The ANSFR Project Final Report: Recommendations for Improving Fire Risk Assessment and Management in Europe

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This report documents the recommendations of the ANSFR Project. The ANSFR Project was co-financed by the European Union under the Civil Protection Financial Instrument 2008 Call for Proposals (grant agreement number: 070401/2008/507848/SUB/A3).

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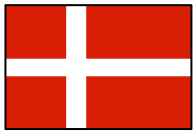
Executive Summary

This document provides guidelines and recommendations concerning good practice in the identification, assessment and management of fire risk. The recommendations have been collaboratively developed by the six partner organisations delivering the ANSFR Project. This collaborative process has taken two years and has involved four workshops, one international conference and continuous dialogue between the project partners. The recommendations have been developed primarily as a response to issues that currently exist within the four ANSFR countries; however, the recommendations will be of significant interest and relevance to all fire and rescue services in Europe. Full copies of the report are available in English, Danish, Italian and Finnish from the project team members listed on page 2.



Dette dokument indeholder retningslinjer og anbefalinger angående god praksis for identificering, vurdering og håndtering af brandrisiko. Anbefalingerne er udviklet gennem samarbejde mellem de seks partnerorganisationer, som står for ANSFR-projektet. Dette samarbejde har varet to år og har involveret fire workshopper, en international konference og løbende dialog mellem projektpartnerne. Anbefalingerne er primært udviklet som en reaktion på de komplikationer, der på nuværende tidspunkt eksisterer inden for de fire ANSFR-lande. Dog vil anbefalingerne være særdeles interessante og aktuelle for alle brand- og redningsberedskaber i Europa. Kopier af den fulde rapport kan fås på engelsk, dansk, italiensk og finsk fra projektholdmedlemmerne, som står opført på side to.

Il presente documento fornisce linee guida e raccomandazioni concernenti la buona pratica per l'identificazione, la valutazione e la gestione del rischio d'incendio. Queste indicazioni operative sono nate dalla cooperazione delle sei organizzazioni che prendono parte all'ANSFR Project. La collaborazione, durata due anni, ha dato vita a quattro workshop, ad una conferenza internazionale e ad un proficuo scambio continuo di informazioni e pareri tra i partner del progetto. Le indicazioni operative sono state redatte in primo luogo partendo dalle problematiche riscontrate da quattro stati partecipanti all'ANSFR; esse risultano comunque di rilevante interesse per i servizi di soccorso e incendio di tutta Europa. Le copie integrali dei rapporti possono essere richieste direttamente ai membri del team elencati a pagina 2 in lingua inglese, danese, italiana e finlandese.

Tässä dokumentissa tarjotaan suuntaviivoja ja suosituksia tulipaloriskin tunnistamisen, arvioinnin ja hallinnan hyvistä toimintatavoista. Suositukset kehitettiin ANSFR-projektin aikana kuuden kumppanijärjestön yhteistyönä. Yhteistyöprosessi kesti kaksi vuotta ja siihen sisältyi neljä työpajaa, yksi kansainvälinen konferenssi sekä jatkuvaa vuoropuhelua projektiin osallistuvien kesken. Suositukset kehitettiin pääasiallisesti vastaamaan sellaisiin ongelmiin, joita nykyään tavataan neljässä ANSFR-maassa. Suositukset tulevat kuitenkin olemaan huomattavan mielenkiinnon kohteena kaikille Euroopan tulipalo- ja pelastuspalveluille. Raportti on saatavana englannin-, tanskan-, italian- ja suomenkielisenä sivulla 2 listattujen projektitiimien jäseniltä.

List of Abbreviations and Acronyms

ANSFR	Accidental, Natural and Social Fire Risk Project
ACF	Arson Control Forum (UK)
ATF	Arson Task Force
CAP	Common Alerting Protocol (developed in Italy during the REACT Project)
CFS	Corpo Forestale dello Stato (Italy)
CMS	Content Management System (used for website administration and functionality)
CNVVF	Corpo Nazionale dei Vigili del Fuoco (Italy)
DEMA	Danish Emergency Management Agency
ENAP	European Network of Arson Practitioners
ESC	Emergency Services College/Pelastusopisto (Finland)
FAIP	Fire Awareness and Intervention Programme
FFFI	Finnish Forest Fire Index
FFOO	Finnish Fire Officers Organisation
FFOF	Forest Fire Observation Flights
F-HFRD	Frederikssund-Halsnæs Fire and Rescue Department (Denmark)
FRS	Fire and Rescue Service(s)
FSEC	Fire Service Emergency Cover (UK)
HFSC	Home Fire Safety Check
ICS	Incident Command Structure
IRMP	Integrated Risk Management Plan
ISP	Internal Security Programme (Finland)
K-HES	Kanta-Häme Emergency Services (Finland)
LMAPS	Local Multi-Agency Problem Solving Groups (UK)
LPG	Liquefied Petroleum Gas
MOI	Ministry of the Interior

NFG	Northumberland Fire Group
NFPA	National Fire Protection Association (United States of America)
NIA	Nucleo Investigativo Anticendi (central department within CNVVF)
NIAB	Nucleo Investigativo Antincendi Boschivi (investigative department within CFS)
NFRS	Northumberland Fire and Rescue Service (UK)
NZ	New Zealand
ODPM	Office of the Deputy Prime Minister (former government department in the UK)
REACT	Reaction to Emergency Alerts using voice and Clustering Technologies (Italy)
RFR	Reduced Fire Risk (term used in Australia for fire safer cigarettes)
RIP	Reduced Ignition Propensity (fire safer cigarettes)
RRO	Regulatory (Reform) Fire Safety Order (2005) (UK)
SOP	Standard Operating Procedures
SPEK	Finnish National Rescue Association
SWFES	South West Finland Emergency Services
TUKES	Safety Technology Authority (Finland)
VBRC	Victorian Bushfires Royal Commission (Australia)
W3C	World Wide Web Consortium
WPS	Wildfire Prediction System

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1. Introduction

The recommendations contained within this document have been collaboratively developed by the six organisations participating in the ANSFR Project. This document is the key legacy of the project and is the result of more than two years of cross-border work involving four workshops, one international conference and continuous dialogue between the project partners. The project provided a unique opportunity for sustained cross-border collaboration and networking in the fields of fire risk assessment and management. The recommendations contained within this report will be of significant interest and relevance to all fire and rescue services in Europe. The ANSFR Project team believe that the adoption of some or all of the recommendations will enable fire and rescue services to reduce fire risk within their communities and reduce the substantial human, financial and environmental cost of fires within Europe each year.

Before proceeding, it is important to clarify some of the terminology used throughout this document. During the early phases of the ANSFR Project, the project partners worked together to develop a standard glossary of terminology and definitions for use during all activities and documents. This glossary was compiled after the partners had compared and contrasted the terminology and definitions routinely used within the four ANSFR Project countries. The development and implementation of a single glossary enabled the ANSFR partners to utilise a common language and understanding.[1]

For the purpose of the ANSFR Project, the following terms and definitions were agreed for use throughout the project, and, as a consequence, have been used throughout this document:

Risk = "Risk depends on, and so is a function of, hazard, probability and consequences" This can be presented using the following formula: Risk = *f* (hazard, probability, consequences)

Fire Risk = "Fire risk is the threat, danger or possibility of a fire occurring. As with risk (above), fire risk is a function of hazard, probability and consequences".

Risk Assessment = "The process of establishing information regarding acceptable levels of risk and/or levels of risk for an individual, group, society or the environment. The process involves the identification of risk, probability assessment and assessment of expected damages."

Risk Management = "The risk management process involves the systematic application of policies, procedures and practices to identify, analyse, evaluate, manage, control, communicate and monitor risks."

[1] This exercise began during the first ANSFR Project Workshop in Northumberland and continued until the second ANSFR Project Workshop in Frederikssund-Halsnæs (further information about the ANSFR Workshops is contained on pages 16-20 of this document). The aim of the exercise was to develop standard terminology and a common language that would be compatible within each of the four project countries and which would support the partners to successfully deliver the activities and desired outcomes of the ANSFR Project. Further information about the terminology discussed and developed for use during the ANSFR Project is contained within the document titled: "Summary Report on the Terminology used in the United Kingdom, Denmark, Italy and Finland for the Assessment and Management of Fire Risk". A copy of this report can be downloaded from the following page of the ANSFR website: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=9

The ANSFR Project incorporated three key themes: accidental fire risk; environmental fire risk; and, social fire risk. Each of the themes is described in further detail on page 13. The themes were used to divide the project into three key work areas covering a number of distinct and overlapping topic areas. The three themes have been central to the overall structure of the project and are central to the structure of this document.

The remainder of this document is divided into five chapters. The first chapter provides a basic overview of the ANSFR Project. Chapter 3 then presents the recommendations of the project. This chapter is divided into four key sections, the first of which presents the general good practice recommendations of the ANSFR Project. These overarching recommendations transcend the three themes of the project and are relevant to all areas of fire risk assessment and management. The following three chapters then present recommendations specific to the three individual themes of the ANSFR Project. The report is completed with some overall conclusions regarding the ANSFR Project. Some of the useful resources that have been identified, gathered and produced during the ANSFR Project are then referenced in Appendix 1.

Chapter 2 – Overview of the ANSFR Project

The title of the ANSFR Project is: ***"Accidental, Natural and Social Fire Risk (ANSFR): The prevention and diminution of the human and financial costs of fire through effective risk assessment and management"***. The ANSFR Project was co-financed by the European Union[2] and was delivered between 1st January 2009 and 31st December 2010. The project was led and managed by Northumberland Fire and Rescue Service (UK) working in close partnership with Frederikssund-Halsnæs Fire and Rescue Service (Denmark), Corpo Nazionale dei Vigili del Fuoco – Nucleo Investigativo Antincendi (Italy), the Emergency Services College (Finland), Kanta-Häme Emergency Services (Finland) and South West Finland Emergency Services.

This chapter will provide a summary overview of the project partners, design, themes and deliverables. This overview begins with an introduction to the six project partners. This is then followed with the presentation of the project aim, objectives and projected deliverables. A detailed description of the three project themes that have been developed is then provided, which is followed by discussions concerning the four key deliverables produced during the project.

2.1 The project partners

Four organisations were involved in designing and submitting the project plan and co-financing application. The four original signatories on the grant agreement were then joined by two additional organisations from Finland, Kanta-Häme Emergency Services and South West Finland Emergency Services, who agreed to participate and contribute to the project through the Emergency Services College in Finland. A brief introduction to each of the partner organisations is now provided.

2.1.1 Northumberland Fire and Rescue Service (NFRS)[3]

NFRS provides fire and rescue cover to the County of Northumberland in northern England. The County covers an area of almost 2,000 square miles (approximately 500,000 hectares) and is home to approximately 310,000 residents. NFRS has a long term strategic aim of improving the social, economic and environmental well being of the residents of the county it serves. Central to this is "preventing fires and other emergencies happening" and in doing so "reducing death, injury and damage to property". It is NFRS's aim to share knowledge and expertise, and to learn from the successful practices and initiatives implemented by other organisations, in order to improve safety and quality of life for those living in, working in and visiting Northumberland.

The Northumberland Arson Task Force (ATF)[4], a multi-agency team established to tackle arson in the County of Northumberland, is managing the project. A guiding principle for the project is the stimulation and utilisation of effective partnership working, both at the local and international

[2] The project was co-financed through the Civil Protection Financial Instrument, which was initially managed through the European Commission Directorate-General for Environment (website: http://ec.europa.eu/environment/index_en.htm) but was later managed by the European Commission Directorate-General ECHO (Humanitarian Aid and Civil Protection) (website: http://ec.europa.eu/echo/index_en.htm).
[3] Website: http://www.northumberland.gov.uk/default.aspx?page=1304
[4] Further information about the Northumberland ATF is available at: http://www.northumberland.gov.uk/default.aspx?page=605

scale. Officers working within the Northumberland ATF have significant experience of forming and maintaining effective partnerships through their daily work in coordinating fire investigations, arson prevention initiatives and local and international research projects.

2.1.2 Frederikssund-Halsnæs Fire and Rescue Department (F-HFRD)[5]

F-HFRD provides fire and rescue services to the municipalities of Frederikssund and Halsnæs in the centre of the island of Seeland, in Denmark. Frederikssund-Halsnæs is a municipal fire and rescue service and its activities, like all fire and rescue services in Denmark are overseen at the national level by the Ministry of Defence.

2.1.3 Corpo Nazionale dei Vigili del Fuoco (CNVVF)[6]

CNVVF is the Italian Fire Fighters Corps within the Ministry of Interior of Italy. CNVVF provides fire and rescue services to the country of Italy through various central and local sub-departments and divisions. Nucleo Investigativo Antincendi (NIA) is the department within CNVVF that will be involved in delivering the ANSFR Project. NIA is a department based in Rome within the central technical core of the Italian Fire Fighters Corps. NIA is responsible for fire investigation and other related issues.

2.1.4 Emergency Services College (ESC)[7]

The ESC is situated in Kuopio in central Finland and provides education, vocational training and further training to the Finnish Rescue Services. The ESC also provides courses and consultancy in preparedness training for disturbances in normal and emergency conditions, international emergencies and civil crisis management. The Research and Development Unit at the ESC has been responsible for coordinating the ESC's contribution to the ANSFR Project. ESC has been assisted by officers from two of the Regional Rescue Services in Finland: Kanta-Häme Emergency Services (K-HES)[8] and South West Finland Emergency Services (SWFES)[9]. This partnership within the project team has been extremely advantageous in terms of providing multiple perspectives on fire risk assessment and management in Finland. The ESC has provided the project with a perspective on research and training at the national level, while K-HES and SWFES have provided practical knowledge and experience on operational fire and rescue work. K-HES and SWFES have also provided detailed input regarding the design and delivery of a number of recent projects related to fire risk assessment and management which have been delivered at regional and local levels within Finland.

2.2 Aim, objectives and deliverables of the project

The initial project plan included one key aim, four objectives and four expected deliverables. From start to finish, the overall aim of the ANSFR Project has been:

> **"To reduce the human, financial and environmental costs of fires in the partner regions and across Europe."**

In order to achieve this aim, the project team devised five key objectives and planned to produce four key deliverables. The five project objectives were to:

[5] Website: http://www.fh-brand.dk/
[6] Website: http://www.vigilfuoco.it/
[7] Website: http://www.pelastusopisto.fi/
[8] Website: http://www.pelastuslaitos.fi/portal/fi/
[9] Website: http://www.turku.fi/Public/default.aspx?nodeid=8600

1. Undertake a comparison of tools and techniques in fire risk assessment and management currently used by the project partners;
2. Develop these tools and techniques in fire risk assessment for implementation within all European states;
3. Identify and share useful tools, techniques and procedures in fire risk assessment and management from across Europe;
4. Create an innovative and accessible solution for the storage of reference and training material and to facilitate European Union-wide exchange of good practice;
5. Draw upon, disseminate and implement good practice in fire risk assessment and management.

The four key project deliverables were to:

1. Deliver four workshops, one to be hosted by each partner organisation;
2. Organise and deliver a conference for practitioners from across Europe;
3. Create an online knowledge and training portal;
4. Develop and circulate guidelines/recommendations concerning good practice in fire risk assessment and management.

The ANSFR Project team have delivered the project within the confines of the initial plan so that all four deliverables have been delivered and all five learning objectives have been met.

