programs can be delivered in a variety of ways with specific outcomes. People may attend a session providing information about bushfire risk and how to prepare (for example FRV) and/or a workshop to understand how to prepare a bushfire emergency plan. Residents in high risk areas can be targeted for a visit in their homes (for example PAVS), or can request specific advice about their home (for example HBAS). Motivated community members could also have facilitated sessions in their homes designed to build skills in how to prepare. Many resources are also available over the internet.

IGEM found that CFA programs met many characteristics of evidence-based programs. CFA has conducted a number of major evaluations, annual post-season community telephone surveys of householder attitudes, perceptions and preparedness action and examination of individual programs. A number of components expected in evidence-based programs are evident, including monitoring indicators of program effectiveness and review by people with subject matter expertise.

Some components, such as a well thought out program logic, appeared to be missing until after programs have been implemented. Evaluators have noted the absence of the development of a clear rationale relating the needs of communities to program objectives, and how program activities contribute to the intended outcomes.

CFA has examined householder preparedness in high bushfire risk communities and evaluated effectiveness of a range of programs. There are generally high levels of risk awareness and most people have undertaken some actions to prepare their homes (but these appear to be the more easy-to-do activities). Most people have also considered what to do in the event of an emergency, but few people would have what agencies consider a comprehensive plan.

IGEM found that the majority of people in extreme bushfire risk areas had interacted with emergency management organisations, and this interaction tended to be with CFA. Those who interacted with CFA were more likely to be aware of their risk and have prepared an emergency plan, an emergency kit and prepared their homes.

Despite the recent effort and program reform, CFA's most recent evaluation noted little change in most household measures. This may indicate that the measures are not aligned with the program preparedness outcomes; a rethink during the implementation of a MERI process would examine the appropriateness of current measures.

The majority of people, while aware and of the belief that they are prepared, likely remain underprepared.

IGEM assessed the suite of CFA programs against evaluative criteria based on principles of better practice for community education and engagement. There was evidence of some elements of each principle of better practice incorporated in programs. Opportunities for program enhancement exist through:

- a greater understanding of the community
- increase public participation in the design and implementation of programs
- enhanced understanding and use of social networks
- more locally tailored program design
- more explicit incorporation of lessons learnt through monitoring and evaluation.

5. Discussion and implications

In conducting this review IGEM has examined the approaches of CFA and VICSES to connecting with and preparing communities for bushfires, floods and storms in Victoria. IGEM is in the position to perform this review because of the work undertaken by these agencies investigating program effectiveness.

Community education programs in emergency management were described in 2010 as an 'evaluation-free zone' when compared to other public safety campaigns^[6]. IGEM notes that this clearly is not the case with VICSES and CFA programs with clear evidence of commitments by both agencies to understand program effectiveness and a number of evaluations now conducted.

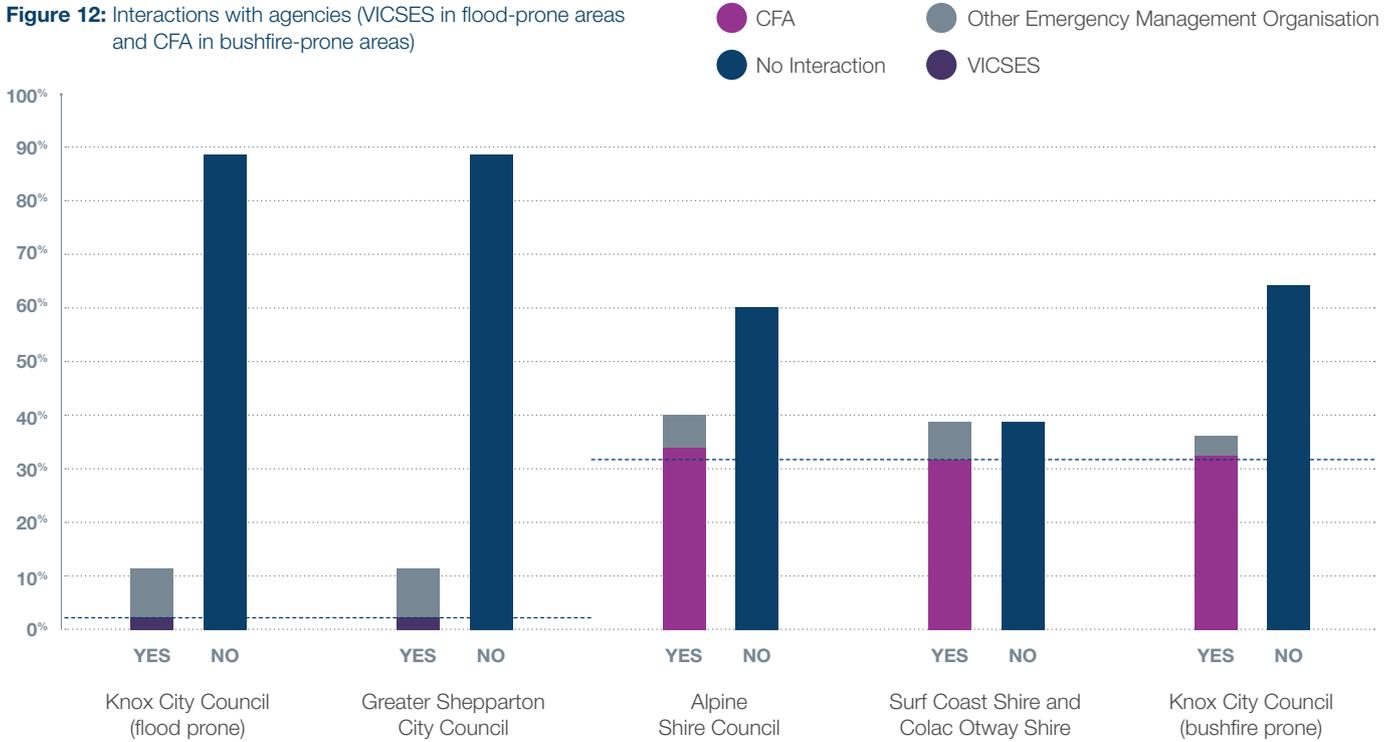
In addition this review has examined aspects of these approaches from which emerge a number of areas warranting further discussion:

- considerable differences between levels of preparedness for bushfires and floods
- the role of a monitoring, evaluation and continuous improvement framework as part of continuous improvement
- effectiveness of programs and the difference between program objectives, activities and outputs and program outcomes
- recognised issues in promoting householder preparedness
- better practice in community education, awareness and engagement
- transition to a community resilience building model.



image courtesy VICSES, photo: Ruth McGowan

Figure 12: Interactions with agencies (VICSES in flood-prone areas and CFA in bushfire-prone areas)



Preparedness for bushfires and floods

IGEM found a notable difference between measures of preparedness for bushfires and floods. In the case of floods, few people residing in flood-prone areas seem to consider that they live in an area at risk of floods. This was noted as a barrier to preparedness – “people did not think they were at risk, hence why would we expect them to prepare”^[18].”

Risk awareness in bushfire-prone areas is much higher with most people believing that they live in a bushfire risk area. Most people living in bushfire-prone areas have considered what they will do in the event of an emergency.

IGEM also found a notable difference between the recall of interactions with agencies in bushfire-prone and flood-prone areas (Figure 12).

Few people in flood-prone areas recalled interactions with VICSES (and each property in one of the locations examined had been visited by VICSES personnel). Many more interactions with CFA were reported in bushfire-prone areas with most interactions with emergency services recognisable as CFA events or programs. As such there is clear difference between the reach of these agencies.

As the State embarks on an all communities, all emergencies approach, consideration must be given to the broad differences between approaches to, and risk perceptions of different hazards.