2.3 The key themes of the ANSFR Project

The ANSFR Project team collaboratively developed key themes to use to structure and organise project activities. The initial outline of the themes was submitted with the co-financing application; however, the project team decided during their first meeting[10] that amendments were required in order to improve the delivery of the project. Consequently, the team began with the basic description formulated for the application and then completed an exercise to generate ideas about some of the key factors influencing fire risk. Through this exercise, the project team developed three lists, each related to different key factors associated with fire risk. The first list contained potential causes/contributory factors for fires (see Appendix 3). The second contained a list of potential location types for fires (see Appendix 4) and the final list contained categories of particular social groups at higher risk of experiencing or causing fires (see Appendix 5). The project team then compared and collated the key terminology and definitions used within the four countries for activities related to fire risk assessment and management[11]. The team then analysed and appraised the three lists and the partners' existing terminology. This process then informed the revisions made to the initial project themes.

After completing the aforementioned process, the project team mutually decided upon three key themes for the project and their respective definitions. The three themes are now presented in Figure 1 (overleaf). The final definitions approved by all of the partners are then presented overleaf.

[10] The first ANSFR workshop held in Northumberland in May 2009. Further information about the project workshops is contained on pages 16-20 of this document.

[11] Further information about the terminology discussed and developed for use during the ANSFR Project is contained within the document titled: "Summary Report on the Terminology used in the United Kingdom, Denmark, Italy and Finland for the Assessment and Management of Fire Risk". A copy of this report can be downloaded from the following page of the ANSFR website:
http://www.fire-risk.eu/resources/documents/document_display.htm?pk=9

Figure 1 – Three Themes of the ANSFR Project

- **Accidental Fire Risk** – "The threat, danger or possibility of a fire being started as a result of an accident and/or as a result of negligence and/or as a result of lack of knowledge and awareness of common potential causes of fire."
- **Environmental Fire Risk** - "The threat, danger or possibility of a fire being started within a rural[12] or rural-urban interface environment[13] as a result of accidental/deliberate human activities or as a result of natural phenomena, such as lightning strikes, volcanic eruptions etc."
- **Social Fire Risk -** "The threat, danger or possibility of a fire being started as a result of "arson" and/or as a result of factors associated with, or factors contributing to, the "high risk lifestyles" of an individual or social group."

It is important to provide some additional comments here regarding the thematic definitions. Firstly, the theme of "accidental fire risk" has been divided into five sub-categories based on different location types/building ownership types. Different locations/building types represent different contextual challenges for FRS with regards to accidental fire risk assessment and management. For instance, achieving more efficient and effective fire risk management of

[12] The term "rural" is defined by The ANSFR Project as "Areas of a country with relatively low population densities. Rural environments are characterized by small human settlements (farms, villages etc.), and have few, if any, medium or large settlements (towns etc.)."
[13] The term "rural-urban interface environment" is defined by The ANSFR Project as: "The boundary area between a rural and urban environment."

domestic properties requires different techniques and processes to achieving the same situation within industrial premises. The different locations/building types selected pose different risks due to the nature of their use and occupation.

Secondly, the term “natural fire risk” was initially incorporated into the project grant application and was thus incorporated into the project acronym. All of the project partners decided during the Northumberland Workshop (see page 17 for further details) that the term “natural fire risk” implied a theme centred on fires caused by natural phenomena, such as lightning and volcanic eruptions. However, as a number of the partners highlighted, human behaviour is much more likely to lead to fires within rural or rural-urban interface environments than natural phenomena[14]. This was particularly the case within the four ANSFR countries. It was decided that the second key theme of the ANSFR Project would more generally address fire risk within rural and rural-urban interface environments, and that it would include fire risk created both by natural phenomena and human activities/causes. The partners favoured the more holistic term of “environmental fire risk” and mutually decided to discontinue using the term “natural fire risk”. The partners decided to retain the original project acronym of “ANSFR”, despite the change in thematic terminology, in order to preserve the identity that had been created and maintained over the first few months of the project.

Thirdly, and finally, the theme of “social fire risk” was divided into two key sub-categories: “arson” and “high risk lifestyles”. It was agreed that the terms "arson" and "deliberate fire" would be used interchangeably throughout the ANSFR Project but that a distinction between the two terms would be used as appropriate. It was mutually agreed that:

- If referring specifically to a criminal case (i.e. a case being investigated/which has been investigated by the Police or other investigative authority, irrespective of whether a perpetrator(s) was caught and convicted), the term "arson" would be used. In simple terms, for the purposes of the ANSFR Project, an "arson" fire is: "any fire set illegally (i.e. when setting a fire contravenes one or more local or national laws)".
- The term "deliberate fire" would be used when referring to any fire where: "the person(s) who lit the fire showed intent to damage or destroy life and/or property and/or the environment by fire and/or by the effects of fire".

The ANSFR Project Team also decided that high risk lifestyles should be divided into two different sub-categories:

- The first type of high risk lifestyle was defined as: "Those individuals/social groups who 'choose' to engage in high risk lifestyles through regular participation in one or more activities that increase their risk of death, injury or ill health above the normal level of risk experienced by the wider population."
- The second type of high risk lifestyle was defined as: "Individuals/social groups who have not chosen to engage in a high risk lifestyle but who live a high risk lifestyle as a result of personal circumstances which may or may not be beyond their control. Individuals included within this category may be disadvantaged economically, socially, culturally, physically and/or mentally".

The project team did acknowledge that an individual’s lifestyle may not be the sole product of either choice or circumstance and that both elements may in varying degrees contribute to an

[14] As an example, in Finland in 2008 the following causes were allocated to wildfires: 5% were caused by natural phenomena; 68% were caused by human activities; 4% were caused by “other”; 2% were machine failure; 1% were caused by animals; and, the causes of 20% were unknown. The statistics do, however, fluctuate when specific natural landscapes are considered. For instance, in Finland in 2008, 22% of wildfires within peat bogs were caused by natural phenomena and 24% were caused by human activities.

individual's "high risk lifestyle". The team did, however, still decide that the division of "high risk lifestyles" into two sub-categories was useful and appropriate for the structure and delivery of the project activities.

2.4 The ANSFR Project Workshops

A key deliverable of the project has been the organisation and delivery of four workshop sessions. The project plan dictated that each of the signatory partners (NFRS, F-HFD, CNVVF-NIA and ESC[15]) would host a two day workshop within their country/locality[16]. Each of the workshops was then assigned a different project theme, meaning that all key areas related to fire risk assessment and management could be discussed face-to-face by the partners at some point during the project.

The workshop hosts were given responsibility for designing, planning and delivering their event, with NFRS coordinating and providing advice for all four events[17]. This system ensured that the workshops were designed so as to achieve the key objectives and outcomes of the project, but it also allowed each partner organisation to design their workshop so as to reflect their expertise in particular areas related to fire risk assessment and management.

From the outset, the project partners recognised the importance of selecting the most appropriate techniques for delivering different sessions within each of the workshops. Each partner organisation delivered at least one presentation during each workshop. This ensured that each partner was able to provide an overview of the situation within their locality/country with regards to each of the project themes. These presentations served as a useful starting point from which to begin further discussions and debates. In addition to the presentation sessions, all of the workshops included field visits, which enabled workshop participants to gain first-hand experience of the landscapes (both human and physical) within which all of the ANSFR partners assess and manage fire risk. The final key delivery method was the integration of small group work sessions. During these highly interactive sessions[18], participants were divided into smaller groups containing representatives from each of the project countries. The groups were then given questions and/or problems to answer/solve and issues to discuss.

A brief summary of each workshop is now provided on the following pages. Detailed handbooks documenting all material generated from each of the workshops are currently being produced and copies will be available from the project team members listed on page 2 of this report.

[15] Kanta-Häme Emergency Services (K-HES) and South West Finland Emergency Services (SWFES) joined the ANSFR Project as participants with ESC. K-HES and SWFES assisted ESC in designing and delivering the Kuopio Workshop.

[16] Two full work days were allocated to each workshop, with an additional day either side allocated to travel to/from the event for participants attending from various countries. Three of the four workshops included field visits, presentations or other informal sessions on the day of arrival, which meant that these workshops maximised contact time between the project partners to extend the workshops into three day events.

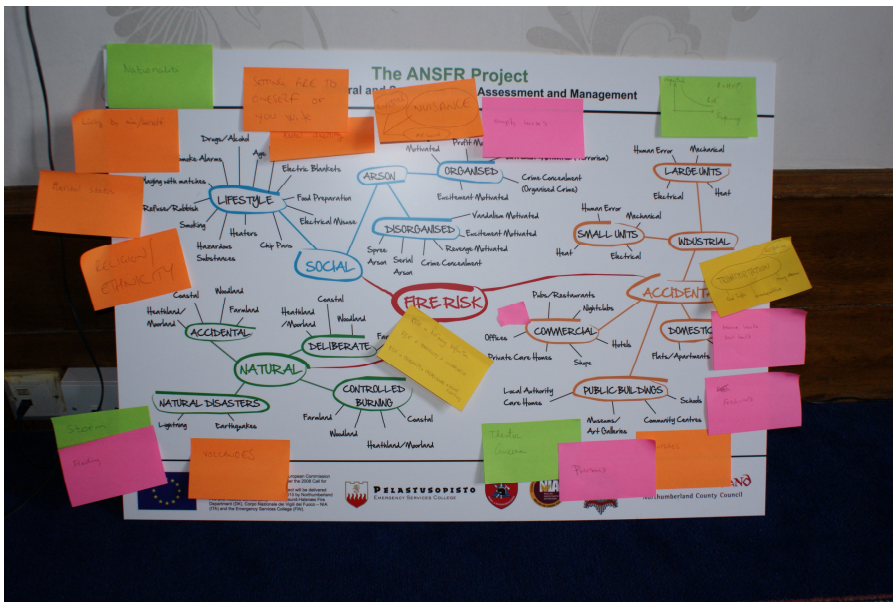
[17] The workshops were also designed to include sessions dedicated to project administration and management activities.

[18] Through the post-event evaluation process completed for each workshop, the ANSFR Partners identified that the small group work sessions were notably the most productive and collaborative sessions of the workshops.

2.4.1 Workshop 1 – Northumberland (UK), May 2009

The Northumberland workshop was the first of four workshops to be designed and delivered during the ANSFR Project. The event focused on developing an understanding of the project partners' current challenges and priorities regarding fire risk assessment and management. After discussing these challenges, partners then described and discussed the approaches and initiatives that they currently implement to reduce and prevent fire risk.[19]

Figure 2 – Team Building and the Generation of during Small Group Work Sessions held at the Northumberland Workshop, May 2009



Photographs courtesy of Matthew Thomas, Northumberland Fire and Rescue Service

[19] Further information about the Northumberland Workshop is available at: http://www.fire-risk.eu/project/workshops/northumberland2009.htm .

2.4.2 Workshop 2 – Frederikssund-Halsnæs (Denmark), September 2009

The Frederikssund-Halsnæs Workshop was hosted by Frederikssund-Halsnæs Fire and Rescue Department and focused on the assessment and management of environmental fire risk. Specialists in the prevention and suppression of wildfires and forest fires from the project countries, Greece and Australia attended and contributed to the event. The event produced some extremely important findings which revealed some areas for possible improvement in the partners' current wildfire suppression and prevention activities. Some of the partners have now pledged to work together in the near future to deliver and receive training in wildfire risk prediction systems and suppression strategies. These future projects will help fire fighters and incident commanders better interpret and predict the risk posed by developing wildfires.[20]

Figure 3 – Demonstration of Fire Fogging Technology on a Field Visit to the Tisvilde Forest during the Frederikssund-Halsnæs Workshop, October 2009

Photographs courtesy of Ole Lindblad, Frederikssund-Halsnæs Fire and Rescue Department

[20] Further information is available at: http://www.fire-risk.eu/project/workshops/frederikssund2009.htm

2.4.3 Workshop 3 – Roma (Italy), December 2009

The Roma Workshop was hosted by Corpo Nazionale dei Vigili del Fuoco - Nucleo Investigativo Antincendi (CNVVF-NIA) and focused on assessment and management of accidental fire risk. A number of departments within CNVVF and from across Italy contributed and participated in the workshop to share the benefit of their expertise and experience. Some of the specific topics that were discussed and debated during this workshop included: fire safety in the home; fire safety in industrial premises; fire inspections; reducing fire risk in cultural/heritage buildings; reducing risk of fire from trains carrying volatile/flammable substances; fire safety testing and engineering; fire inspections and risk-based inspection schedules.[21]

Figure 4 – LPG Gas Transfer Demonstration by Officers of Corpo Nazionale dei Vigili del Fuoco during the Roma Workshop, December 2009

Figure 5 – The ANSFR Project Team during a field visit to Scuola di Formazione Operativa, Montelibretti, during the Roma Workshop, December 2009

Photographs courtesy of Heikki Harri, Kanta-Häme Emergency Services and Corpo Nazionale dei Vigili del Fuoco

[21] Further information is available at: http://www.fire-risk.eu/project/workshops/roma2009.htm

2.4.4 Workshop 4 – Kuopio (Finland), September 2010

The Kuopio workshop was the final workshop to be delivered during the ANSFR Project. The event was hosted by the Emergency Services College in September 2010 and focused on the assessment and management of social fire risk. The topics that were discussed at this event included: arson prevention and investigation; reducing risk of fire for individuals living "high risk lifestyles", risk assessment for care centres, fire risk among children/young people and the elderly, techniques for using incident data to support and inform fire prevention strategies and initiatives, risk assessment and management for public sporting events.[22] The workshop also benefited from an extremely informative presentation by an officer from the Ministry of the Interior of Finland on the Internal Security Programme (ISP), which was adopted in 2008.[23]

Figure 6 – Practical Demonstration of Automatic Fire Sensor Systems within the Fire Theatre of the Emergency Services College, during the Kuopio Workshop, September 2010

Photographs courtesy of Heikki Harri, Kanta-Häme Emergency Services

[22] Further information is available at: http://www.fire-risk.eu/project/workshops/kuopio2010.htm

[23] The key vision of the ISP is to make Finland the safest country in Europe by 2015. This vision will be achieved by implementing a number of measures, including the reduction of fire deaths and the installation of automatic fire suppression systems within all nursing and care home facilities in the country.

2.5 The Fire Risk in Europe Conference 2010 – 21st and 22nd June 2010

Northumberland Fire and Rescue Service (United Kingdom) had the pleasure of hosting the extremely successful Fire Risk in Europe Conference 2010 in partnership with all of the ANSFR Project partners. The event was held at the Marriott Hotel Gosforth Park near Newcastle upon Tyne (UK) and provided a European platform for sharing best practice, knowledge and experience in the identification, assessment and management of fire risk.

132 delegates from 18 countries attended the event. Speakers and poster presenters discussed good practice related to all three ANSFR themes and attended from all four corners of Europe and from as far away as New Zealand. Some of the specific topics that were presented and discussed included: fire safety in the home; arson investigation and prevention; fire safety engineering; statistical data systems for recording fire incidents and fire prevention; juvenile fire setting; education about fire and safety; and wildfire prevention. Copies of all conference presentations, poster presentations and workshop materials are now available on the ANSFR Project website[24].

Figure 7 – The Conference Suite of the Fire Risk in Europe Conference 2010

2.6 The ANSFR Project Website

Perhaps one of the key legacies of the ANSFR Project is the ANSFR website. The website will exist beyond the life of the project and will contain all of the resources that have been gathered and produced during the project. The website is an important tool that will allow the ANSFR Project team to share the other outputs of the project with practitioners across Europe. The website went live on schedule on 1st April 2010. The site hosting agreement and domain name have been purchased so that the site will remain live until at least 31st March 2013.[25] In addition,

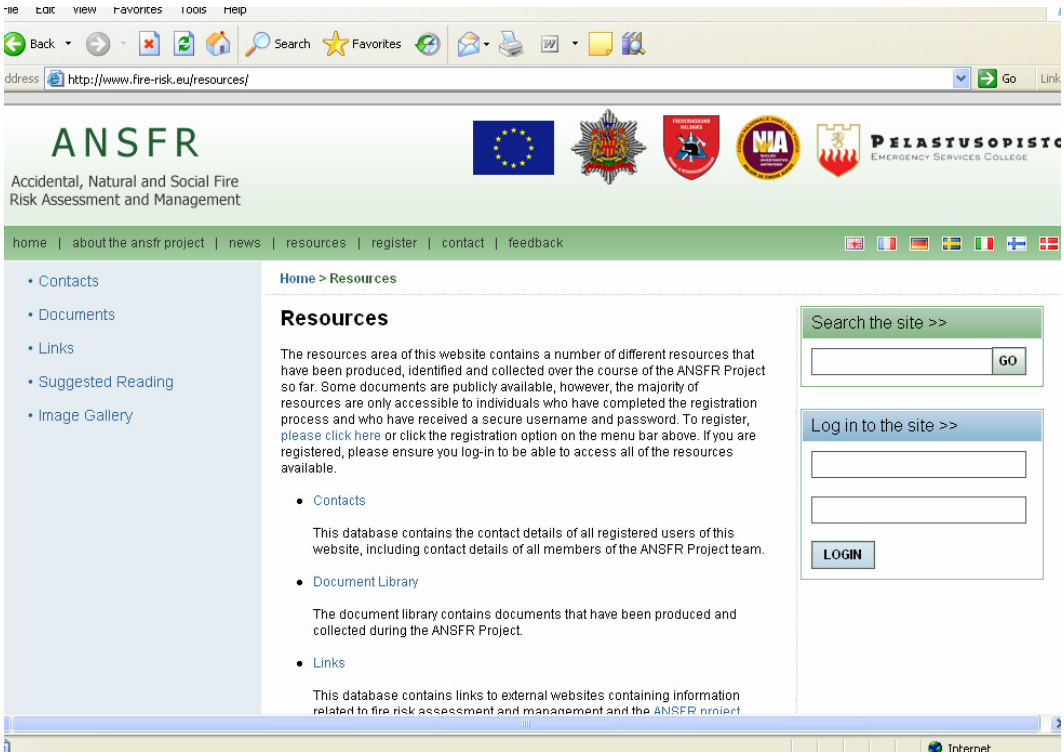
[24] Materials produced for the Fire Risk in Europe Conference 2010 are available to registered users of the ANSFR project website at: http://www.fire-risk.eu/project/conference2010/ . To become a registered user, individuals are required to complete and submit a registration form at http://www.fire-risk.eu/register.htm , after having read and confirmed the Website Registration Terms and Conditions at http://www.fire-risk.eu/registrationdisclaimer.htm .

[25] In April 2012, the ANSFR partners will review whether the ANSFR website should be supported for future years of operation. If the website is deemed to be an important resource that has received a relatively high level of traffic and support from practitioners across Europe, then the partners will seek funding for and/or agree a new hosting agreement.

the ANSFR Partners have agreed to dedicate resources to maintaining the website until at least the duration of the hosting agreement.

Figure 8 – The Home Page of the ANSFR Website[26]

Figure 9 – The Resources Library within the ANSFR Website[27]



[26] Screen image from 17th November 2010.
[27] Screen image from 17th November 2010.

Four key principles have been adopted throughout the website design process:

- Functionality
- Ease of use and navigation
- Multi-lingual nature of the website audience
- Security

The following three sub-sections will now provide further details concerning the way that these principles were incorporated into the website design. The final sub-section of this section presents a summary report of traffic to the website to date.

2.6.1 Functionality

The website has been designed to provide a number of key functions (see Table 1, overleaf). Of principal importance was the integration of a number of resource libraries to store good practice information and a contact database to facilitate networking among registered users of the website.

The functions of the website are administered through the bespoke Content Management System (CMS) developed by the website development and hosting sub-contractor. The CMS has allowed the ANSFR team to easily create a powerful, accessible, and highly usable website. The CMS empowers the ANSFR team to keep information up to date, control the timing and authorisation of publication and facilitate collaboration with and between practitioners and administrators. Within a very short space of time, new users can find their way around the website and new administrators can learn to manage website content. Importantly, the CMS facilitates a self-service environment for the ANSFR Project Team whereby administrators do not need prior knowledge or experience of website development or administration.[28]

The sub-contractor's CMS is a modular system with many ready-made components that can be rapidly implemented. This allowed the team to build the website very quickly. It will also allow the team to add different functions/modules in the future, should additional functionality be required. The CMS puts the ANSFR team in full control of website content. The ANSFR team decide exactly what appears on the website and who has access to that information.

The website's core information is held centrally within the CMS to avoid duplication and ensure consistency. This means that any changes made to core information are applied to all places throughout the site where that information has been used. For instance, a document may be included on multiple pages throughout the website. If that document needs to be changed, for instance it needs to be replaced with a new and updated version, the change need only be made once within the central library. Once the change is made in the central library, it is applied across the website. The system is the same for all documents, images, website links and contact details.

All content within the CMS can have its publication controlled according to the following:

- Publication date: the date on which the information will first be available on the website. This is useful for entering embargoed information prior to a publication time.
- Review date: the date on which an individual will be prompted to review the information.
- Archive date: the date on which publication of the information on the site will be withdrawn.

This system allows flexibility as well as the opportunity for administrators to implement an automatic monitoring system whereby information can be kept timely and relevant.

[28] As part of the hosting agreement, the ANSFR Project team can request support from the website developers. This support is only required on rare occasions when there are technical issues with the website or when the administrators want to add new functions to the CMS. Assistance from the developers is not required to complete routine daily administration of the website.

Table 1 – Functionality of the ANSFR Website[29]

Function	Description	User groups accessible to
News items	Central library of all news items created within the website. Website administrators are currently creating news items to inform users to provide information about the ANSFR Project, forthcoming conferences on related topics, and new documents and websites that have been uploaded onto the website. In addition, administrators can select particular news items to be included as feature items on the Home page of the website.	Public/Registered users
Contact library	Central library containing contact details of all registered users of the website.	Registered users
Document library	Central library for storing documents in multiple formats (Microsoft Office applications etc.)	Registered users
Website links library	Central library containing all website links uploaded to the website.	Registered users
Image library	Central library containing all images used within the website.	Registered users
Polls	This function allows administrators to create and publish polls which ask registered users or members of the public to respond to multiple choice questions. This type of function provides a quick and efficient technique for gathering feedback about the website, but it also allows the administrators to create topic specific polls to ask gather information about current issues related to risk assessment and management. The Home page of the website includes one of the polls (which is currently a poll asking for feedback about the website) and includes a link to the library of all active polls.	Public
Mailing list	This function allows website administrators to compose and circulate a mass mailing to all or some of the registered users on the website. This function has been used to notify registered users of new pages that have been added onto the website. The function is particularly useful for stimulating interest in the website and for encouraging registered users to continue to return to the website.	Administrators

2.6.2 Ease of use and navigation

It is a common that any website user wants to be able to access what they need as quickly and efficiently as possible. The ANSFR website has been designed with this in mind. All pages of the website include the basic navigation bar across the top of the page and all pages (excluding

[29] Administrators have access to all functions, both to view and to administer/edit. The mailing list function is solely available to administrators and no other user groups.

the Home Page) include an additional navigation bar on the left-hand side of the page. These navigation bars are easily identifiable from other content. In addition, the standard page template used throughout the site means that the navigation bars appear in exactly the same position on each page. The site also has a free text search facility which allows individuals to type in specific search words. The final important navigational feature is the classification tree that has been applied to the website. Each document, news item, website page, and website link is classified according to at least one of three criteria[30]: country; theme[31]; topic. When an individual accesses any page then links to other pages, news items, documents and website links with similar classifications are included at the bottom of the page. This function allows an individual to quickly identify all information of relevance to particular countries, themes and/or topics.

The ANSFR website has been constructed to be both usable and accessible[32]. The design of the CMS allows the ANSFR team to focus on content, with the assurance that whatever they create will be both accessible and usable. The content editor interface includes accessibility tools and warnings which will automatically fix some errors.

2.6.3 Multi-lingual nature of the website audience

A key element of the website design was to integrate an automatic translation facility so that all of the website pages and navigation bars could be instantly translated. The project team decided to provide a translation facility for all of the languages represented within the ANSFR project countries (English, Danish, Italian, Finnish and Swedish) and the two other key languages of the European Union, French and German. In future, if the need were to be identified, the ANSFR Project team could provide a translation facility for additional languages. Again, the website design allows a high degree of flexibility to meet changes in requirements.

2.6.4 Security

The final key principle of the website design has been to provide a certain level of security for information/resources and for networking among fire risk assessment and management practitioners. In addition to this need for security, some material produced during the ANSFR Project must be made publicly available and the site must facilitate networking between practitioners in multiple countries who do not necessarily know one another. In order to achieve this balance between public availability, networking between practitioners and security, the website has been divided into publicly viewable pages and pages that are only viewable to registered users of the website.

In order to obtain access to the registered users' area of the website, individuals must complete and submit an application form at http://www.fire-risk.eu/register.htm . All applicants must complete the fields within the form[33], a number of which are mandatory[34]. The application form

[30] Where possible, every website page, document, news item and website link is classified with at least one sub-category from each category (i.e. each one is assigned at least one country, one theme and one topic). By classifying all content on the website as thoroughly as possible, administrators improve users' ability to quickly find the information they need.

[31] This refers to one of the ANSFR Project themes: accidental fire risk; environmental fire risk; and, social fire risk. Further information about the ANSFR Project themes is presented on pages 13-16 of this document.

[32] The CMS has been designed to comply with the World Wide Web Consortium (W3C) Web Accessibility Initiative's 'AAA' standard. AAA-level compliant pages meet the needs of every group of website users, including those with disabilities. Further information about accessibility ratings and guidelines can be obtained from the following website: http://www.w3.org/WAI/WCAG1AA-Conformance

[33] Once an individual has completed and successfully submitted the registration form, a copy of the form is automatically sent by email to the website administrators who can then check the details and credibility of the application. If the administrators believe that the application is genuine (i.e. that it is from an individual working for an FRS, or closely related organisation), then they can press a link within the email to provide authorisation. Once authorisation has been provided by one of the administrators, an automatically generated email is sent to the individual who submitted the form. If administrators decide that further information is required prior to authorisation,

also requires applicants to check a box to state that they agree to abide by the website's Terms and Conditions of Registration and Use.[35] It is stipulated within these terms and conditions that all individuals submitting application forms consent for their contact information to be viewable to all other registered users of the website. This system is based on a principle of fairness and two-way exchange (essentially give and take), whereby any individual who would like to access resources contained on the website also approves for other registered users to contact them to request information.

If an individual is granted access to the registered users' area but is later found to have broken any of the terms and conditions of use, the website administrators can instantly block their access to the registered users' area of the website. Such a system ensures that contact details of registered users are not available to the public and are not used for sales or marketing purposes. It also ensures that documents and other resources are only available to a limited audience, all of whom have been vetted prior to being allowed access to the registered users' area of the website. This is important because some of the resources uploaded onto the website may contain sensitive information, for instance those presenting good practice in arson prevention or fire investigation.

2.6.5 Website traffic

The website went live on the 1st April 2010 and, since this time, the website administrators have been monitoring traffic to the website using an analytical tool. The tool that is being used allows the administrators to analyse and monitor a significant amount of data, ranging from generic data on the number of users of the website to more specific information concerning individual pages of the website. This powerful analytical tool allows the administrators to identify which website pages are being used and by whom and to analyse usage of both public and private pages. This analysis allows the administrators to gather a lot of useful data to inform future maintenance and modification of the website.

The website administrators are currently monitoring the following website traffic data:

- Site usage
  - No. of site visits
  - No. of unique visitors
  - No. of page views
  - Average no. of pages per visit
  - Average time users spend on site
  - % new visits

- Visitor profile
  - Browser language
  - Browser profile
  - Geolocation visualisation (allowing administrators to identify continent, country and town/city of each user)

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they will contact the applicant directly and outline what information is required. Upon submission of this additional information, the administrators will then decide whether or not to grant access to the website. If administrators decide to reject an application, the administrators will send an email to the applicant to outline the reasons behind the decision.

[34] If a mandatory field is not completed within a particular application form, the applicant will be instructed on screen that the form has not been submitted successfully and that they need to complete the missing fields before re-submitting. This process ensures that the website administrators can collect basic information from all applicants prior to providing access authorisation.

[35] The ANSFR website terms and conditions of use are displayed on the following page: http://www.fire-risk.eu/registrationdisclaimer.htm

- Traffic sources[36]
- Content overview[37]

In summary, at the time of writing the website administrators are very pleased with the statistics on website usage. Between 1st April and 19th October 2010, the website had received a high volume of visits (see Table 2, below). In addition, statistics show that users were looking at multiple pages per visit and were staying on the site for at least five minutes before moving on. The challenge for many websites is to maintain interest over time. Administrators need to create a website which provides something new to users every time they visit. The ANSFR Project team now aim to maintain this level of website usage into the near future and, where possible, stimulate higher levels of usage by regularly uploading news items, creating new pages and sending periodic mass mailings to all registered users to attract them back to the website to view new resources.

Table 2 – Summary Statistics on Traffic to the ANSFR Website - 1st April to 31st October 2010

Description of Statistic	Number (unless stated)
Site visits	1,775
Unique visitors	1,031
Page views	10,778
Average page views[38]	6.07
Average time[39]	5 minutes 38 seconds

2.7 The recommendations of the ANSFR Project

The final key deliverable of the ANSFR Project is the production of this document of recommendations. This document is the final result of two years of collaborative working. Direct and indirect input for the document has been provided by approximately 75 specialists working in various fields related to fire risk assessment and management. While the final document has been prepared by the ANSFR Project team, it incorporates the collective knowledge and experience of all of the participants in the project, including those working both within and outside of the project partner organisations. Please note that further details concerning this document have already been presented within earlier sections of this report.

[36] The term "traffic sources" refers to the way in which website users actually come to the site. The tool allows administrators to ascertain if users of the website have typed the link into their browser to access the site directly, or if users have been referred from other websites, such as search engines etc.
[37] Content overview analysis allows the administrators to monitor the following statistics concerning each individual page of the website: no. of page views, no. of unique page views, and average time spent on page. There are a number of practical uses of this information. One example is that administrators know how long on average it takes users to complete the registration form. If the form is taking too long to complete, the administrators can look to make the registration form more user-friendly. At the time of writing, it was taking users two minutes on average to complete the registration form. The administrators feel that this is a very reasonable time commitment.
[38] Per visit.
[39] Spent on site per visit.

Chapter 3 – Recommendations of the ANSFR Project

This chapter presents the 26 recommendations of the ANSFR Project. These recommendations have been collaboratively formulated by a team of more than 30 individuals from the four project countries. While the focus of the recommendations is undoubtedly upon the four ANSFR countries and their experiences, all of the recommendations will have a strong resonance with FRS across Europe. Indeed, a number of individuals working outside of the ANSFR countries[40] have also provided input and advice which has both directly and indirectly influenced the content of this chapter.

This chapter is divided into four sections of recommendations, each of which is arranged in tabular format. Each table includes three columns. The first column includes the number of the recommendation (related to the specific theme). The second column provides a description of the recommendation. The third column presents information related to case studies of good practice which provide support and/or context for each recommendation. Where possible, the ANSFR Project team have included references and/or links to website pages for further information concerning all good practice examples that have been cited.

Some of the recommendations presented throughout this chapter suggest the need for further research. The project team have kept these recommendations to a minimum, however, where such a recommendation has been made, the project team have tired to be as specific as possible. In addition, case studies of good practice have not been provided for these recommendations as further research is needed in order to identify good practice.