Monitoring, Evaluation, Reporting and Improvement Frameworks

Monitoring, evaluation and continuous improvement are an important part of agency accountability and allow outcomes and performance against objectives to be assessed.

Agencies have demonstrated a commitment to monitoring against program outcomes. A key observation made during the conduct of this review was the absence of a transparent framework adopted by either VICSES or CFA that clearly links lessons from monitoring and evaluation to program planning and continuous improvement.

IGEM has observed these frameworks employed in emergency management across Victoria^[35] and they play an important role in fostering continuous improvement.

Monitoring, evaluation and continuous improvement is based on quality data and methodical data collection. When collected across jurisdictions and regions, there is the capacity to maximise benefit, avoid duplication and demonstrate effectiveness at a statewide as well as local level.

RECOMMENDATION 1

IGEM recommends that:

- EMV lead the sector in continuous improvement of community engagement programs using monitoring, evaluation and continuous improvement processes.
- The sector should utilise the policy and guidance developed, or under development, to support the reform including:
 - the SAP Resilience Framework
 - the Monitoring and Assurance Framework for Emergency Management
 - the Emergency Management Performance Standards, desired outcomes and performance measures in relation to risk and resilience.

Are programs producing outcomes?

Consistent with other examinations of community education, awareness and engagement^[6], these programs can produce householder preparedness outcomes – such as increased risk awareness and undertaking preparatory actions – and are likely to be effective for some people.

Outcomes have been achieved to a different extent for the different hazards Victorians are exposed to. Many people in flood-prone areas appear unaware of flood risk and unprepared for how floods can affect them. Evaluations suggest that VICSES programs can produce small increases in indicators of householder preparedness.

The majority of people residing in bushfire-prone areas recognise they live in an at-risk area and have considered what to do about it. Few people appear to have what agencies would consider a well considered plan.

Information collected by CFA indicates that most measures of householder preparedness in high bushfire risk areas have remained unchanged for a number of years. Evaluations have suggested that CFA programs are producing outcomes, however, these evaluations have also suggested that CFA's approach is not effective for everybody. Concerns include:

- the extent to which people are actually prepared
- reliance on agencies for warnings and when to trigger household emergency plans.

CFA's own evaluation has questioned the reliance on information dissemination in many of CFA's bushfire preparedness programs. This approach is common in many community safety programs, but known to be of limited effectiveness^[21]. This has led CFA to revise a number of its programs to enhance the level of engagement and trial new approaches such as Community Led Planning.

There has been increased effort in increasing householder preparedness for both bushfires and flood. This effort is demonstrably producing outcomes for some people. There remains additional questions about program effectiveness that warrants consideration.

The importance of target setting

Target setting, and the measurement of progress against these targets, is an important part of agency accountability.

Agencies have organisational visions that include safer communities and strategies that outline what success looks like^[90, 91].

For example, one component of success for CFA is:

'an increased number of Victorian at-risk households demonstrate appropriate action to ensure their own safety before, during and after an emergency, based on sound advice.'

At the program level, such as the FloodSafe delivery program, or the broader Bushfire Programs (incorporating programs such as the FRV meeting or the Bushfire Planning Workshop), program outputs and outcomes are identified through program logics. These are clear statements of expected outcomes. What is less clear is over what time frame the agencies expect these outcomes (and the safer communities these programs are expected to produce).

Flood risk awareness has been identified as an important indicator of success of the *Flood Management Strategy: Port Phillip and Westernport*^[42]. A Key Performance Indicator of this strategy is *'[a] 40 per cent increase in the number of people, directly affected by flooding, who are aware of their risk'* by 2021, from a baseline of 42 per cent of people in 2015.

This was the only explicit agency target identified during the conduct of this review that set an increase in level of householder preparedness over a certain time period.

The setting of explicit targets, and performance against these, provide assurance to both government and the community about improvements to levels of householder preparedness. It helps set realistic expectations about what programs can achieve. It would also help focus attention on continuous improvement in the event that targets are not met. This is of particular importance given that many measures of householder preparedness in high bushfire risk areas have changed little over a number of years.

How are Victorians responding during emergencies?

The ultimate test of program effectiveness is how people behave in the event of an emergency. Agencies have evaluated some programs and examined indicators of householder preparedness prior to emergencies. IGEM has seen little evidence in the period since the VBRC or the VFR that agencies have made an effective contribution to community responses during emergencies. Nor is there evidence of effort to understand whether programs are meeting community needs.

CFA's 2015 *Bushfires Program Evaluation* was unable to determine if local communities were responding appropriately to bushfires^[61]. Community responses to three bushfires in the 2012-13 seasons were examined as part of a broader evaluation of the Bushfire Safety Policy Framework and the effectiveness of CFA activities was rated as low^[83]. There is also limited evidence of effectiveness in the case of floods.

The then Office of the Emergency Services Commissioner examined preparedness actions of communities affected by the floods in North East Victoria in 2012 and found 9 per cent of householders and 3 per cent of businesses had a written emergency plan, however, only half of these plans were used during the flood event^[55].

Having evidence of how well programs have worked for people during emergencies is important, because much of the evidence suggests the majority of people are underprepared (Box 7 P. 52).

Research into householder preparedness indicates that while people believe they are prepared for bushfires and have considered what they will do in the event of an emergency, levels of preparedness for bushfires is not what agencies would consider to be adequate^[21, 26]. In the case of floods, there tends to be much lower risk awareness and lower levels of preparation.

There is a large body of evidence that short and medium term community education, awareness and engagement outcomes are being achieved. However, there is less evidence that longer term outcomes – safer behaviour in the event of an emergency – are being achieved.

Box 7: The notable absence of evidence of effectiveness of home emergency plans ^[92]

In a conference paper presented at the 2015 Floodplain Management Association’s National Conference, flood education expert, Neil Dufty, raised a number of concerns with home emergency plans for floods.

Mr Dufty noted there is a lack of evidence that these plans are both effective during events and can assist in household recovery.

Mr Dufty stresses the ‘...need to further test the assumption underlying the promotion of written home flood emergency plans in Australia. This should include evaluating whether or not having a written emergency plan leads to safe and resilient decisions during and after an event.’

The information that agencies collect provides important measures of progress towards program outcomes. However, these measures provide little insight into what people do during an event, or in assisting in recovery following an event.

An increased focus on program outcomes during and after emergencies can help identify shortcomings in householder preparedness, assist with continuous improvement and enhance assurance of program effectiveness.

RECOMMENDATION 2

IGEM recommends that:

- As EMV leads the sector transition to the development and implementation of the SAP Resilience Framework, consideration should be given to:
 - incorporating explicit target setting in preparedness outcomes
 - the development and implementation of measures that allow assessment of the effectiveness of preparedness activities during emergencies.



Community Fireguard meeting (image courtesy CFA, photo: Keith Pakenham)

Recognised issues in promoting householder preparedness

Householder preparedness for bushfires, floods and storms is encouraged and promoted by CFA and VICSES under the existing emergency management arrangements and its effectiveness is reliant on individuals taking action.

The factors that contribute to householder decisions to prepare are reasonably well understood ^[28, 37]. Also understood are the factors that can inhibit householder preparedness ^[37]. It has been argued that many community education, awareness and engagement campaigns fail to account for the complex factors that can influence decisions to prepare ^[37].

While the contributing factors and inhibitors of householder preparedness are reasonably well understood, what is less clear is how this understanding can be easily translated into enhanced community education, awareness and engagement campaigns.

There are alternatives that could be considered in promoting more effective practice. The *Guidelines for the development of community education, awareness and engagement programs* present a logic-theory model of community education and engagement that includes, for a given context, the following steps ^[6]:

- engagement
- trust and self reliance
- confirmation and reassessment
- community involvement, collaboration and participation.