For ease of reference, the tables included within each of the subsequent four sections are colour coded according to the colours assigned to each project theme. The colour code adopted is as follows:

- **Red = General Recommendations**
- **Orange = Accidental Fire Risk Recommendations**
- **Sea Green = Environmental Fire Risk Recommendations**
- **Blue = Social Fire Risk Recommendations**

As the list above indicates, the first section of this chapter presents the general recommendations of the project. These recommendations transcend the three project themes and concern generic good practice in fire risk assessment and management. These overarching recommendations should be considered as mutually supportive of the thematic specific recommendations that following within the subsequent three sections.

[40] Some input was provided by countries outside of Europe.

3.1 General recommendations concerning good practice in fire risk assessment and management

No.	Recommendation	Case Study Examples of Good Practice
1	**Fire and Rescue Services need high quality data systems and recording practices** Excellent quality data is a key prerequisite for effective fire risk assessment and management. FRS should evaluate their data sources and their data reporting and recording practices on a regular basis. Data sources must allow FRS's to be able to ascertain a lot of detail about each fire incident, including: • What has happened? • When it happened? • Where did it happen? • Who was affected? Who was the victim? What are the social groups at most risk of this type of fire? • How/Why did this fire happen? If data sources cannot provide sufficient information about each incident then improvements need to be made to data systems and/or recording practices. It is only through thorough critical evaluation that gaps in information can be identified. It is also important that data collected is regularly analysed to identify linkages and associations between individual incidents and to identify other broader trends. It is suggested that it is advantageous for FRS's to have a dedicated analyst, or team of analysts, that is tasked with regularly analysing and interrogating recorded incident data. This type of system ensures that	National Incident Recording Systems: • **Denmark** - ODIN is the national incident recording and fire inspection system used by the FRS in Denmark.[41] • **Finland** – PRONTO Incident Data System is a powerful national integrated database system used by all of the Regional Rescue Services in Finland.[42] • **UK** – the new National Incident Recording System (IRS) in England, Wales and Northern Ireland has recently been implemented with new National Quality Assurance Standards. FRS must quality approve 100% of incidents so that all data entered into the system is accurate and correct. The IRS system allows fire crews to precisely identify the location of every incident within an accuracy level of between 2 and 5 metres. The dataset produced from the system is very comprehensive and more accurate than older systems that were in use at the local level.[43] Other data recording systems: • **Italy** – CNVVF - NIA currently gathers data about major events to monitor fire-setting. NIA collects

[41] Further information about ODIN is available at: http://www.odin.dk/

[42] Further information about the Finnish PRONTO System is available on the ANSFR website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=37 , at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=37 , or within the Kuopio Workshop Handbook, a copy of which is available at: http://www.fire-risk.eu/project/workshops/kuopio2010.htm . Information is also available in Finnish at: http://www.pelastusopisto.fi/pelastus/bulletin.nsf/HeadlinesPublicFin/E4E0DA397C50E789C225757C0040246C .

[43] Further information about the UK IRS is available at: http://www.communities.gov.uk/fire/researchandstatistics/firestatistics/newincidentrecording/

No.	Recommendation	Case Study Examples of Good Practice
	Continued from previous page.	*Continued from previous page.*

1	continuity is maintained and that a holistic view of all incident data is maintained.	this data from Fire Brigades across Italy. The central data processing system in Rome maintains the database. The database is only currently available to CNVVF and is not yet shared with other organisations. However, statistical data is periodically published.
		• **Italy –** A large national database exists on fire-setting, civil disturbances and terrorism at public events. The National Observatory for Public Events involves the Ministry of Interior, Civil Protection Department, State Police, Carabinieri, CNVVF, National Football League, Football teams, and the transport system (railway). The National Observatory is responsible for[44]:
		  • managing statistical data on accidents occurring during public events;
		  • planning preventive acts in case of "at risk events";
		  • identify "at risk" events;
		  • adopt appropriate fire prevention regulations at public events;
		  • draw international protocols in case of complex "at risk" events.
		• **Northumberland (UK)** – Fire Service Emergency Cover (FSEC) modelling software is provided by central government and uses national census data and local incident data to categorise geographical areas into different risk levels. MOSAIC lifestyle data is used to identify individuals of specific lifestyle types that are more

[44] Further information about the National Observatory for Public Events is available in Italian from http://www.osservatoriosport.interno.it/ .

No.	Recommendation	Case Study Examples of Good Practice
1	*Continued from previous page.*	*Continued from previous page.* at risk from fire, so that tailored approaches can be used to engage with these people to improve safety messages and safety in the home.
2	**Integrated data systems are very beneficial for more coordinated fire risk assessment and management** The ANSFR project team also recommend that, as far as possible, FRS data recording systems should be integrated. When FRS use multiple unconnected data systems for multiple areas of work related to risk assessment and management, a holistic overview is more difficult to achieve. The adoption of multiple unconnected systems also reduces the likelihood that FRS can identify linkages between different data sources, for instance, when a particular location is recorded within different data systems. The more integrated that data systems are, the more effective and efficient an FRS can be in fire risk assessment and management, and indeed in other areas of work.	• **Finland -** The Finnish national PRONTO System is an example of a highly integrated system which combines data on incidents, fire inspections, fire investigations, risk mapping and fire prevention activities. A lot of the data needed for risk assessment and management is contained within one database.[45]

[45] Further information about the Finnish PRONTO System is available on the ANSFR website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=37 , at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=37 , or within the Kuopio Workshop Handbook, a copy of which is available at: http://www.fire-risk.eu/project/workshops/kuopio2010.htm . Information is also available in Finnish at: http://www.pelastusopisto.fi/pelastus/bulletin.nsf/HeadlinesPublicFin/E4E0DA397C50E789C225757C0040246C .

No.	Recommendation	Case Study Examples of Good Practice
3	**Fire and Rescue Services need to be able to understand the true impact and cost of fire** It is crucial that FRS and other relevant bodies are able to understand the true impact and cost of fire. This must underpin the whole process of fire risk assessment and management. FRS should be able to calculate, assess and understand all of the following costs/impacts: • Economic cost of fire • Social cost of fire (health etc.) • Environmental cost of fire Tried and tested formulas and data systems are required in order to make sure that these calculations are meaningful and realistic. The completion of such work can have two key benefits. Firstly, FRS can better assess and manage fire risk and more effectively prioritise resources according to cost/impact of different types of fires. Secondly, the calculations can be used to provide evidence for governing bodies (national governments, the European Union etc.) of the importance of investment in prevention activity, the potential economic savings that can be made and the potential improvements that can be achieved for quality of life and the environment. Some countries in Europe already have systems and formulas in place in order to calculate impacts and costs of fires, particularly for structural fires. However, environmental costs of fire and/or economic costs of larger outdoor fires/wildfires, in particular, are not comprehensively calculated in many European countries. It is apparent that further research is needed in order to develop current practices for calculating the financial, social and environmental costs of fires. Completion of such work would assist FRS to better assess and manage fire risk and to reduce the impacts and costs of fire to society and the environment.	• **Finland** - Incident reports that are completed within the Finnish PRONTO system requires fire crews /fire investigators to record information to facilitate calculations regarding financial costs and impacts on health of each fire attended. The system does not currently provide the opportunity to comprehensively calculate impacts/costs of fires on the environment.[46] • **UK** - Economic cost of fire estimates are currently produced in the UK by Communities and Local Government (CLG).[47] • **New Zealand** - A recent study commissioned by the New Zealand Fire and Rescue Service has attempted to calculate the economic cost of wildfires.[48]

[46] See footnote above for links to further information about the PRONTO System.
[47] Copies of these reports are available at: http://www.communities.gov.uk/fire/researchandstatistics/firestatistics/economiccost/
[48] A copy of the report is available at: http://www.fire.org.nz/Research/Publishsed-Reports/Documents/FINAL%20-%20BERL%20(2009)%20The%20economic%20cost%20of%20wildfires.pdf

No.	Recommendation	Case Study Examples of Good Practice
4	**Identification of the cause of all fires through fire investigation** FRS should aim to identify the cause of all fire incidents by conducting fire investigations. The level of investigation should be proportionate to the size, nature and complexity of the particular incident. The identification of the cause of fire is vital if FRS are to understand the what, when, where, who, and how/why of each individual incident and each type of incident. The key principle is that investigations must directly inform intervention and prevention work. If you do not know the cause of a fire then you cannot develop appropriate interventions to prevent and reduce similar fires in the future. It is apparent that not all FRS have legal responsibility for fire investigation. In some countries, legal responsibility sits entirely with the Police. However, even if an FRS is not legally required to complete fire investigations, the FRS needs to learn from each fire that occurs and that means that they need to learn from the investigation process and outcomes. FRS need to receive the results of all fire investigations in a timely fashion in order to ascertain the cause of each fire, the spread of each fire, the impact of fire fighting actions etc. This information should then be fed into various work areas within the FRS, including: • **Fire safety legislation –** information can be shared with departments that might be responsible for enforcing fire safety legislation. • **Risk management and prevention** – allowing FRS to identify priorities for risk management activities and to inform the design of suitable fire prevention initiatives and strategies. • **Health and safety and training –** allowing FRS to identify any potential health and safety issues or concerns and potential areas for improving training and policy and procedures. FRS should also share information gathered from fire investigations with	• **Denmark –** Fire investigation is the responsibility of the police and FRS are not closely/centrally involved in the fire investigation process or the outcomes of many investigations. • **Finland** – fire investigations are completed by FRS, the Police and insurance companies. There is nationwide education/training for fire investigators which is provided by the ESC and the Police. Training is provided at different levels, according to an individual's role in the investigation process e.g., fire fighters need training on scene preservation, whereas fire officers need more specialised investigation training and training on working with partners from other organisations e.g. the Police. • **Italy** – fire investigation training is provided for fire fighters and fire officers, in order to develop the expertise and skills of personnel who are already investigative officers. Qualified Fire Investigation Officers from NIA and external professionals (such as judges, prosecutors, Arma dei Carabinieri[49]) provide this additional specific training lasting two weeks. The fire safety engineering approach is also used to simulate fires for fire investigation purposes. These tests are completed by laboratories/departments within DCPST. • **UK** – The Fire and Rescue Services Act 2004 gives FRS powers to investigate fires. The

[49] The Arma dei Carabinieri is the national gendarmerie of Italy. It is a branch of the armed forces, and has responsibility for policing both civilian and military populations within the Italian territory. Further information about the Arma dei Carabinieri is available (in Italian, English, French, German and Spanish) at the following website: http://www.carabinieri.it/Internet/Multilingua/EN/default.htm .

No.	Recommendation	Case Study Examples of Good Practice
4	*Continued from previous page.* external organisations. A number of external organisations will have a vested interest in the results of some or all fire investigations completed by the FRS (either as the sole investigating organisation or as a partnership of investigators). Some organisations that FRS should consider sharing fire investigation information with include: • **Police** - especially for criminal investigations. • **Local authorities** - especially with regards to any actions required to prevent further fires, or regarding environmental or social issues identified). • **Insurance investigators** – sharing information may help to identify possible motives concerning fraud or other criminal activities. • **Manufacturing industry** – sharing information about faulty products identified during investigations. This can enable manufacturers to remove products from sale, issues recalls and rectify any faults prior to any further fires occurring. • **Fire victims** – so that the victim can learn about what caused the fire and how to prevent such a fire occurring in future. • **Press and media** – to issue general public safety announcements to inform the public of how they can prevent similar fires in future. This may be particularly useful if a series of similar fires have occurred within a locality. At a basic level, it is recommended that all operational fire fighters and fire officers receive some degree of training in fire scene management and the preservation of evidence at a fire scene. It is important that fire crews are aware of the need to protect evidence, where possible, so that their actions do not destroy valuable evidence and hinder future investigations. It may also be desirable for FRS to provide further education to all fire fighters and fire officers	*Continued from previous page.* implication is that FRS use these powers to complete this work, although it is down to FRS to locally decide how they organise fire investigation activities and training. Many FRS in the UK deliver fire scene awareness/ management to all fire fighters/officers. Most FRS also provide more advanced fire investigation training for some fire officers and civilians. Those receiving more advanced training work within a full-time fire investigation unit or who complete fire investigation as part of their duties. Those receiving more advanced training often receive training on how to complete partnership fire investigations with multiple organisations involved. Both awareness training delivered to all fire fighters/officers and more advanced fire investigation training is either provided internally by the FRS, by the national Fire Service College[50] or by other private organisations.

[50] Website of the Fire Service College in the UK: http://www.fireservicecollege.ac.uk/

4	*Continued from previous page.* in order to provide them with a deeper understanding and appreciation of the investigation process. This may help all fire fighters to realise the importance of their role in the investigation process, which is especially important as most often they will be the first emergency responders to arrive at a fire incident. FRS need to continually review and evaluate all of the fire investigation training that they deliver or obtain from third parties to ensure that materials are up-to-date and that the training is achieving its aims and objectives. Fire investigation is a scientific field in which developments are continually being made. It is important that FRS fire investigation officers in particular are aware of new developments and that they are actively engaged in a continual professional development plan.	*Continued from previous page.*

No.	Recommendation	Case Study Examples of Good Practice

5	**The importance of establishing and maintaining partnerships with external organisations**
	It is recommended that FRS develop and maintain effective partnerships with other local organisations, such as the Police, Local Authority/Municipality etc. Few organisations are able to collect all of the necessary information required to comprehensively assess and manage fire risk or other risks to public safety. By agreeing to share information (through information sharing protocols), organisations can mutually support one another to collect all of the data that they require to fulfil their duties. For FRS, sharing information with the Police and other organisations will allow them to build up a much more comprehensive profile/picture of the local area and its population than they could achieve working in isolation. This will allow FRS to better understand the people they serve and the risks they need to manage. This stands true for fire risks as well as other risks that fall within FRS remits.
	
	It is also recommended that FRS develop and maintain collaborative partnerships at an international level. Within the ANSFR Project countries there is excellent collaboration at a national level, however, collaboration across international borders is not as well developed or is not sustained over time. International partnerships between FRS can be beneficial at two levels: firstly, for collaborative responses to major fires and other emergencies; and,
		Examples of successful local and national partnerships:
		• **Denmark** - There are a number of good existing partnerships[51]:
		  • There is a good supportive partnership between municipal FRS and the Danish Emergency Management Agency (DEMA).
		  • In Frederikssund-Halsnæs a good partnership has been developed between F-HFRD and the Danish Forest and Nature Agency[52] with regards to the development of detailed fire plans[53] for local forests.[54]
		  • However, cooperation and partnerships could be improved and developed for fire prevention initiatives.
		• **Finland** - There are a number of good existing partnerships:
		  • There are strong partnerships between FRS and the police[55], and between FRS, the police and insurance organizations, with regards to the investigation of fires.[56]

[51] However, cooperation and partnerships in Denmark between FRS and other stakeholder organisations could be improved and developed for fire prevention work.

[52] Further information about the Danish Forest and Nature Agency can be found at the following website: http://www.skovognatur.dk/ (in Danish), http://www.skovognatur.dk/International/English/ (in English) and http://www.skovognatur.dk/International/Deutsch/ (in German).

[53] Information about the collaborative development of a local forest plan in Frederikssund-Halsnæs (Denmark) is available on page 115 of the Frederikssund-Halsnæs Workshop Handbook, which documents the second workshop of the ANSFR Project. A copy of the handbook is publicly available at the following website: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=30 .

[54] Such partnerships may exist in other areas of Denmark, however, the creation and development of this type of local-level partnership could be very beneficial in forested/nature areas across the country.

[55] A report produced by the Emergency Services College describes good partnership working in Finland between the FRS and police during fire investigations. The report also provides some recommendations for improvements to fire investigation in Finland. The report is only available in Finnish, although the abstract is available in Finnish, Swedish and English and all tables contained within the report are translated into both Finnish and English. A copy of the report is available at: http://info.pelastusopisto.fi/kirjasto/Sarja_B/B2_2009.pdf

No.	Recommendation	Case Study Examples of Good Practice
5	*Continued from previous page.* secondly, for work aimed at sharing good practice on how to improve quality of life for local communities and reduce fire risk (i.e. fire prevention work). FRS are sometimes guilty of working within national silos and are not always open or actively engaged with FRS working in other countries. While there are differences between countries, many countries and localities experience the same problems concerning fire risk (as exemplified by the ANSFR Partner countries). If these risks have existed for some time, and FRS have made no breakthroughs by sharing information and experiences with colleagues within their own country, then it stands to reason that FRS should be prepared to collaborate with colleagues on other countries. Indeed, this collaboration could begin at an earlier stage and FRS could routinely view FRS in other countries as routine collaborators. International partnerships have also been shown to be beneficial for improving education and training.	*Continued from previous page.* • There are good partnerships between stakeholder organisations in respect of fire prevention and fire and accident safety education and guidance. • **Italy** - There are a number of good existing partnerships[57]: • there are good partnerships between public agencies with regards to coordination of civil protection during earthquakes (for instance, in the earthquake in L'Aquila on 6th April 2009[58]). • Multi-agency coordination of forest fire interventions is currently being developed at the regional scale in Italy through the REACT (Reaction to Emergency Alerts using voice and Clustering Technologies) EU Project. Firefighters, the Corpo Forestale dello Stato (CFS) and Regional Civil Protection Department are partners in the project. The application of the pilot project in Calabria allows the sharing of information between the organizations employed in forest fire fighting by the Common Alerting Protocol (CAP).[59] • **UK** - there is evidence of a lot of successful partnership working between the FRS and other agencies. In Northumberland and North East

[56] One recent fire investigation highlights the excellent partnership working that has developed in Finland with regards to the investigation of fires and accidents. The fire occurred on 9th October 2009 in a detached house in Naantali in South West Finland. The fire led to the tragic deaths of five young people. The fire was investigated by the Accident Investigation Board of Finland. Further information about the fire investigation is available in English, Finnish and Swedish at the following website: http://www.onnettomuustutkinta.fi/en/Etusivu/Tutkintaselostukset/Muutonnettomuudet/Muutonnettomuudet2009/1274105550861

[57] However, cooperation and partnerships in Italy between FRS and other stakeholder organisations could be improved and developed for fire prevention work.

No.	Recommendation	Case Study Examples of Good Practice
5	*Continued from previous page.*	*Continued from previous page.* England, a small number of good examples include: • A strong partnership between FRS in the North East of England Region. This partnership is bolstered through formal information sharing protocols. • A strong partnership between NFRS and Northumbria Police[60], which is structured and maintained through a formal information sharing protocol.[61] • Wildfire Groups, such as the Northumberland Fire Group (NFG)[62] Examples of successful international partnerships: There are numerous examples of good practice in cooperation and collaboration between FRS and related organisations working in multiple organisations. Here are examples of a small number of projects that have been identified by the ANSFR Project team: • **The ANSFR Project** – ANSFR represents a good case study of a collaborative European project that has facilitated and stimulated cooperation and collaboration between FRS

[58] Further information about the strong partnerships and close collaboration between agencies in response to the L'Aquila earthquake is available in Italian at: http://www.vigilfuoco.it/notiziario/notizia.asp?codnews=8013 and at http://terremotoabruzzo09.itc.cnr.it/

[59] Further information about the REACT Project and the multi-agency coordination of wildfires in Calabria is available at: http://www.react-ist.net/wordpress/

[60] Northumbria Police is the Police Service responsible for policing in the Counties of Northumberland and Tyne and Wear.

[61] The NFRS-Northumbria Police Information Sharing Protocol allows NFRS and Northumbria Police to share and request information from one another. This information can be used by NFRS to assist and support a variety of work, including fire investigations, arson prevention and community safety activities.

[62] Further information about wildfire groups in the UK, including details of the Northumberland Fire Group, are contained on pages 59 and 60 of this document.

No.	Recommendation	Case Study Examples of Good Practice
5	*Continued from previous page.*	*Continued from previous page.* working in multiple countries within and outside of Europe.[63] • **The European Network of Arson Practitioners (ENAP)** – The ENAP information sharing network was created in 2007 during a European Union co-financed project on arson prevention and investigation[64]. In October 2010, the network had more than 550 members from 37 countries. Coordinators of the network receive and circulate requests for information on fire-related issues, and then process responses and send to the requester. To date, more than 100 requests have been processed. The coordinators are also involved in other activities to promote networking and the exchange of information and expertise across national borders.[65] • **ESC, Finland –** ESC has been involved in a number of successful international projects, the most recent of which are listed on the ESC website.[66]

[63] Further information about The ANSFR Project has been provided in Chapter 2 of this report. Alternatively, further information about The ANSFR Project can also be obtained from the ANSFR website at: www.fire-risk.eu .
[64] The E-API Project (European Exchange of Best Practice in Arson Prevention and Investigation). Further information about this project is available from the final project report, a copy of which is available at http://www.northumberland.gov.uk/default.aspx?page=1311 or http://www.fire-risk.eu/resources/documents/document_display.htm?pk=76 or from the ANSFR Project Manager (contact details on page 2 of this document).
[65] Further information about ENAP is available from the ANSFR Project Manager (contact details on page 2 of this document).
[66] See the following website page: http://www.pelastusopisto.fi/pelastus/home.nsf/pages/4CB20FB28521E776C22571D500423F27?opendocument

No.	Recommendation	Case Study Examples of Good Practice
6	**Performance Management** It is recommended that FRS use performance management to help improve their service delivery. There are 4 main areas of performance management that should be considered: • Service Planning – Short to medium term planning at both an organisational level and station level helps achieve a structured means of improvement within the FRS. At an organisational level this is far more strategic and should include what the services priorities are for the future. These priorities should be reflected at a service delivery level within station level plans and include the detail of the work needed to meet the organisation objectives/priorities. • Performance Indicators – All objectives at both levels should be measurable so that progress against objectives can be monitored and reviewed. This can be a measure of outputs or outcomes dependant on the objective and level within the FRS. • Targets – Should be SMART (Specific, Measurable, Achievable, Realistic, Time bound) and provide a goal to work towards. Targets should take into account historical trends where possible and promote continuous improvement. • Reporting/Review – It is good practice to review performance against targets throughout the year to ensure any poor performance is addressed as soon as possible. It is also worth noting that good performance should be highlighted so that best practice may be shared.	• **All ANSFR Partner Organisations** – All of the organisations involved in the ANSFR Project adopt a similar system of performance management with Organisation Level Service Plans and Station/Department Level Service Plans. Further information about performance management within any of the ANSFR partner organisations can be obtained by contacting the project contacts listed on page 2 of this document. • **UK** - Summary information about the performance management approach adopted by NFRS can be found within the Northumberland Workshop Handbook. This publicly available handbook documents the first ANSFR Project Workshop[67].

[67] A copy of the Northumberland Workshop Handbook can be downloaded from http://www.fire-risk.eu/ANSFR/NorthumberlandWorkshopHandbookFinal.pdf . Performance management by NFRS is discussed in Section 5.3, which begins on page 58.

No.	Recommendation	Case Study Examples of Good Practice
6	*Continued from previous page.* It is important to note that performance management is highly dependent upon the quality of data recorded by the FRS. If data quality is poor, an FRS will not be able to effectively manage and evaluate performance. Consequently, Recommendations 1 and 6 of this section are closely interlinked and interdependent.	*Continued from previous page.*
7	**The need for thorough evaluation and evidence-based practice** Evaluation of initiatives and strategies related to risk assessment and management is of critical importance. In many countries, FRS have become entrenched in doing things a particular way, however, there is often little or no evidence collected – or no thorough evaluation completed – in order to support the ongoing adoption of particular approaches, initiatives or strategies. FRS need to collect reliable data and evidence to provide support for the work that they do. If a particular initiative is not working then FRS need to be able to identify that it is not working and why it is not working. If thorough evaluation work is not completed then FRS will not be able to change current practices to improve how they assess and manage fire risk. FRS must also view evaluation as an ongoing review process that is integrated into an overarching risk assessment and management process. Evaluation should not be considered a one-time event for a particular initiative or strategy. FRS should establish a timeline for periodic reviews and evaluations in order to ensure that strategies and initiatives are regularly evaluated and that evidence collected consistently shows that they are successfully achieving their aims and objectives and that they do so according to best value for time and money. While FRS must thoroughly evaluate the risk assessment and management work that they do, the public should also be consulted to evaluate what the FRS does (see Recommendation 9, on page 43 for further information).	• **New Zealand -** The University of Auckland was commissioned by the New Zealand Fire and Rescue Service to produce a process evaluation and an outcome evaluation of the New Zealand (NZ) Fire Awareness Intervention Programme (FAIP). FRS in Europe that currently deliver FAIPs, or similar programmes, should complete a similarly comprehensive process and outcome evaluations. Evidence of such work is currently very limited, despite the fact that many FRS in the UK and other European countries are engaged in this type of work.[68]

[68] A presentation on this report was delivered at the Fire Risk in Europe Conference 2010. A copy of this presentation is available at: http://www.fire-risk.eu/project/conference2010/conferencepresentationsdayone.htm. Copies of the evaluation reports are also available at: http://www.fire.org.nz/Fire-Safety/FAIP/Pages/FAIPStatistics.aspx

No.	Recommendation	Case Study Examples of Good Practice

8	**The need for Fire and Rescue Services to consult with the public they serve**
	It is recommended that FRS should consult with the public they service to find out:
	• what the public perceives the FRS to currently do and deliver;
	• what the public wants the FRS to do and deliver;
	By consulting with the public, FRS can help to breakdown barriers and develop and maintain a greater level of trust. This can be only be achieved, however, if FRS are prepared to take into account that the public may want something from the FRS that the FRS may not have thought was necessary or that the FRS may not be able to deliver. Importantly, if an FRS cannot deliver something that the public wants, the FRS must explain why this cannot be delivered. If an explanation for non-delivery is not provided, then the public will lose faith in the FRS and the consultation process.
		• **UK** –FRS are involved in a number of periodic consultations. It is a statutory requirement for all FRS in the UK to compile an Integrated Risk Management Plan (IRMP). The IRMP is reviewed on an annual basis and is re-written every 3 years.[69]
		• **Northumberland** - NFRS regularly consults the public in Northumberland to find out how it is doing. In addition to the IRMP document, NFRS requests that members of the public complete a Customer Satisfaction Survey for all:
		  • Home Fire Safety Checks (HFSCs)
		  • Fire Safety Visits completed,
		  • Incidents attended.[70]
		• **North East Fire and Rescue Services' Social Marketing Toolkit** – NFRS has recently been involved in an innovative project which has been completed by a partnership of the North East FRS in England.

[69] Further information about NFRS's IRMP is available at: http://www.northumberland.gov.uk/default.aspx?page=1307 . Further general information about IRMP is available from the Communities and Local Government website at: www.communities.gov.uk .
[70] For further information about NFRS's Customer Satisfaction Surveys, please us the contact details at: http://www.northumberland.gov.uk/default.aspx?page=1304 .

No.	Recommendation	Case Study Examples of Good Practice
9	**Fire and Rescue Services need to utilise a range of specialist skills** In order to be able to assess and manage fire risk effectively, it is recommended that FRS's utilise individuals with a range of different skills and backgrounds. It is unlikely that a single individual will have all of the skills and knowledge required to effectively assess and manage fire risk. Consequently, FRS's should consider utilising a number of specialists. Some specialties that may be particularly advantageous for this type of work include but are not limited to: data analysts, risk specialists, education specialists, psychology/psychologists, performance and quality assurance specialists and project managers.	• **Frederikssund-Halsnæs (Denmark)** – Specialist development and training of staff is provided in data analysis. Internal training is also provided in order to develop individuals' teaching skills etc. • **Finland** – at the ESC and Regional Rescue Services internal training is provided to staff to develop specialist skills required for individual roles. The ESC also recruits teaching specialists and research specialists. • **Italy** - Specialist training is provided to members of CNVVF in fire engineering and major industrial incidents. There is a three strand approach to these training courses: understanding the phenomena; conducting tests, collecting data and validating engineering models; and, networking with groups at fire departments and universities across the World. CNVVF have also created databases containing information about real incidents to allow officers to read about individual cases and to expand their knowledge of specialist subject areas. • **UK** – FRS in the UK currently employ a range of specialists to fulfil particular roles related to risk assessment and management. As an example, NFRS currently employs specialists with backgrounds in research, psychology, teaching, science, statistics, geography, sociology and social studies, etc.

3.2 Recommendations for assessing and managing accidental fire risk

No.	Recommendation	Case Study Examples of Good Practice
1	**The provision of fire safety education to the general public** It is recommended that FRS or other appropriate organisations at a local or national level should deliver education, guidance and enlightenment to all members of the public with regards to the prevention and reduction of fire risk. A comprehensive programme should be developed so that all members of society within every European country receive fire risk education over their entire life course (i.e. from childhood through to adulthood and old age). At present, the ANSFR countries and many other countries in Europe deliver education programmes to children and young people. Many of these are delivered or supported by FRS and form a key element of their fire prevention strategies. However, considerably less education is delivered to adult members of society, with education often ceasing after formal years of schooling. Many adults will have received some education in fire safety a number of years ago, but it is doubtful that many can now recall all of the information presented to	Education to the general public: • **Denmark** – Targeted campaigns on smoke detectors, self-extinguishing cigarettes, being safe at Christmas time[71], etc[72]. seem to have been effective in Denmark. At the local level, some FRS participate in National Children Fire Safety Week which is promoted by DEMA. During this week, FRS deliver fire safety education to school children aged 6-7 years old. In Frederikssund-Halsnæs, this education is delivered by FRS personnel within the local fire stations.[73] The aim is to directly communicate seven fire safety messages to the children who attend[74] and to ask the children to pass on other key safety messages to their parents/guardians.[75] • **Finland** – Nationwide guidance and enlightenment on fire and accident prevention (for all members of society from children to the elderly) is provided by the Finnish National Rescue Association (SPEK[76]) and the Ministry of Interior of

[71] During December/January each year there tends to be an increase in the number of electrical devices used within people's homes (i.e. Christmas lights) and an increase in the use of candles. Both of these annual trends combined with other seasonal specific factors contribute to an increase in fire and accident risk in Denmark, Finland and the UK in December/January each year.

[72] The following websites present examples of national fire safety campaigns within Denmark: http://www.brandkampagner.dk/, http://www.brandforebyggelse.dk/, and http://www.brs.dk/fagomraade/tilsyn/sta/forebyggelseogkampagner.htm . In addition, many FRS in Denmark provide good advice regarding fire safety and fire prevention on their own websites.

[73] Further information about National Children Fire Safety Week, and the activities delivered during this week in Frederikssund-Halsnæs, is contained available within the Frederikssund-Halsnæs Workshop Handbook (on page 119), which is available on the ANSFR website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=30

[74] The seven core messages are: 1. Children should save themselves first in the case of a fire; 2. Children should call an adult if they see a fire; 3. Children must be confident that adults will help, not punish, if they alert them of a fire;4. Children should know wow to call the emergency services (using the 1-1-2 number); 5. Children must be careful with fire and not try to play the hero; 6. Children should know that fires should only be started (i.e. for camping, cooking etc.) when adults are supervising; 7. Children should know that it is acceptable and normal to be fascinated by flames, but that the use of fire must only be undertaken with adults.