These are the components needed in a suite of community education and engagement programs. The guidelines also include six principles of effective practice.

It has been suggested that more effective practice can be achieved through tailoring programs to different emergency responses ^[93], archetypal or typical behaviour responses ^[93] or the different ‘segments’ of the community ^[94].

IGEM notes that the concept of tailoring programs to different behavioural responses or characteristics of individuals has merit. Beyond how CFA provides a suite of programs depending on community motivation or degree of participation, IGEM has not seen examples of how the concept can be systematically incorporated into a suite of programs.

Experiential opportunities could be one area the sector can explore. Flood education expert Neil Dufty suggests experiential learning opportunities as an alternative to household flood emergency plans^[92]. These opportunities could present individuals with the opportunity to consider and reassess how they will respond to a range of hazard scenarios.

IGEM observed examples of experiential programs being delivered by the Surf Coast Shire (Box 8); and as a local initiative by the Moe South CFA Brigade to promote improved bushfire planning^[95].

One subject matter expert IGEM interviewed suggested householder preparedness could be improved through agencies providing feedback to the household on the likely effectiveness of actions householders have taken to prepare. CFA's Bushfire Planning Workshop and the HBAS and PAVS programs do provide opportunities for this feedback.

IGEM acknowledges that many factors can influence householder decisions to prepare for emergencies. While there is guidance on best practice for community education, awareness and engagement, there is no simple solution to enhance program effectiveness.

Any program needs to be well designed, addressing a clear need and with a clear link to project activities. They will also need to be monitored and evaluated to ensure they are evidence-based.

Alternative programs will also need to address the complex factors that influence a given householder's decisions to become better prepared for major emergencies. They will also need to be able to elevate the importance of emergency preparedness above other priorities in 'everyday life'^[96].

Based on what was examined in this review, IGEM cannot say whether Victorian communities are adequately prepared for bushfires, floods or storms at this time.

This is, in part, because agencies – and other parts of government – do not routinely collect information that enables reporting on the state of readiness of at-risk communities in Victoria. IGEM found many households who were either completely unprepared or underprepared.

This is also, in part, because agencies have not been able to transparently demonstrate significant improvements in levels of preparedness.

The difficulty of the task to help prepare communities cannot be understated. Research examined during the conduct of this review highlighted the many factors that influence and inhibit householder preparedness. IGEM notes there are opportunities to foster improvement in community education, awareness and engagement. However, because of these complexities, IGEM does not expect there to be broadscale increases in levels of preparedness under the existing emergency management arrangements with the current suite of community education, engagement and awareness programs.

Box 8: Case Study – Surf Coast Shire – Building Resilience

The 'Fire up! Know your place, know your plan' events were delivered in partnership with CFA, Victoria Police and DELWP across the Surf Coast Shire's highest fire risk townships in late 2014 as part of Surf Coast Shire Council now ongoing Resilient Communities Program. The multi-agency Fire up! events engaged residents (permanent and non-permanent) of Aireys Inlet, Anglesea, Bellbrae/Jan Juc, Deans Marsh, Lorne, and Winchelsea in a scenario exercise to increase their understanding of the bushfire and grassfire risk associated with these localities, their responsibilities for decision making in emergencies and the importance of having well thought out, appropriate and practised fire plans.

The primary aim of the Fire up! events was to deliver an experience to residents that built their awareness of risk to inform the development and/or improvement of appropriate fire plans. In working through a fire scenario together with council, agencies and neighbours, the events aimed to inspire householders to critically review their personal approaches to preparing for, responding to and recovering from bushfires by providing locally relevant and interactive information. Using a combination of CFA warnings, videos, audio and a locally specific Phoenix Rapidfire fire scenario, the events challenged residents to practise their emergency decision making.

The scenarios built on general advice and safety information provided by CFA in responding to emergencies. It also provided participants with an understanding of shared knowledge and shared responsibilities for responding to and managing during emergencies. The key safety messages of 'You are responsible for your own safety', 'Be aware of your risks', 'Prepare', 'Be connected', 'Pack an emergency kit', 'Make your decisions now' and 'Prepare your house', were the basis of practical aspects of the events.

This exercise and simulation went through each of the stages with the participants, including:

- hearing exactly what the emergency services will be doing at each stage of a bushfire event
- seeing realistic fire modelling technology and understand how a fire might impact your household
- testing your level of preparedness and finding out more about the best actions you can take in a bushfire event.

These fire-based events saw over 310 Surf Coast Shire residents attend and work through the information to provide an informed fire plan and an informed level of preparedness, promotion of networks, resilience building within their own communities and finally an understanding of emergency services' abilities to support during an event. The success of the multi-agency program was recognised at the 2014 Fire Awareness Awards by winning the Community Preparedness (Industry) category.

Box 9: Case Study – Emerald Community House Out-of-School Hours and Childcare program

The work of the Emerald Community House, in partnership with CFA, is one example of the use of incentives and consequences to encourage people to be better prepared for bushfires.

The Emerald Community House initiative requires families who have children enrolled in its childcare and Out-of-School Hours program to complete fire safety training. Parents are required to attend CFA Bushfire Planning Workshops as a condition of enrolment. These workshops are compulsory and are seen as a requirement for families living in the high risk fire area such as Emerald.

The intent of the workshops is to identify community and individual fire risk, develop a fire plan, create and develop networks amongst the community and increase understanding of their shared responsibility in managing an emergency incident within the community.

“The dominant factor in providing childcare in this environment is that parents are likely to be out of the area while their children are in care,” House Coordinator and Director of the Centre of Resilience strategic model Mary Farrow said.

“This is a significant responsibility for childcare providers and is a prime driver for leveraging the popularity of our service to increase the resilience and awareness of our parents, families and their extended contacts.”

Our parents are required to attend a CFA Bushfire Planning Workshop as their shared responsibility when choosing to live and raise a family in a high risk environment. It is our obligation as a community group and a business – funded to support community development – to play a progressive role as encouraged by the COAG NSDR.”

In partnership with CFA’s Eastern Metropolitan Region and Emerald Fire Brigade, the community house was recognised as a state leader in community fire safety and building community resilience, as a winner at the 2014 Fire Awareness Awards.

OBSERVATION

The sector does not routinely collect data or report on the state of readiness of at-risk communities.

In the absence of such reporting, IGEM cannot confidently identify whether Victorians are prepared for major emergencies they may experience.

Better practice principles in community education, awareness and engagement

What does contemporary better practice look like? The community education and engagement evaluative criteria developed for this review suggest that better practice involves a well understood and engaged community that participates in program design and implementation, an understanding of social networks and an approach that builds social capital. The principles underpinning these criteria are not new, and many of these have been previously acknowledged by agencies in their evaluations ^[21, 45] and in national guidelines ^[6, 29].

These principles would need to be supported by an effective approach to monitoring, evaluation and continuous improvement and an organisation culture and leadership within agencies that is supportive of community engagement.

It would take place as part of a broader approach to community safety and include a mix of incentives and consequences to encourage voluntary behaviour change supported by legislation and regulation. While this broader approach was not examined as part of this review, IGEM did see examples of what this could look like (Box 9).

IGEM notes that the assessment of CFA and VICSES programs against better practice evaluative criteria indicates that agencies are doing some of these things already. There is scope to further incorporate these criteria in program design and delivery.

IGEM has seen examples of alternative approaches that have a greater level of public participation during the conduct of this review. These include:

- Community Led Planning/Community Based Emergency Management – (for example the Harrierville Community Emergency Management Plan ^[97], Box 10)
- Local Incident Management Plans (for example, in communities in East Gippsland Shire – Box 11).

Box 10: Case Study – The Harrietville Community Emergency Management Plan

In June 2013, the Harrietville community accepted the ministerial proposal to develop the community-led, collaborative Community Emergency Management Plan (CEMP). Previous community involvement in collaborative emergency management planning had been tested in the Integrated Fire Management Planning process led by the CFA.

The Harrietville community was significantly affected by fire and landslide emergency events early in 2013, and voiced their concerns to the minister and during the subsequent review of those events.

The CEMP was proposed as one response to the findings of the review, including the identification of issues with the relationships between the emergency management agencies and the community.

The aim and objectives of the CEMP are multiple. The CEMP supports the Harrietville community and visitors to be safer and better prepared against the impacts of natural hazards and disasters. The community is also striving to identify significant community values (social, economic, environmental) and manage support systems; to improve community participation and relationships and build long term resilience. The project is integrated into a broader project – Communities adapting to climate change – building resilience to overcome hazards.

The CEMP has been developed with a five-step process, including identification of community leaders and networks, identifying what are important to local communities and hazards and risks. The CEMP also has a list of actions, with identified lead and support.

An evaluation of the planning process identifies:

- the value of the five-step process in the development of the CEMP and into the future
- the commitment and intense effort of community leaders and representatives and the organisations that supported the process (agencies and shire)
- the value of the Project Manager role and facilitator
- the value of embedding the CEMP into the broader resilience project.

The CEMP is a 'live' rather than a static document and seeks on-going participation, feedback and improvement through on-going community involvement. The CEMP is managed and distributed by the Harrietville Community Forum Inc. on behalf of the broader Harrietville community.

Box 11: Case Study – East Gippsland Shire Council Local Incident Management Plans

A Local Incident Management Plan (LIMP) is a simple document developed by communities, to ensure residents and visitors to their district know where to go, what to take and what to expect if a major incident affects the area. East Gippsland Shire Council has implemented LIMPs across the wider community with the aim of extending emergency management knowledge.

Cann River was one of the first communities to develop a LIMP. The Management Committee evolved from community concerns raised after the Black Saturday fires. Eighteen communities across the municipality have now developed LIMPs.

Local communities create their individual LIMPs with support from local government representatives. A committee is formed from local businesses, schools and community groups, along with representatives from Council and State Government agencies.

Completed LIMPs are issued to all households and displayed in all lodgings within a district. The plans are in a consistent two page format so that each township LIMP contains similar information categories tailored to individual communities.

The first page contains information about what to expect, when to go, where to go including the assembly area for the town. Information on what to do to get ready, appropriate websites to access emergency information, relevant emergency service publications and contact numbers, information on what to take and what to wear. Finally, information on what radio stations to monitor for warnings and advice.

The second page of the LIMP contains a map of the town with the designated assembly point clearly marked and when possible a photo of the designated assembly point, whether that be a building or local oval.

Plans are reviewed annually, to ensure the details are accurate and timely.

Having a LIMP in place can help communities to be more resilient and self-reliant, when major events do occur. The process of developing the plans also encourages community resilience with the development of networks and understanding of who makes up each of the individual townships and communities.

Enhanced engagement and public participation in decision making presents a number of challenges. It will require investment (through increased funding or a shift in effort). Agencies have also noted that it will require a clear understanding between agencies and communities about how responsibilities are shared.

A principle underpinning VBRC's recommendations was that not only the emergency management sector but everyone – including householders, individuals and communities – must take greater responsibility for their own safety and that some of this responsibility is shared.

There is still some ambiguity about how agencies and householders would share this responsibility^[96]. What is missing is an agreement between government and communities about how rights and responsibilities are shared. In the absence of a clear understanding how this responsibility is to be shared, efforts by agencies to increase public participation in decision making will be found wanting.

The emergency management reforms commit the State to increased public participation in emergency management. Greater participation in community education, awareness and engagement can be fostered through a clear understanding about how and under what circumstances this participation takes place. Guidelines such as The Victorian Auditor-General's Office *Better Practice Guide on Public Participation in Government Decision-making* can be used to help outline the nature and extent of communities' participation in agencies' decision-making.

A clearer direction for public participation in community education, awareness and engagement programs encourages clearer expectations between communities and the emergency management sector. It also fosters continuous improvement.

RECOMMENDATION 3

IGEM recommends that:

- As the State transitions to a community resilience building agenda and increasingly fosters public participation in emergency management, the sector should consider the elements of better practice outlined in the Victorian Auditor-General's Office's *Better Practice Guide: Public Participation in Government Decision-making*.

The information about program effectiveness that IGEM has canvassed during the conduct of this review suggests that agency programs require further consideration as the State continues to transition to a community resilience building agenda.



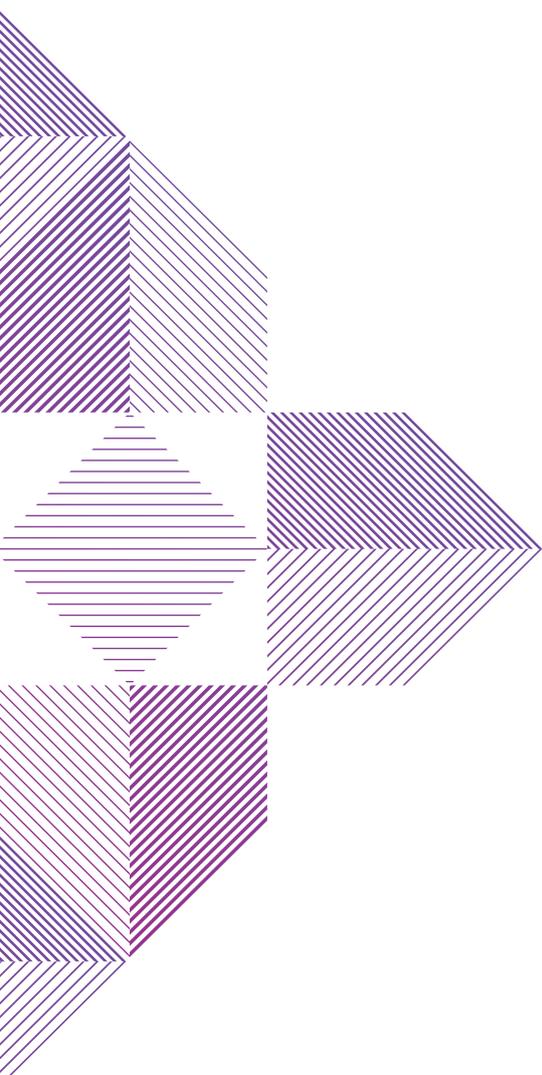
image courtesy VICSES

Emergency management reform and the transition to a community resilience building agenda

This review takes place at the beginning of a period of significant reform in emergency management in Victoria. The SAP includes actions to develop a framework for building community resilience – the SAP Resilience Framework^[11]. IGEM notes that the SAP actions incorporate many of the principles of better practice.

In interviews conducted as part of this review, it became apparent that agencies were waiting for guidance from the SAP Resilience Framework before further embracing a resilience-building agenda in their programs. These actions in the SAP provide an opportunity for the sector to reconsider the approach taken by these programs in connecting with and preparing communities for major emergencies.

6. Concluding remarks



There are many ways that the emergency management sector connects with and helps prepare individuals, households and communities for major emergencies. This review examined the approach of two agencies that take a lead role in preparing communities for bushfires, floods and storms.

The information examined in this review and its findings highlight considerable differences in the levels of preparedness for floods and bushfires. A number of factors are involved in motivating householders to undertake actions to prepare and there can be many things that inhibit householders becoming better prepared.