[75] For instance, one of the messages children are asked to pass on to their parents concerns smoke alarms. Children are requested to ask their parents: "do we have a smoke alarm?". If they have a smoke alarm, the children are requested to inform their parents that it should be regularly tested. If they do not have a smoke alarm then children are requested to tell their parents that they should install a smoke alarm as soon as possible as it can help save lives in the case of fire.

[76] SPEK provides national guidance (in Finnish and Swedish) concerning fire and accident safety and civic enlightenment at: www.spek.fi .

No.	Recommendation	Case Study Examples of Good Practice
1	*Continued from previous page.* them and it is likely that some will recall inaccurate information about staying safe from fire. Also, the fact that many adult members of society received education a number of years ago will mean that fire safety may not be at the forefront of their mind and consequently may not be a high priority. More regular education sustained over the life course can help to elevate fire risk reduction to a higher priority among the public and can help to improve individuals' recall of accurate information. In addition to providing education to all members of society, FRS or other appropriate organisations should identify particular risk groups from their data sources for more targeted educational intervention.	*Continued from previous page.* Finland (MOI).[77] Regional Rescue Services are responsible for providing local guidance, including delivering education on local restrictions, education to children, young people, adults and the elderly. Examples of specific successful campaigns include: • Nou HÄTÄ! (No problem!) Campaign[78] • Campaign to prevent home accidents[79] • 112Day[80] • Tulipsäykki (Fire Stop) Project[81] • **Italy** - Fire safety education materials are produced to educate all members of the public[82], but in particular for young people (in schools)[83] and the elderly[84]. CNVVF personnel are also given specialist education and training.

[77] The Finnish MOI provides national guidance on open fires and prevention of peat land fires at: www.pelastustoimi.fi/aihe/neuvontapalvelu.
[78] Nou-HÄTÄ is an annual campaign which has been running since 1996. The goal of the campaign is to reach young people aged 13-15 years old (7th to 9th grade) and raise their awareness of safety issues. Every year about 30,000-40,000 young people participate in the campaign. The campaign can be delivered by the schools in co-operation with the local fire service/fire stations or it can be delivered independently by schools. The campaign is delivered by the Ministry of Interior, all 22 Regional Rescue Services in Finland, the Ministry of Education and Culture and SPEK. The following websites provide information about the campaign in Finnish and Swedish: http://www.nouhata.fi/ and http://www.spek.fi/Suomeksi/Ajankohtaista/Kampanjat/Nou_Hata!.iw3 .
[79] This campaign day is held annually on Friday 13th, wherever that day falls. Each year the campaign focuses upon a different type of accident. The key goal is to raise awareness and educate society of how they can avoid accidents during their every day lives. The campaign is delivered by a large number of partners, some of which include: the Regional Rescue Services, Ministry of Transport and Communications, Social and Health Services, insurance companies and their nation wide organisation the Federation for Finnish Financial Services, the Finnish Military, SPEK, TUKES Safety Technology Authority, National Institute for Health and Welfare, Central Organisation for Traffic Safety in Finland, Ministry of the Interior, Ministry of Social Affairs and Health, Local and Regional Government of Finland, Federation of Accident Insurance Institutions, Finnish Centre for Health Promotion, The Centre of Occupational Safety, and the Finnish Institute of Occupational Health. The following website includes information about the annual campaign in Finnish and Swedish: http://www.tapaturmapaiva.fi/fi/ .
[80] 112 Day is a national theme day in Finland which emphasizes the importance of safety in people's everyday lives. 112 Day is celebrated across the country on the 11th of February every year. 112 Day has been held in Finland since 1997. The Finnish 112 Day forms part of the Pan-European 112 Day, when citizens all over Europe are enlightened about the 112 emergency number and its appropriate use. Further information on 112 Day is available in Finnish, Swedish and English from the following website: http://www.112-paiva.fi/en/home.html .
[81] Further information about the Tulipysäkki (Fire Stop) project in Finland is presented on page 66 of this document.
[82] An example of education material for fire safety in the home is available (in Italian) at: http://www.vigilfuoco.it/speciali/sicurezza/sicurezza_insieme/incasa/sicurezza.pdf

No.	Recommendation	Case Study Examples of Good Practice

1	*Continued from previous page.*
	
	There is no "one size fits all" answer to delivering a successful education programme. Different members of society will require different information and will respond better to different forms of communication (see Recommendation 1 on page 64). Risk groups for targeted education intervention can be identified using two key criteria:
	
	• Socio-economic characteristics.
	• Location/context of higher risk activities (i.e. particular workplaces)
	
	Within the ANSFR project countries, particular risk groups that need to be targeted with specialist education include:
	
	• The very young (children, young people) and the elderly.
	• Individuals working in commercial, industrial, public and heritage/cultural buildings and those working within the transportation industry.
		Continued from previous page.
		
		• **UK** – There are national awareness campaigns linked to national priorities for the UK FRS. These campaigns are often coordinated through CLG. One of the most high profile campaigns in recent years has been Firekills[85].
		• **UK** - FRS are statutorily responsible for delivering localised prevention activities which they must tailor to local priorities. This responsibility comes from the Fire and Rescue Services Act (2004). NFRS uses a number of techniques and strategies within Northumberland to deliver fire risk prevention education to children, young people, the elderly and those classified as high risk:
		  • NFRS Schools Education Strategy[86]
		  • Home Fire Safety Checks (HFSCs)[87]
		  • Social marketing - a new and innovative approach to fire prevention education and achieving positive behaviour among high risk social groups.[88]
		
		Education to workers:
		• **Denmark** – Employers are responsible for ensuring that staff receive education and training in how to use fire extinguishers.

[83] Examples of fire safety education material for children and young people are available (in Italian) on a number of websites, including: http://www.vigilfuoco.it/servizi/bambini/lezioni/sicurezza/, http://www.vigilfuoco.it/speciali/sicurezza/sicurezza_insieme/scuola_sicura/, and http://www.vigilfuoco.it/servizi/info/feste_sicure/giocattoli.asp

[84] Examples of fire safety education material for the elderly are available (in Italian) on a number of websites, including: http://www.vigilfuoco.it/servizi/info/anziani/ and http://www.vigilfuoco.it/servizi/info/disabili/pdf/soccorso_disabili.pdf

[85] Further information about Firekills can be obtained from the following website: http://firekills.direct.gov.uk/index.html

[86] Further information about NFRS's Schools Education Strategy is available within the Roma Workshop handbook, which is available on the ANSFR website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=75.

No.	Recommendation	Case Study Examples of Good Practice
1	*Continued from previous page.*	*Continued from previous page.* • **Finland** – Fire risk awareness and reduction training is delivered to workers in the workplace. This training is tailored according to the needs of particular workers and workplaces. The training is referred to as Blue Card training. The education is based on a safety card developed by the Finnish Fire Officers Organisation (FFOO). SPEK is also involved, especially to educate course leaders. You must have a qualified leader to hold these courses. • **Italy** –Fire risk awareness and reduction training is delivered to workers in the workplace. Private companies and CNVVF provide this training.. The training is referred to as Blue Card training. The type and level of training required is dependent upon the needs and risks of particular workers and workplaces.[89] • **UK** –The Regulatory (Reform) Fire Safety Order (RRO) (2005) comprehensively states the fire safety information and training that employers must communicate to all employees. This legislation covers all premises, irrespective of size, except for domestic properties.[90]

[87] Further information about HFSCs completed by NFRS is available within the Roma Workshop Handbook, which is available on the ANSFR website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=75. Further information is also available from the following website page: http://www.northumberland.gov.uk/default.aspx?page=606

[88] Further information about the Social Marketing Toolkit for the North East FRS can be found on page 64 of this document.

[89] At present, the data collected is not sufficient to demonstrate effectiveness. Recommendation 1 on page 29 is of significant importance here.

[90] There are some other exemptions not covered by the RRO, including: mines, quarries, offshore installations, aircraft, ships and locomotives. Further information about the RRO 2005 can be found at the following website**:** http://www.communities.gov.uk/fire/firesafety/firesafetylaw/ .

No.	Recommendation	Case Study Examples of Good Practice
2	**Training for fire and rescue personnel in the design and delivery of education material** Within a number of countries (the ANSFR countries included) fire fighters deliver education material to members of the public. Sometimes and in some places this material is developed by education specialists. At other times and in other places the material is developed by fire fighters or fire officers. While education material delivered by fire fighters/officers who have first-hand experience of the dangers of fire is very valuable, the delivery of education material is a specialist task which requires specialist training. In connection with the previous recommendation and Recommendation 9 on page 43 of this document, it is recommended that FRS personnel (or personnel of other responsible organisations) need to be given specialist training in how to teach/educate members of society. Those delivering education/training to specific social groups need to be equipped with the appropriate knowledge and skills for how to effectively communicate fire safety messages to that group. As suggested in Recommendation 9 on page 43 of this document, FRS could organise specialist training for existing personnel or recruit specialists to perform education duties. It is reiterated here that the ANSFR partners believe that fire fighters and fire officers can be very influential in terms of changing perceptions of fire and behaviour, and that they recommend that this continues. However, the ANSFR Partners do recommend that this first-hand experience needs to be underpinned and supplemented with training and experience in delivering education material.	• **UK** – the techniques and methods used to communicate education messages to members of the public should be carefully considered by FRS. Evidence from social marketing work shows that different groups within society will respond differently to different methods of communication.[91] FRS need to take this into account. Specially trained personnel will be better equipped to tailor education material, and the way that material is actually delivered, to the specific audience. Such an approach will improve the communication of the information and the likelihood that the information will be retained and/or influence positive behaviour change among the audience.

[91] Further information about social marketing can be found on page 64 of this report.

No.	Recommendation	Case Study Examples of Good Practice
3	**Risk assessments of domestic properties** For all of the ANSFR Partners, and perhaps for most if not all countries in Europe, domestic fires account for the greatest number of fires of any building type each year. In addition to this, domestic fires also cause more deaths and injuries than any other type of fire. It is recommended that FRS can reduce the numbers of fires in domestic properties, and reduce associated deaths and injuries, by completing fire inspections/Home Fire Safety Checks (HFSCs) within people's homes to provide appropriate advice and install smoke detectors/alarms or other appropriate safety equipment[92]. Experience from Finland and the UK shows that the majority of members of the public who receive a HFSC/fire inspection are positive about the experience and are very grateful for the fire and accident safety advice provided. Many members of the public are not aware of the factors that can increase and reduce fire risk in the home. A HFSC/inspection of the home by a trained professional allows FRS to give a tailor-made risk assessment which outlines exactly where occupiers can reduce fire risk and improve safety. This more targeted advice is likely to be more successful in changing behaviour than more generic advice.	• **Finland** – All domestic properties in Finland must be inspected every 10 years. Domestic properties are included within risk-based inspection schedules followed by the Regional Rescue Services. [93] A standard checklist is now being used to assess risk within the homes of elderly people in Finland (statistically a group at high risk of fire and accidents). This checklist has been collaboratively developed by Regional Rescue Services and Health Workers and addresses both fire and general accident safety within the home.[94] • **UK –** HFSCs are currently completed across the UK. While the specific content of HFSCs may vary across the country, must involve FRS personnel visiting people in their homes to risk assess their property, provide advice about evacuation in the event of a fire and how to reduce risk of fire within the home, and, where appropriate, the installation of smoke alarms for free.[95] NFRS has recently revised its HFSC checklist in order to ensure that the HFSCs and HFSC checklists/forms mutually support the social marketing toolkit that has been developed.[96]

[92] All FRS have targets from central government to reduce deaths and injuries caused by fires. Smoke alarms/detectors are installed in domestic premises by FRS because fire deaths are statistically less likely within domestic premises that have working smoking alarms.
[93] Further information about fire inspections and risk-based inspection schedules in Finland can be found within the Roma Workshop Handbook, which is available on the ANSFR website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=75.
[94] Further information about risk assessment of domestic properties of elderly people can be found on the ANSFR Project website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=4 and http://www.fire-risk.eu/resources/documents/document_display.htm?pk=49 .
[95] Most, if not all, FRS work at a local level to try to achieve a target of 100% of domestic properties with working smoke alarms. Building regulations in the UK require that all new build domestic properties must be fitted with hardwired smoke detectors. Consequently, FRS only need to fit smoke alarms in buildings built prior to 1992, the date at which the new building regulations became law. The fitting of smoke detectors is only one element of the HFSC. Occupants of all domestic properties (including those with hardwired smoke detectors) are encouraged to receive a HFSC in order to benefit from the fire and accident safety advice that is provided.
[96] Further information about HFSCs completed by NFRS can be found within the Roma Workshop Handbook, which available on the ANSFR website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=75. Further information about the North East Regional Fire and Rescue Service Social Marketing Toolkit is available within the Kuopio Workshop Handbook which is available on the ANSFR website at: http://www.fire-risk.eu/project/workshops/kuopio2010.htm .

No.	Recommendation	Case Study Examples of Good Practice
3	*Continued from previous page.* The completion of fire inspections/HFSCs can have a number of benefits for FRS and for the members of the public that they serve, including: • the identification and assessment of potential fire risks within each home; • for FRS to educate occupants of how to reduce fire risk within their home; • for FRS to educate occupants of how to prepare for and how to evacuate their home in the event of a fire; • for FRS to suggest specific fire prevention measures that could be installed to reduce fire risk and/or improve the speed at which occupants are notified (via an alarm) of a fire within the property; • for FRS to gather data that can support FRS fire prevention activities and evaluation of the content and delivery of HFSCs.	*Continued from previous page.*

No.	Recommendation	Case Study Examples of Good Practice
4	**Preliminary checks of building plans for fire risk followed by regular fire safety inspections** While domestic fires account for a high number of fires within European countries, high levels of fire risk are also present within other building types, including commercial, industrial, cultural/heritage and public buildings. These building types may experience fewer fires on an annual basis, however, their size in relation to public buildings and in terms of the number of people who use them/work within them means that the impact of a fire can be considerable in terms of cost to life, property and the environment. Following from the previous recommendation, it is recommended that FRS (or other appropriate organisations) are involved in checking and contributing to plans for new buildings. The FRS (or other appropriate organisation) should check and provide input on fire safety and fire risk reduction within the building plans prior to the actual construction of a new building (commercial, industrial or public building) or prior to significant additions, renovations or modifications to existing buildings (for instance, cultural/heritage buildings). It is also recommended that FRS (or other appropriate organisations) complete periodic inspections of such premises	• **Denmark** - § 34 of Danish Emergency Law[97] states that fire inspections must be completed by local fire authorities for certain premises in order to assess, manage and reduce fire risk[98]. A notice describes the rules and requirements for the required frequency of these inspections.[99] A guide has also been introduced on the implementation of fire inspections.[100] If a local fire authority fails to implement an inspection, it will be sanctioned in writing by DEMA. FRS officers completing fire inspections must have specialist education and training.[101] • **Finland** – All properties in Finland must be inspected on a regular basis, including all domestic properties. Fire inspections are the legislative duty of the 22 Regional Rescue Services. They organise and prioritise inspections according to a standard risk assessment strategy (see below). • **Italy** – Two checks are performed on public buildings in Italy.[102] CNVVF checks plans prior to construction of the building and a site inspection is completed after the building has been constructed but before it can be opened to the public/for business.