IGEM recognises the complex and difficult task the sector has in supporting households and communities to be prepared for major emergencies.

This review goes some way towards providing confidence that agencies are delivering community education, awareness and engagement programs that produce the intended outcomes and are effective for some people.

The programs examined in this review can achieve intended community preparedness outcomes. However, the information canvassed as part of this review indicates that despite considerable efforts, it is likely that many people remain unprepared or underprepared for major emergencies they may face. There is still much work to be done.

This review was conducted at an early stage of Victoria's contemporary emergency management reform. The timing resulted in an early examination of the work of CFA and VICSES and their organisational and operational responses to major drivers such as the VFR and the VBRC. IGEM notes this timing and the potential for future examination of the evolving preparedness and the resilience activities in the Victorian emergency management sector.

IGEM provides recommendations that build on the existing work already undertaken by agencies to understand effectiveness and continuous improvement through:

- more transparent monitoring, evaluation and reporting on progress towards community preparedness outcomes
- focusing attention on long term outcomes (i.e. responses during emergencies)
- clearer statements about how and to what extent the public participate in decisions about how to prepare for emergencies.

All recommendations are consistent with priorities for reform identified in the SAP.

Actions outlined in the SAP incorporate many elements of better practice. These actions provide an opportunity for agencies to reflect on long-standing programs and those highlighted as case studies in this review as the State transitions to a community resilience building agenda.

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Appendix 1: Project approach

Interviews

IGEM conducted interviews with a range of experts, agency representatives and stakeholders. While the interviews are not specifically referred to in the review, they were critical in shaping IGEM's observations, findings and associated recommendations. Representatives from emergency management organisations and other stakeholders interviewed are listed in Table 8.

Table 8: Emergency management organisations and other stakeholders interviewed by IGEM as part of the conduct of this review

AGENCIES
Alpine Shire Council
Centre for Risk and Community Safety, RMIT University
Colac Otway Shire Council
CFA
Department of Environment, Land, Water and Planning
Department of Psychology and Counselling, Latrobe University
Emergency Management Victoria
Goulburn Broken Catchment Management Authority
Greater Shepparton City Council
Knox City Council
Local Government Victoria
Manningham City Council
Melbourne Water
Moira Shire Council
Municipal Association of Victoria
Surf Coast Shire
VICSES

Telephone survey of hazard-prone communities

In addition to examining agency documents, IGEM also commissioned a community telephone survey of householder preparedness for bushfires, floods and storms in a number of hazard-prone areas in Victoria^[99].

The survey was designed to examine householder perceptions of risk, actions taken to prepare (including preparing an emergency kit and an emergency plan) and whether survey respondents had any involvement with emergency management activities, programs, training or community planning.

In developing the survey questions, IGEM reviewed existing questionnaires of householder preparedness for bushfires and floods^[15, 78, 100-102]. The survey design asks questions about risk awareness and preparedness, but it does not enable inferences to be drawn about the adequacy of actions people have taken to prepare. The survey questionnaire is included with this report as Appendix 2.

A random sample of 804 households was drawn from four locations across Victoria (Alpine Shire, combined Surf Coast and Colac Otway Shires, Knox City Council and Greater Shepparton City Council municipalities). These locations were selected based on known bushfire and flood risk; and households telephoned were exposed to either extreme bushfire risk or a reasonable likelihood of above floor flooding. Table 9 outlines the number of households surveyed, the hazard and the source of the risk information for each location surveyed.

A survey of this size enables a high level of confidence that samples are representative. IGEM uses the survey results to make comment about specific locations. There is a lower level of confidence when comments are made on specific locations.

Table 9: Location, numbers of households surveyed, hazard-type and source of risk information used to target the telephone survey to at risk properties

AGENCIES	NUMBER OF SURVEYS	HAZARD	SOURCE OF RISK INFORMATION
Alpine Shire Council	206	Bushfires	CFA's "Targeted Properties" database. This database identifies properties considered to have the highest exposure to bushfire risk that CFA prioritises for delivery of prevention and preparedness programs. IGEM's community survey targeted properties within this database listed as "extreme" bushfire risk.
Surf Coast Shire, Colac Otway Shire Councils	201	Bushfires	
Knox City Council	105	Bushfires	Melbourne Water's database for flood-prone properties in metropolitan Melbourne. This database identifies properties expected to experience above-floor level flooding, on average, every 100 years (technically, an annual exceedance probability of 1 per cent).
	91	Flood	
Greater Shepparton City Council	201	Flood	Goulburn Broken Catchment Management Authority's flood inundation database for Shepparton. IGEM's community survey targeted properties expected to experience above-floor level flooding, on average, every 35 years (technically, an annual exceedance probability of 2.86 per cent)

Better practice community education and engagement

IGEM assessed agency programs against evaluative criteria for principles of better practice in community education and engagement. IGEM engaged the independent research centre Risk Frontiers to develop better practice evaluative criteria for community education and engagement^[37]. Risk Frontiers undertook a major literature review into community education and engagement practices and used this to develop an evaluation matrix based on seven criteria (Table 10). These criteria can be used to assess the extent to which community education and engagement programs for floods, storms and bushfires meet established principles for better practice. Each criterion can be

assigned to one of five levels of maturity (immature, basic maturity, moderate maturity, mature and advanced maturity).

Not all criteria are assessed as part of this review. IGEM assessed VICSES and CFA programs against five of the seven criteria. The 'use of continuum of measures' and the 'govern and embrace' criteria are excluded from this assessment (because they are either difficult to assess or considered beyond the scope of this review). These criteria are included in Table 10 and in Table 11, and explained further below, but do not form part of IGEM's assessment.

Table 10: Evaluative criteria for community education and engagement programs for bushfires, floods and storms^[37]

EVALUATIVE CRITERIA	DESCRIPTION
Understand the community	The extent to which agencies understand the at-risk population through the collection of baseline data (e.g. Australian Bureau of Statistics data, community surveys) and via true community engagement methods ² (e.g. community meetings, citizen juries, workshops).
Foster participation	The extent to which the various groups within an at-risk population are involved in the agreement regarding power, ownership and level of participation required to develop and implement community education and engagement programs. This includes partnering with groups that are more socially vulnerable (e.g. disabilities, old age, non-English speaking, lack of experience).
Leverage and build social capital	The extent to which social capital is leveraged and supported by community education and engagement programs for floods, storms and bushfires.
Use effective risk communication techniques	The extent to which community education and engagement programs provide tailored information on risk, community roles, the efficacy of suggested preparedness measures, and how to implement measures.
Evaluate, learn and improve	The extent to which programs are evaluated before and after disaster events, and lessons are incorporated into the improvement of future programs.
	The extent to which programs show progress in enhancing householder preparedness for floods, storms and bushfires
Use a continuum of measures	The extent to which incentive, consequence and regulatory measures have been used to encourage householder preparedness for floods, storms, and bushfires.
Govern and embrace	Community engagement must be core to the business of the emergency management sector, with it embedded within the culture and practice of organisations.

² Risk Frontiers define "true engagement" as "inclusive, meaningful engagement where community views are acted upon."