[97] A full copy of Danish Emergency Law can be viewed (in Danish) on the following website: https://www.retsinformation.dk/Forms/R0710.aspx?id=123670
[98] The premises that must be inspected, according to § 34 of Danish Emergency Law, are listed online at http://www.brs.dk/fagomraade/tilsyn/forbyg/brandsyn2008.htm. In summary, the types of premises that must be inspected include: listed buildings, hotels and other similar buildings where there are more than 10 beds, care institutions where the bedroom section contains more than 10 beds, an Assembly Location for more than 150 people and meeting rooms for between 50 and 150 people for whom the municipality has given specific operating instructions, a teaching section for more than 150 people, a day care section for more than 50 people or for more than 10 people sleeping, shops with a capacity for more than 150 people, houses with more than 10 beds which are used as rental properties and which the municipality has given specific operating instructions. Businesses working with and warehouses storing flammable materials, are governed by rules issued under Danish Emergency Law § 33 paragraph 1 and paragraph 2, § 34 paragraph 2 or § 35 paragraph 3.
[99] A copy of the notice can be viewed (in Danish) on the following website: https://www.retsinformation.dk/Forms/R0710.aspx?id=114230
[100] A copy of the guide can be viewed (in Danish) on the following website: http://www.brs.dk/info/2008/Vejledning%20om%20brandsyn%20010408.pdf
[101] The specialised training required is presented (in Danish) on the following website: https://www.retsinformation.dk/Forms/R0710.aspx?id=114835
[102] Although it should be noted that a large number of buildings are not subject to this double-check. The double-checks are not completed on private buildings, including those of multiple occupancy.

No.	Recommendation	Case Study Examples of Good Practice
4	*Continued from previous page.* once they have been constructed/modified in order to adequately assess and manage fire risk over time. The frequency of fire inspections should be governed by a risk-based inspection schedule	*Continued from previous page.* • **Italy** – Fire prevention certificates are also required in Italy. Those buildings requiring fire prevention certificates include: all public buildings, places of public entertainment, schools, hospitals, nursing homes, businesses and offices with more than 500 employees, libraries, archives, museums, buildings for residential purposes with eaves of a height over 24 meters, and car parks. The fire prevention certificate is issued by the provincial fire station, after a site inspection performed by an Officer. The inspection ensures the consistency with the plan checked by the fire station and compliance with safety standards. If there are changes to the building then an application for a new certificate must be made. If there are no changes to the building, the fire prevention certificate must be periodically renewed (each 3 or 6 years depending on the kind of building) at the provincial fire station. Risk based fire inspection schedules: • **Finland** – A standard risk assessment strategy is used across Finland to determine the frequency with which different properties receive a fire inspection. All domestic properties must be inspected once every ten years. There is then a category of buildings which need to be inspected once every 1 to 3 years.[103] The final category of buildings requires inspections to be completed once every year.[104] Further information is available from the Roma Workshop Handbook.[105]

[103] This category, for example, includes small public buildings, garages, small restaurants/pubs,
[104] This category, for example, includes places of employment, assembly/business rooms, residential facilities, and medical facilities, manufacturing plants and warehouses and car park buildings.
[105] A copy of the handbook can be downloaded from http://www.fire-risk.eu/resources/documents/document_display.htm?pk=75.

No.	Recommendation	Case Study Examples of Good Practice
4	*Continued from previous page.*	*Continued from previous page.* • **UK** - Guidance[106] for FRS in the UK on a risk assessment based approach to devising a fire inspection schedule for premises covered by the Regulatory (Reform) Fire Safety Order (2005) (RRO)[107] has been issued by CLG.

5	**Major Incident Plans**
	Each fire station should have a plan to intervene in small to major incidents. These plans should include details of necessary cooperation with other organisations (other emergency services, civil protection organisations, utility companies etc.). These incident plans could include the transportation of dangerous substances on the roads, railways and on ships according to the completion of a risk assessment of the individual station area. FRS personnel and other stakeholder organisations need to receive periodic training in how to effectively implement a major incident plan. Such training/exercises should be comprehensively evaluated so that FRS personnel learn from the experience and improve implementation of the plan for future training and real major incidents.
	
	It is also recommended that FRS devise, in collaboration with land owners and other stakeholders, Fire Plans for rural areas where resources are scarce and logistics during major incidents are more complex (for further information see Recommendation 4 on page 58).
		• **Finland** – In July 2010, Finland was hit by a major storm called 'Asta'. Lots of trees fell which disrupted the electricity supply. Tens of thousands of people were without electricity for one to two weeks. Pre-planning was essential in the swift resolution of this incident. This planning should be standardised and arrived at through consultation with other relevant agencies.
		• **Italy** – A major incident plan has been created in Italy for the transfer of LPG from damaged tanks by specialist operative personnel. There are specialist operative units within CNVVF, but private organisations may also have specialist teams. The plan ensures that:
		  • Safety is guaranteed during major incidents of this nature
		  • Specialist units are ready to respond to major incidents of this nature.
		  • The capabilities of private teams employed in LPG transfer are checked prior to deployment at major incidents.
		This major incident plan has already been put to the test and shown to be very successful.[108]

[106] The guidance document produced by CLG for FRS is available at: http://www.communities.gov.uk/documents/fire/pdf/IRMPguidancente4

[107] Further information about the RRO 2005 can be obtained from the following websites: http://www.communities.gov.uk/publications/fire/regulatoryreformfire , http://www.communities.gov.uk/publications/fire/guidance1enforcement2005 and http://www.legislation.gov.uk/uksi/2005/1541/contents/made.

[108] On 29th June 2009, a train carrying 14 LPG tanks derailed in Viareggio railway station provoking the leakage of 90 m3 of gas from one tank. This led to an explosion and significant fires in the surrounding area and neighbouring buildings. The response of the fire and rescue service was rapid. No further explosions occurred and the

No.	Recommendation	Case Study Examples of Good Practice
6	**Fire safer cigarettes may help to reduce number of accidental fires but further research is required** Cigarettes are responsible for a high number of fire deaths and non fatal injuries in most European countries. In order to reduce the number of fires caused by cigarettes (and consequently fatalities and injuries caused by these fires), fire safer cigarettes have been introduced in a number of countries around the world (see column on the right for further information). A fire-safer cigarette has a reduced propensity to burn when left unattended. The most common fire-safe technology used by cigarette manufacturers is to wrap cigarettes with two or three thin bands of less-porous paper that act as "speed bumps" to slow down a burning cigarette. If a fire-safe cigarette is left unattended, the burning tobacco will reach one of these speed bumps and self-extinguish. Fire safer cigarettes have been mandatory in Finland since 1st April 2010. This means that only fire safer cigarettes can be sold since this date. Research is now needed to evaluate the success of the introduction of fire safer cigarettes in Finland. Unofficially, it is believed that the number fires in Finland since April 2010 may have reduced slightly compared to previous years; however, an evaluation report is required in order to identify statistical trends and make appropriate conclusions. The ANSFR Partners believe that the findings of an appropriate fire statistics report on the first year of fire safer cigarettes in Finland would be of interest to all countries in Europe.	• **Finland** - Fire safer cigarettes have been mandatory in Finland since 1st April 2010. Since this date, only fire safer cigarettes are legally sold in Finland. Finland is the first country in Europe to introduce fire safer cigarettes. • **Canada** - Canada was the first country in the world to introduce legislation for the nationwide sale of fire safer cigarettes.[109] • **Australia** – Reduced Fire Risk (RFR) cigarettes have been sold nationwide in Australia since March 2010 (RFR is the term favoured in Australia over RIP).[110] • **United States of America** – 43 States in the USA currently require that all cigarettes sold conform to a Reduced Ignition Propensity (RIP), meaning that only fire safer cigarettes can be sold within these States. A report released in October 2010 by the National Fire Protection Association (NFPA) shows that the number of smoking-material related fire deaths in the USA dropped below 700 in 2008, representing the second lowest level since 1980. The NFPA points to new fire-safe cigarette legislation as an important component of the decrease.[111]

remaining LPG was safely removed for the scene. Further information about the incident at the Viareggio Railway Station is contained within the Roma Handbook which is available on the ANSFR website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=75.

[109] Further information about the introduction of fire safer cigarettes in Canada is available online at: http://www.firesafecigarettes.org/itemDetail.asp?categoryID=81&itemID=1033&URL=States%20that%20have%20passed%20fire-safe%20cigarette%20laws/Canada%20the%20first%20nation%20to%20enact%20a%20fire-safe%20cigarette%20law

[110] Further information about the Australian standard for RFR cigarettes is available online at: http://www.rfs.nsw.gov.au/dsp_more_info.cfm?CON_ID=7152&CAT_ID=1327 and at: http://www.firesafecigarettes.org/assets/files//AFACnewsletter.pdf .

3.3 Recommendations for assessing and managing environmental fire risk

No.	Recommendation	Case Study Examples of Good Practice
1	**Common wildfire training systems and professional standards required across Europe** It is recommended that common training systems and professional standards are required across Europe to allow interoperability across European borders. At present, FRS within different countries, and indeed within different localities within individual countries, adopt different systems and receive different standards of training. It is currently very difficult for wildfire practitioners from different countries to work safely and effectively alongside one another at wildfire incidents. Common training systems and professional standards would allow practitioners from different countries to work together to fight wildfires. Such a system is highly desirable as it would allow resources to be utilised from across Europe, therefore maintaining better resilience of FRS resources at local, national and European levels. For instance, it would be highly beneficial for FRS in northern Europe to be able to share resources (equipment, wildfire fire-fighters, wildfire specialists etc.) with FRS in southern Europe during major wildfires, and vice-versa.	• **Northumberland (UK)** – The Northumberland Fire Group (NFG) has developed common training systems for fighting wildfires. The NFG has also worked to amend NFRS's Incident Command Structure (ICS) for wildfire incidents. NFG members (i.e. non FRS personnel) are now integrated into NFRS's ICS for wildfire incidents along with specially trained wildfire officers and specialists.[112] NFRS is currently providing basic and advanced wildfire training to its officers, to members of the NFG and to other FRS in the UK and Europe.[113] While the work of the NFG is leading to significant improvements in the training systems and professional standards of NFRS personnel and other Fire Group members, and indeed is improving response and resilience for wildfire incidents, common wildfire training systems and professional standards are still needed for use across Europe to facilitate interoperability across European borders.

[111] A press release concerning the report can be viewed at the following website. A copy of the report can also be downloaded from the website. http://www.nfpa.org/newsReleaseDetails.asp?categoryid=488&itemId=49272&cookie%5Ftest=1 .

[112] Further information about the NFG is available on the ANSFR Project website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=26 or on the NFG website at: http://www.ruraldevelopment.org.uk/case-studies/northumberland-fire-group .

[113] Further information about the training courses that are currently being delivered by NFRS can be found on the ANSFR project website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=26 or on the NFG website at: http://www.ruraldevelopment.org.uk/case-studies/northumberland-fire-group .

No.	Recommendation	Case Study Examples of Good Practice
2	**Implementation of Wildfire Risk Prediction Systems (WPS)** It is recommended that all countries should consider creating a national risk prediction system which calculates and categorizes risk of wildfire on any given day (usual during the typical wildfire season). Wildfire risk levels then need to be communicated to landowners, and perhaps the general public, via appropriate means. It is also recommended that all FRS in Europe train their personnel to use and apply an appropriate wildfire prediction system at wildfire incidents. By implementing relatively basic prediction systems, FRS can greatly improve safety on the fire ground at wildfire incidents. The use of WPS can also improve the speed and efficiency with which fire fighters tackle wildfires. This in turn can improve resilience and reduce the damage that these fires cause to life, property and the environment.	Examples of National Risk Prediction Systems: • **Finland** - **Finnish Forest Fire Index**[114]- A national risk prediction system produced by the Finnish Meteorological Institute. The FFFI presents wildfire/forest fire risk for any given day of the year on a map for each county in Finland. The risk is calculated and publicly communicated for one day on the day prior to the calculation. A ban on lighting outdoor fires is imposed within a county if the wildfire/forest fire index is calculated as high for a particular day. • **Denmark** – a national Dry Index (Wildfire Risk Index) is produced by the Danish Meteorological Institute. The index is updated daily at 0800hrs and can be used to obtain an overall assessment of drought and irrigation in Denmark. The index is scaled from 0 (not very dry/wet) to 10 (extremely dry).[115] Example of Wildfire Risk Prediction System for use at wildfire incidents: • **Northumberland (UK)** - Northumberland Wildfire Risk Prediction System (WPS).[116]

[114] The Finnish Forest Fire Index can be viewed online at: https://virpo.fmi.fi/metsapalo_public/index.php . Further information about the Index is also available at an external website: http://www.fire.uni-freiburg.de/fwf/fi_ffi.htm or via the ANSFR Project website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=74 .
[115] The Dry Index for Denmark can be viewed online at: http://www.dmi.dk/dmi/index/danmark/torkeindex.htm .
[116] Further information about the NFRS WPS is available on the ANSFR Project website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=67 .

No.	Recommendation	Case Study Examples of Good Practice
3	**Development of a System of Forest Fire Observation Flights** It is recommended that Forest Fire Observation Flights (FFOF) can assist in early identification of wildfires. These flights can also assist ground crews to locate wildfires more quickly, which is particularly important in more remote areas. In Finland, a national system of FFOF has been established which has proven to be quite successful in managing wildfire risk. In order to improve the speed at which wildfires/forest fires are identified, to allow the Fire and Rescue Services to get to the fire sooner and begin extinguishing the fire earlier in its development, and to improve safety and efficiency at wildfire incidents, FFOF are coordinated during the days of the year classified with a high forest fire index (see Recommendation 2 on page 56). The Finnish system of FFOF is appropriate for Finland as the country is very sparsely populated and wildfires can remain undetected for a significant period of time. However, adaptations to this system could be made in order to allow other European countries to benefit from FFOF. The key principle underlying the Finnish system is mutual cooperation between the volunteer aero clubs and the Ministry of Interior and this key principle could be taken and applied to other countries. The ANFSR partners recommend that all countries in Europe could potentially improve risk assessment and management during wildfire seasons and wildfire incidents by developing close partnerships with national or local aero clubs. Such a partnership could take a number of different forms; however, FRS may want to consider giving some basic awareness training to aero club pilots. This training could include any number of different elements, for example, how to estimate the size and fuel of a wildfire from the air, how to assist fire crews on the ground etc.	• **Finland** - In Finland, there are 26 pre-planned observation flight routes that provide aerial cover of the whole of Finland. Each flight takes approximately 1- 2 hours and is completed by members of local Aero Clubs that are part of the Finnish Air Rescue Society (in Finnish: Lentopelastusseura). A fire officer in each Rescue Region is trained to accompany pilots on the FFOF. If a wildfire is identified during the FFOF, the fire officer will be able to relay information to unit commanders on the ground and provide them with an aerial view of the incident. This can help to improve safety and efficiency, and thus improve the way that the rescue services assess and manage the risks posed by individual wildfires.[117]

[117] Further information about Finnish FFOF is available on the ANSFR Project website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=74 . Further information is also available in Finnish from the website of the Finnish Air Rescue Society at: http://www.lentopelastus.fi/ .