Table 11: Evaluative criteria for community education and engagement programs for bushfires, floods and storms ^[37]

	UNDERSTAND THE COMMUNITY	FOSTER PARTICIPATION	LEVERAGE AND BUILD SOCIAL CAPITAL	USE EFFECTIVE RISK COMMUNICATION TECHNIQUES
Advanced maturity	Community engagement methods, community surveys and all available data resources have been used to gain an understanding of the full diversity (76-100%) of the population, including their needs, vulnerabilities and resiliencies.	All community groups (76-100%), including vulnerable populations are represented in decision-making. Agencies and public reach a mutual agreement ultimately driving decision making regarding the development and implementation of programs. Note: this may also include the public deciding that agencies should have the final say.	Social networks are well understood and all applicable programs fully use extensive social networks for their delivery. All applicable programs are designed and proven to build social capital, and frameworks encourage the development of emergent groups.	All programs (91-100%) are developed in context to the at risk population's needs. Programs reflect the geographical and hazard context and the population's experience. All programs include tailored information on risk, community roles, efficacy of measures and how to implement measures. This information is communicated in a variety of ways given community preferences in all instances.
Mature	Community engagement methods, community surveys and all available data resources have been used to gain an understanding of most (50-75%) of the diversity of the population, including their needs, vulnerabilities and resiliencies.	Most (50-75%) community groups, including vulnerable populations are represented in decision-making. Agencies and public reach a mutual agreement on driving decision making regarding the development and implementation of programs.	Social networks are understood, and the majority of programs use social networks for their delivery. Most applicable programs are designed to build social capital and frameworks encourage the development of emergent groups.	Almost all programs (75-90%) are developed in context to the at risk population's needs. Programs reflect the geographical and hazard context. Almost all programs (75% -90%) include tailored information on risk, community roles and efficacy of measures, and how to implement measures. This information is communicated in a variety of ways given community preferences in almost all instances.
Limited maturity	Community engagement methods and/or community surveys and available data resources have been used to gain an understanding of some (25-49%) of the diversity of the population, including their needs, vulnerabilities and resiliencies.	Some (25-49%) community groups, but a very limited number of vulnerable populations are represented in decision-making. Agencies and public reach an agreement ultimately driving decision making regarding the development and implementation of programs.	Some social networks are understood, and some programs use social networks to assist in their delivery. Some programs are designed to build social capital.	Some programs (2-74%) are developed in context to the at risk population's needs. Programs reflect the geographical and hazard context. Some programs (25-74%) include tailored information on risk, community roles and efficacy of measures, and how to implement measures. This information is communicated in a variety of ways given community preferences in some instances.
Basic maturity	Community surveys and/or some available data resources have been used to gain a limited (5-24%) understanding of the diversity of the population, including their needs, vulnerabilities and resiliencies.	Very few (<25%) community groups and no vulnerable populations are represented in decision making. Agencies make all decisions regarding the development and implementation of programs.	Limited social networks are understood. A very limited number of programs use social networks in their delivery or build social capital.	A few programs (<24%) are developed in context to the at risk population's needs. Most information is generic.
Immature	No community engagement methods, community surveys or available data resources have been used to gain an understanding of the community. There is very little (<5%) understanding of the diversity of the population, including their needs, vulnerabilities and resiliencies.	No engagement with the community. Agencies make all decisions regarding the development and implementation of programs.	No understanding of social networks. Programs do not use social networks in their delivery.	Limited consideration of impact of delivery methodology on target population behaviour. The specific needs of the at risk population are not considered. Information is generic.

EVALUATE, LEARN AND IMPROVE	EVALUATE, LEARN AND IMPROVE	USE A CONTINUUM OF MEASURES	GOVERNANCE AND CULTURE
<p>All programs are evaluated in partnership with the community and compared with baseline data in a timely and consistent manner both before and after disaster events. Evaluations are evidence-based. Evaluations consider the ultimate and tangible effectiveness of programs including actions taken by the public as well as the accuracy, usefulness and timeliness of messages. Lessons learnt are recorded, implemented and tracked. The long-term impact of engagement measures is studied and used in design. There is a documented monitoring and evaluation framework.</p>	<p>Sustained, significant and consistent positive change has been measured with evidence based evaluations over a number of years when compared to a baseline in the contexts of before, during and after disasters.</p>	<p>All programs (76-100%) use a comprehensive set of targeted incentives, consequences and regulation where applicable.</p>	<p>Organisational culture fully supports, understands and recognises the value of programs. Community engagement programs are integrated with related risk interventions. Program strategies and logic are documented and actions regularly monitored. Clear buy-in by senior leadership and all levels of management.</p> <p>Organisational and individual performance indicators align to successful engagement and education outcomes.</p>
<p>All high value programs evaluated in partnership with the community and compared with baseline data in a timely and consistent manner both before and after disaster events. Evaluations are evidence-based. Evaluations consider the ultimate and tangible effectiveness of programs including actions taken by the public as well as the accuracy, usefulness and timeliness of messages. Lessons learnt are recorded, implemented and tracked. There is a documented monitoring and evaluation framework.</p>	<p>Sustained positive change has been measured with evidence based evaluations over a number of years when compared to a baseline in the contexts of before during and after disasters.</p>	<p>Most programs (50-75%) use targeted incentives, consequences and regulation where applicable.</p>	<p>Clear buy in by senior leadership. Organisational culture supports community engagement, and recognises the value of programs, but with minor inconsistencies. Community engagement programs are integrated with related risk interventions. Program strategies and logic are documented and actions regularly monitored. Organisational and individual performance indicators align to successful engagement and education outcomes.</p>
<p>Most high-value programs evaluated and compared with baseline data in a timely and consistent manner either before or after disaster events. Evaluations are evidence-based. Evaluations consider some measures of effectiveness of programs including actions taken by the public as well as the accuracy, usefulness and timeliness of messages. Lessons learnt are recorded, but there is limited evidence of their implementation.</p>	<p>Positive change has been measured with evidence based evaluations over one year when compared to a baseline in the context of before, during and after disasters.</p>	<p>Some programs (25-49%) use targeted incentives, consequences and regulation where applicable.</p>	<p>Most senior leaders and organisational culture support community engagement, but not consistently. Partial integration between community engagement and related risk interventions. Most program strategies and logic are documented and actions regularly monitored.</p>
<p>Inconsistent evaluation of a limited number of programs with no recording or tracking of lessons learnt or implementation. Evaluations are focused on counting outputs, such as brochures distributed or events held. Limited baseline data exists. No evidence of lessons learnt being implemented.</p>	<p>Positive change has been measured as a result of a single short-term campaign, but uncertainty exists regarding its longer term sustainability, or level of influence during or after a disaster.</p>	<p>Few programs (<24%) use targeted incentives, consequences and regulation where applicable.</p>	<p>Little buy-in by senior leadership, apart from the most senior. Inconsistent integration between community engagement and related risk interventions.</p> <p>Limited documentation of strategies and program logic. Culture partially supportive.</p>
<p>Programs are not evaluated</p>	<p>No positive change has been measured.</p>	<p>No programs use targeted incentives, consequences and regulation where applicable.</p>	<p>No buy-in from senior leadership. Governance over programs limited to corporate requirements. Conflict between community engagement and risk interventions. Culture does not support programs.</p>

Appendix 2: Community Telephone Survey and Sampling

S. Hello I 'm [NAME OF INTERVIEWER] calling on behalf of the Victorian Government about how people like you prepare for emergencies like bushfire, flood or storm.

Information you provide will be used to improve how we prepare for emergencies. It takes about 25 minutes and anything you say will be confidential. We'd like you to answer all the questions but you don't have to. You can also end the survey at any time. Because this is a telephone survey we assume that by participating you are giving your consent. If any questions cause you distress please let me know and I can stop. If this happens I can also give you information of someone who can provide assistance.

S. PREVIOUS EXPOSURE TO MAJOR EMERGENCIES

1. Have you ever been affected by a flood, bushfire or storm that has caused major damage to property or caused injury or loss of life?

- Yes
- No
- Don't Know

2. What was the type of emergency? [MARK ALL MENTIONED]

- Flood
- Bushfire
- Storm
- Other (specify) _____

3. Approximately when did the emergenc(ies) happen? [ASK MONTH AND YEAR FOR EACH ITEM IDENTIFIED IN Q2]

Emergency	Month	Year
Flood	Month _____	Year _____
Bushfire		
Storm		
Other		

4. In what ways did your previous experience of the emergenc(ies) change the way you prepare for emergencies now? [PROBE. ANY OTHER WAYS. IF MADE NO DIFFERENCE, ASK WHY NOT]

S. PREPAREDNESS

5. If a flood, bushfire or storm affected your local area in the next 12 months, how prepared do you feel you would be?

Emergency	Preparedness
Flood	<input type="radio"/> Not at all prepared
Bushfire	<input type="radio"/> Slightly prepared
Storm	<input type="radio"/> Moderately prepared
	<input type="radio"/> Very prepared
	<input type="radio"/> Totally prepared

S. AWARENESS

6. Do you think that the area you live in is at risk from floods, bushfires or storms?

- Yes
- No
- Don't Know

7. How likely do you think it is that the following emergencies could affect where you live? Do you think it is...[READ SCALE THEN ASK FOR EACH HAZARD]

Emergency	Likelihood
Flood	<input type="radio"/> Extremely unlikely
Bushfire	<input type="radio"/> Somewhat unlikely
Storm	<input type="radio"/> Neither likely or unlikely
	<input type="radio"/> Somewhat likely
	<input type="radio"/> Extremely likely
	<input type="radio"/> Dont Know

8. Why do you feel that these emergencies are likely/unlikely to affect where you live:
 Emergency Why emergency likely/unlikely to affect where live
 Flood Why _____
 Bushfire
 Storm

S. ACTIONS AND DECISIONS

9. Have you taken any of the following actions or decisions to protect yourself/family and home against: [ASK ALL ITEMS FOR EACH HAZARD]

Action/decision	Flood	Bushfire	Storm
Prepared an emergency plan for your household.	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Don't Know	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Don't Know	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Don't Know
Prepared an emergency kit with things like a torch, first aid kit and battery powered radio.			
Taken steps to better prepare your house.			

S. IF NO EMERGENCY PLAN FOR ANY EMERGENCY FLOOD BUSHFIRE OR . STORM IN Q9 SKIP TO Q12

9a. Is your emergency plan written?
 Yes
 No
 Don't Know

10. How do you decide when to put your emergency plan into action? What triggers it?

11. Does your emergency plan include any of the following?

Plan elements	
How you will respond to different levels of warning	<input type="radio"/> Yes <input type="radio"/> No
What sources you will use to get information about an emergency	<input type="radio"/> Don't Know <input type="radio"/> Not applicable
A list of emergency contact numbers	
Where you will go and stay if you evacuate.	
Your evacuation route.	
What each member of your household will do.	
Actions that will be taken to prepare your property	
What you will do for vulnerable neighbours	

What to do with your pets.
What to do with livestock.

What you will do with important documents
and possessions
What to do about your water, gas and
electricity
Other

11a. What are the other things included in your plan?
Other _____

12. What type of insurance do you have?
- House and contents
 - House only
 - Contents only
 - Outbuildings (sheds) only
 - Farm insurance including house and contents
 - Farm insurance (livestock and machinery) only
 - No insurance

13. Does your insurance cover the kinds of emergencies you might be effected by?
- Yes
 - No
 - Don't Know

14. What has prompted you to take actions to prepare for emergencies, like having an emergency plan, preparing your home or getting insurance.

S. PARTICIPANT RESPONDED TO Q1. ASK Q15 IF RESPONDED YES

15. Did your prior experience of emergencies prompt you to take these actions to prepare for future emergencies?

- Yes
- No
- Don't Know

15a. To what extent do you agree or disagree with the following statements :

- | | |
|--|---|
| I know that I need to be self sufficient in the event of an emergency | Agreement |
| I worry about being affected by an emergency | <input type="radio"/> Strongly disagree |
| I believe that I could be involved in an emergency at some time in the future | <input type="radio"/> Disagree |
| I often think about an emergency occurring in this area | <input type="radio"/> Disagree slightly |
| I am aware of how at risk I am if there was an emergency | <input type="radio"/> Agree slightly |
| I talk to family and friends about the risk of an emergency in this area | <input type="radio"/> Agree |
| I spend time thinking about what I would do if an emergency occurred | <input type="radio"/> Strongly agree |
| The thought of being involved in an emergency makes me sick in the stomach | <input type="radio"/> Don't know |
| I accept responsibility for my home and property knowing there is a risk that an emergency could occur | |

S. ACQUIRING KNOWLEDGE AND SKILLS

16. In the last 2 years have you been visited at home by an emergency management organisation or participated in any activities, programs, training or community planning relating to emergency preparedness or response to flood, bushfire or storm? [OTHER THAN VISITS DURING AN EMERGENCY]

- Yes
- No
- Don't Know

16a. What specific activities, programs, training or community planning were you involved in? [PROBE: ANY OTHERS. WHICH ORGANISATION WAS THAT WITH? WERE YOU VISITED AT HOME BY AN EMERGENCY MANAGEMENT ORGANISATION]

16b. How long ago were you most recently visited at your home or participate in these activities/ programs /training/ community planning?

- Within the last month
- 1- 6 months ago
- 7-12 months ago
- More than 12 months ago

16c. Were you visited at your home or involved in these activities/ program/ training/ community planning...

- Just a single time
- A number of times
- As an ongoing involvement

17. What prompted you to participate in these emergency preparedness activities/ programs/ training/ community planning?

18. To what extent did your exposure to the emergency preparedness activities, programs, training or community planning:

- | Effect | Extent |
|--|---|
| Improve your understanding of the risks you face | <input type="radio"/> Not all |
| Improve your understanding of what you need to do to plan or prepare for these risks | <input type="radio"/> Small extent |
| Result in you taking actions to plan or prepare for these risks | <input type="radio"/> Moderate extent |
| Make you feel more confident you can deal with an emergency | <input type="radio"/> Large extent |
| Increased your capacity to protect yourself/family during an emergency | <input type="radio"/> Very large extent |
| Increased your level of preparedness for major emergencies | |

19. Why do you feel that your exposure to these activities/programs/training has increased your preparedness for major emergencies ?

S. And now for the last few questions.

20. Which one of the following age groups do you belong to?

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 -74
- 75 and over

21. Which of the following best describes your household situation?

- Couple with one or more children or dependents at home
- Couple without children or dependents at home
- Single person with children or dependents at home
- Single person without children or dependents at home
- Group of adults living together
- Other _____

22. Does your household include any of the following who need looking after during a disaster?

Members of household

Infants or children

Yes

Elderly people

No

People with a disability

Other

22a. Specify other

Other _____

23. What is the main language that you speak at home?

- English
- Another language. What language _____

24. Do you identify yourself as a person of Aboriginal or Torres Strait Islander descent?

- Yes
- No

25. Which of the following best describes the property you live on?

- House on residential block
- House on a hobby farm or small acreage
- House on large farm
- Other[specify] _____

26. Do you own your house, in the process of buying it, renting it or do you have some other arrangement?

- Own home
- In process of buying (mortgage)
- Renting
- Other arrangement

27. How long have you lived in the area you live in now?[Doesn't have to be the same property or suburb/town]

- Less than 1 year
- 1 to 5 years
- 6 to 10 years
- 11-20 years
- More than 20 years

28. Do you

Have members of your extended family in the local area

Yes

Have friends in the local area

No

Have neighbours you can get help from if needed

NA

Participate in one or more local groups, associations, clubs etc.

Volunteer in an emergency services organisation

29. What is the postcode of the area you live in?

Postcode _____

Addendum

IGEM notes the on-going work by CFA to build its evidence-base in relation to effectiveness of community engagement programs and to identify new and innovative ways to connect with, and help communities prepare for major emergencies in accordance with research findings in the aftermath of Black Saturday.

IGEM sighted the draft evaluation guidelines during the conduct of the review. Since the completion of information collection and analysis IGEM notes the October 2015 publication of the CFA Evaluation Design Guidelines ^[1].

IGEM notes in particular the 25 November 2015 publication of the paper *Country Fire Authority and New Engagement Approaches – Evaluation* ^[2]. The underpinning research for this publication was funded by the National Disaster Resilience Grants Scheme.

The paper notes the difficulties that agencies experience in communicating information about risk and the weak link between information provision and preparedness behaviour. The author cites the on-going low levels of preparedness in communities despite the availability of bushfire education materials and programs

The work describes four new CFA engagement approaches in four Victorian localities. The approaches were arts and music-based, a modified Community Fireguard program, a scenario mapping exercise and a community-led volunteer brigade support committee.

The small-scale evaluation involved limited numbers of brigade volunteers and CFA staff, residents, community leaders and facilitators. The evaluation explored a range of issues including the success of engaging people not previously engaged with CFA, brigade knowledge and skills, and community network development. Of note to this review was the effectiveness of the different approaches in developing people's capacity to respond to, and how they think about bushfire and whether the participants took action, or formed the intention to improve their bushfire safety.

The limited responses from two of the study sites identified that existing knowledge of bushfire risk was confirmed, rather than enhanced. Only one participant comment was made relating to taking actions. The information relating to social networks was conflicting.

A cost benefit study of the CFA Community Fireguard program is described by Gibbs et al ^[3]. The study, designed to ascertain whether the CFA should continue funding the Community Fireguard Program, concludes that the contribution of the Community Fireguard Program to saved properties for, and increased safety of members represents a significant savings to the public purse.

Anecdotally, the CFA notes the change in behaviour of people during emergencies since Black Saturday. IGEM field observations and discussions with residents and key informants during the IGEM review of the Wye River-Jamieson Track fire identified that the community had been well-informed, knew what to do and responded as expected to official advice during the well-planned and well-executed evacuation ^[4].

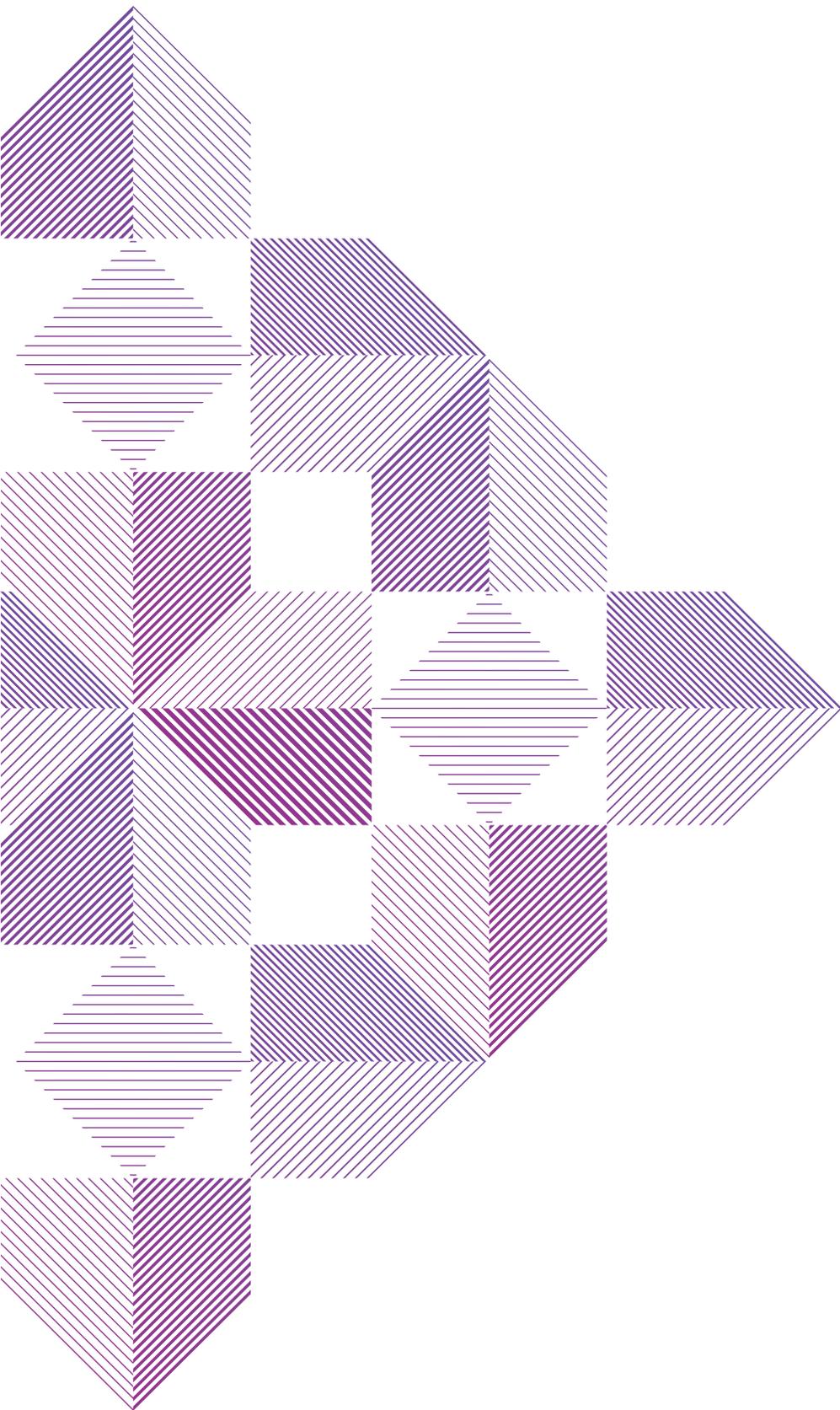
IGEM also notes the draft VICSES Community Resilience Strategy 2015-2018 (the Strategy) ^[5] released in December 2015. The Strategy contributes towards the existing planning and education work programs that are in place to meet the VICSES legislative accountabilities, recommendations from the Victorian Floods Review (2010–11) and successive reforms in the emergency management sector.

The Strategy acknowledges that one of the primary reasons that communities are not undertaking preparedness actions is because they do not believe there is a risk. Therefore an intended, and measurable, outcome of the Strategy is to shift the mindsets of those that are not currently interested in preparing for future emergencies by exposing them to a range of VICSES programs that positively contribute to a change in their long-term behaviour and practice.

On completion, the final version of the Strategy will be guide for the future design, development and delivery of VICSES planning and education programs, and the role of volunteers and staff, in building community resilience. VICSES aims to deliver this through a set of clear and succinct goals and objectives with clear time frames for achievement, as well as a key performance indicator and monitoring evaluation, reporting and improvement framework (MERI).

References

1. Country Fire Authority, "CFA Evaluation Design Guidelines", 2015.
2. Phillips, R, "Country Fire Authority and New Engagement – Evaluation," *Centre for Governance, Work and Technologies, RMIT University*, 2015.
3. Gibbs, L, Sia, K-L, Block, et al., "Cost and outcomes associated with participating in the community fireguard program: experiences from the Black Saturday bushfires in Victoria, Australia," *International journal of disaster risk reduction*, vol. 13, 2015.
4. Inspector-General for Emergency Management, "Review of the initial response to the Wye River-Jamieson Track fire," 2016.
5. Victoria State Emergency Service, "Draft VICSES Community Resilience Strategy 2015-2018," 2015.



Inspector-General for
Emergency Management