No.	Recommendation	Case Study Examples of Good Practice
4	**Utilising local knowledge for preparedness and response through detailed fire plans of rural areas** It is recommended that FRS assist landowners to develop detailed fire plans for rural land within their area of responsibility. Fire plans are an important tool for ensuring that an FRS is prepared should a major fire occur. This is particularly important in rural areas, where water sources and other resources are often more scarce. The strong benefit of fire plans is that FRS and their partners can utilise local knowledge about the land, the potential resources available and the potential hazards that may be present. This kind of information is not always easily available to FRS crews attending wildfire incidents. However, fire plans involve proactive compilation of this data, which may prove invaluable should a wildfire or other major incident occur in the area. Fire plans should adopt a standard template for ease of reference. Ideally, fire plans should be readily available to all fire appliances and responding units (for instance, via mobile data terminals). The following information may be useful on a fire plan, although the list is not exhaustive and the actual content should be tailored to the specific requirements of a particular FRS: • Contact details of the landowner/land manager • Location and access to water sources • Access (roads, what vehicles can drive on what roads etc.) • Equipment (tractors, quad bikes etc.) available within the vicinity • Identification of different fuel types • Comprehensive maps of the area • Establishment of rendezvous points for arriving resources • Agreements regarding the use of helicopters/airplanes	• **Northumberland (UK)** - All members of the NFG are requested to complete and submit fire plans to NFRS. Advice concerning creation of these fire plans is given by NFRS to NFG members during workshop sessions held within local communities and/or via other communication methods. Fire plans have already been developed to cover a large area of rural land within the Northumberland National Park.[118] • **Finland** - It is mandatory in Finland for rescue plans to be developed for peat bogs. Fire safety is a key element of these plans. • **Italy** - The Civil Protection Unit in Italy (Dipartimento di Protezione Civile[119]) is responsible for making wildfire emergency plans at the regional level. These plans are available to fire crews attending emergency incidents. [120]

[118] Further information about fire plans for land within Northumberland is available at: http://www.northwoods.org.uk/fire-plans-0 and on the ANSFR website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=26 .
[119] Further information about Dipartimento Protezione Civile can be found at: http://www.protezionecivile.it/minisite/index.php?dir_pk=252
[120] Further information about wildfire emergency plans are available at: http://www.protezionecivile.it/minisite/index.php?dir_pk=252

No.	Recommendation	Case Study Examples of Good Practice
5	**Multi-agency partnership working and collaboration to reduce and manage wildfire risk** This recommendation is linked to Recommendation 5 on page 36, however, the information presented here is more specific to the theme of environmental fire risk. Multi-agency partnership working and collaboration with regards to wildfire is a relatively new area of progress within the UK. A number of multi-agency wildfire groups have been created across the country, including Northumberland, Cumbria, South East England and Home Counties, North Yorkshire and Durham. Wildfire groups are a partnership of public and private organisations that work together on a range of wildfire related activities. The existing wildfire groups work to identify opportunities to improve methods for wildfire prevention and suppression through collaboration.[121] These collaborative wildfire groups allow individual members to pool knowledge, experience and resources to improve wildfire prevention and response to wildfires. This is particularly important in light of current claims concerning climate change and the prediction that wildfires/forest fires may become more frequent and severe within some areas of Europe. It is therefore recommended that multi-agency wildfire groups are established in other areas of Europe, and particularly in those areas regularly affected by wildfires/forest fires. As a supplementary suggestion, FRS should be key members of al wildfire groups and FRS should be aware that they may need to be key initiators for creating and sustaining wildfire groups.	Case study of multi-agency wildfire groups: • **UK –** Wildfire groups[122] have now been created in both Scotland and England. In Northumberland, the NFG is a multi-agency group including representatives from both the public and private sectors. The NFG was created to tackle the increasing threat of large wildfires in rural parts of Northumberland. Members of the group include landowners, land agents, public sector bodies, farmers and, more generally, those with an interest in wildfire.[123] A wildfire group has now also been created in Cumbria[124] in northern England and it is likely that additional groups will be created in the near future in other areas of the UK. The experience from the UK wildfire groups shows that multi-agency partnerships facilitated through wildfire groups can be an effective method for improving risk assessment and management for wildfires and forest fires. Case studies of multi-agency cooperative response to wildfires and forest fire: • **Italy –** The multi agency coordination of forest fire interventions is currently being developed at the regional scale through the REACT (Reaction to Emergency Alerts using voice and Clustering Technologies) EU Project. Firefighters, the Corpo Forestale dello Stato (CFS) and Regional Civil Protection Department are involved in the project. The

[121] Through this collaborative working, wildfire groups in the UK are also contributing towards sustainable rural development.
[122] Further information about multi-agency wildfire groups in the UK can be found on the ANSFR website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=42
[123] Further information about the Northumberland Fire Group is available at the following websites: http://www.northwoods.org.uk/fire-group-northumberland and http://www.fire-risk.eu/resources/documents/document_display.htm?pk=26
[124] Further information about the Cumbria Wildfire Group can be found at: http://www.northwoods.org.uk/wildfire-group-cumbria

No.	Recommendation	Case Study Examples of Good Practice
5	*Continued from previous page.*	*Continued from previous page.* application of the pilot project in Calabria allows the sharing of information between the organizations employed in forest fire fighting by the Common Alerting Protocol (CAP). The overall coordination of wildfire interventions in Italy is the responsibility of CFS. [125] • **Northumberland (UK) –** As has been mentioned previously in Recommendation 1 on page 55, NFG members have been integrated into NFRS's ICS for wildfire incidents. In addition, the NFG has established equipment sharing protocols to provide an efficient structure for NFRS to request specialist equipment during a wildfire incident. The NFG has also established an agreement with the Royal Air Force (RAF) concerning aerial assistance. Finally, the NFG is also working with local landowners to produce fire plans (see Recommendation 4 on page 58 for further information).[126]

[125] Further information about the REACT Project and the multi-agency coordination of wildfires in Calabria is available at: http://www.react-ist.net/wordpress/
[126] Further information about the work of the Northumberland Fire Group is available at the following websites: http://www.northwoods.org.uk/fire-group-northumberland and http://www.fire-risk.eu/resources/documents/document_display.htm?pk=26

No.	Recommendation	Case Study Examples of Good Practice
6	**Need for further research into land and fuel management** A number of large and serious wildfires in recent years have occurred as a result of poor land and fuel management. In many upland areas of Europe, traditional agriculture has been in decline over the last few decades. Many who live in rural areas are drawn to urban areas, and there is a dominant pattern of net migration to towns and cities. With fewer farmers and landowners looking after upland areas, the State is often forced to buy and look after the land. Unfortunately, the State does not always have the time and resources to manage the land in the best way possible, with reforestation a popular choice or land not being managed at all. Without appropriate management, fuel loads increase and fire risk increases substantially. This increasing risk is further exacerbated through net out-migration of rural areas and a residual lack of experience of wildfire among the remaining and incoming population. It is recommended that rural land needs to be managed and used appropriately. FRS should cascade evidence of effective land management techniques to land owners. It is also recommended that further research is needed to identify good practice in land management techniques for wildfire risk management. There is already evidence from some countries, such as Portugal, that changes to current land management techniques can help FRS and other authorities to effectively manage and reduce wildfire risk.	• **Portugal** - Improving rural land management has become a key focus for work to reduce risk of wildfires in Portugal. The lessons learned in Portugal could be adopted and expanded on by FRS and other agencies working to reduce risk of wildfires in other countries across Europe. Further information about these new and innovative practices being adopted and developed in Portugal is available on the ANSFR Project website.[127]

[127] See the following website page for further information on land management approaches to wildfire risk management in Portugal: http://www.fire-risk.eu/project/conference2010/conferencepresentationsdayone.htm

No.	Recommendation	Case Study Examples of Good Practice
7	**Need for research into the effectiveness of public warning systems for wildfire risk** It is recommended that research is needed into the effectiveness of public warning systems for wildfire risk. Some countries in Europe have national warning systems, while FRS's in some countries deploy warning systems at more localised levels. Some countries also supplement warning systems with legislative regulations on the setting of fires during certain periods (either set months of the year or during days/weeks when wildfire risk is calculated to be very high). However, further research is urgently needed to investigate the impacts of public warning systems and legislation on public behaviour and wildfire occurrence. This research is needed to ensure that wildfire warning systems are appropriate and effective. In particular, such research should determine whether public warning systems need to be supported by legislative regulations to be most effective. Without supporting research, it is unclear what constitutes best practice in this area.	• **Denmark -** When there is a sustained dry period in Denmark, the FRS and Police collectively decide to ban fires in public places. This means that it is forbidden to grill (use barbecues or other outside cooking stoves) or burn waste in public places (on beaches etc.).[128] If a fire is started in a public place during a ban period, Danish law describes it as a deliberate fire which is an offence punishable with a minimum fine. Depending on the consequences, the penalty can be increased. If such a fire leads to a death, the individual setting the fire can be imprisoned for ubetemt time (for a treatment sentence). • **Finland -** In Finland it is illegal to set fires within forested areas when the Forest Fire Risk Index within a particular municipality is "high". Any individual lighting a fire during a fire ban can be punished with a fine.[129] • **Australia** - On 7th February 2009, the bushfires of Black Saturday caused the deaths of 178 people in the State of Victoria. The bushfires also caused substantial damage to infrastructure and the natural environment. The 2009 Victorian Bushfires Royal Commission (VBRC) made recommendations regarding the public warning systems adopted at that time in Victoria. Research into public warning systems in Europe should acknowledge and incorporate the recommendations of this substantial report.[130]

[128] This ban does not include private spaces, for instance domestic properties.

[129] Further information about outdoor fires and legislative regarding outdoor fires in Finland is available on the ANSFR Project website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=15 .

[130] See the following website for further information about the 2009 VBRC: http://www.royalcommission.vic.gov.au/ . Further information about bushfires in Australia is also available on the ANSFR Project website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=24 .

No.	Recommendation	Case Study Examples of Good Practice
8	**Wildfire investigation** This recommendation is linked to Recommendation 4 on page 33; however, more specifics concerning the theme of environmental fire risk are discussed here. There are a significant number of fire investigators working for FRS's across Europe, however, the majority of these specialists are solely trained in structural and vehicular fire investigation. There are few investigators with the training and experience required to appropriately investigate wildfire incidents. Indeed, it is unlikely that many fire investigators in Europe have a sufficient knowledge of wildfire dynamics in order to accurately reconstruct the development and spread of a wildfire, or indeed to pin-point the initial cause of the wildfire. Consequently, when wildfires do occur, thorough and appropriate investigations are not always completed. The key principle here is that investigation must directly inform intervention and prevention work. If you do not know the cause of a wildfire then you cannot develop interventions in order to reduce the likelihood or impact of similar wildfires occurring in the future. It is recommended that FRS's in Europe should develop and/or utilise specialist wildfire investigators or individuals with specialist knowledge, education and experience in wildfire investigation. At present there are too few individuals working in Europe who have the skills or experience necessary to complete this type of work. Wildfire investigation techniques and principles are based on scientific laws and methods and are thus universally applicable. It is therefore appropriate and desirable for standardised wildfire investigation training and professional standards to be developed for use across Europe (also see Recommendation 1).	There are wildfire investigation specialists currently working in countries outside of Europe (for instance, Australia, the USA and Canada) and it is recommended that FRS in Europe should consider approaching these countries to benefit from their existing knowledge and experience. In addition to expertise that exists outside of Europe, however, there is some expertise that already exists within Europe, particularly in Finland and Italy. This should be a starting point for further research and collaborative projects within this field: • **Finland** - In Finland, all FRS personnel work and live near to forests: Finland is one of the most forested countries in the World. The importance and dominance of the forests means that training for fire investigators already incorporates some specialist training in wildfire investigation.[131] • **Italy** - In Italy, the Corpo Forestale dello Stato (CFS), the Italian State Forestry Service, has a specialist unit dedicated to investigating the causes of forest fires. This unit, Nucleo Investigativo Antincendi Boschivi (NIAB), has developed expertise in forest fire investigation techniques and processes.[132]

[131] Further information about training for Finnish fire fighters and fire officers can be obtained from the ESC. Please use the contact details on page 2 of this document.
[132] Further information about the work of CFS NIAB can be found online:
http://www.foresteurope.org/filestore/foresteurope/Meetings/2010/Workshop_Forest_Fire/13_Colletti.pdf (in English); and
http://www3.corpoforestale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/330 (in Italian).

3.4 Recommendations for assessing and managing social fire risk

No.	Recommendation	Case Study Examples of Good Practice
1	**FRS should consider utilising social marketing to more effectively achieve positive behaviour changes in high risk groups** It is recommended that FRS utilise incident data, data obtained through fire inspections/HFSCs, lifestyle data (such as MOSAIC Lifestyle data[133]) and social marketing techniques to identify members of society at high risk of experiencing a fire and to ensure that key safety messages delivered to these target groups actually cause individuals to think differently about their personal risk and the risk posed to others as a consequence of their behaviour. Social marketing involves systematically applying marketing concepts and theories to achieve behavioural change for 'social good'. This requires significant consultation[134] with the target audience in order to get to the core of the social issue and to better understand any barriers and challenges. This is essential in identifying what materials prompt a positive change in behaviour. Thorough consultation with the target audience will give FRS greater confidence in the effectiveness of fire prevention, awareness and education activities. Although social marketing techniques have often been used by the private sector and some public sector bodies, for example within the health sector, this is a new and innovative approach for FRS.[135] A recent project delivered in the North East of England has yielded some impressive results with the development of a comprehensive and highly flexible Social Marketing Toolkit.	• **North East England (UK)** – Durham and Darlington FRS, NFRS, Cleveland FRS, and Tyne and Wear FRS have been involved in a project titled: "Social Marketing Toolkit for the Fire and Rescue Services of the North East"[136].

[133] Experian's MOSAIC lifestyle data system is a geo-demographic segmentation system which is available in a number of countries. The basic premise of the system is that people tend to gravitate towards individuals and communities with similar backgrounds and interests and that society can be divided into a number of distinct groups that display their own personal characteristics and behaviours. The system has been developed by the private sector; however, it is also a very useful tool for use within the public sector and for use by FRS in the UK, including NFRS.
[134] Also see Recommendation 8 on page 42 of this report.
[135] Further information about the principles of social marketing can be found on the ANSFR website at: http://www.fire-risk.eu/project/conference2010/socialmarketingworkshop.htm
[136] Further information about the "Social Marketing Toolkit for the Fire and Rescue Services of the North East" is available at: http://www.northeastiep.gov.uk/community/CA065SM.htm

No.	Recommendation	Case Study Examples of Good Practice
2	**Fire and Rescue Services should aim to remove opportunities for deliberate fire-setting** Removing fire risks is perhaps one of the most effective methods of fire risk management, particularly for preventing deliberate fire-setting. It is recommended that FRS work with multiple partners to identify and, where possible, remove or mitigate physical fire risks (i.e. physical objects at high risk of being set alight). A comprehensive strategy should be developed and implemented, and these tasks should be completed by a partnership of organisations. FRS and their partners should ensure that an effective reporting and recording system is created. Such a system should facilitate data analysis so that data trends can be identified. Such a system must also work in practice, with reports being received and actioned (i.e. with risks being removed or mitigated) as swiftly as possible. If the system is inefficient then those reporting risks may lose faith in the system and some reported risks may be set alight before they can be removed or mitigated. The real strength of a risk reporting system is that the FRS, or other coordinating organisation, can utilise the eyes and ears of practitioners working on the streets. This partnership can greatly improve the number and speed at which risks are reported and, consequently, the speed at which they can be addressed. In order for this to work most efficiently, all officers from the FRS and partner organisations should be made aware of the types of risks they may encounter on their daily duties within local communities and, importantly, who they should contact should they see or hear of a potential fire risk. The reporting system needs to be clear and concise so that it is not an onerous task for individuals to submit information on potential risks. Importantly, FRS, or other coordinating organisations, should assess the level of risk posed by different objects according to the social and environmental contexts within which they appear. For instance, a derelict property within one neighbourhood may be at much greater risk of being set alight compared to a similar property in another neighbourhood.	• **Northumberland (UK)** - NFRS has developed an effective Arson Risk Reduction Strategy[137]. Similar strategies have also been developed and adopted by other FRS across the UK.[138]

[137] For further information about NFRS's Arson Risk Reduction Strategy, please contact NFRS using the contact details on page 2 of this report, or via the following website: http://www.northumberland.gov.uk/default.aspx?page=1304

[138] Further information from the UK about arson risk reduction can be obtained from the following websites: http://www.arsonpreventionbureau.org.uk/; http://www.arsoncontrolforum.gov.uk/; http://www.northumberland.gov.uk/default.aspx?page=605 .

No.	Recommendation	Case Study Examples of Good Practice
3	**Fire-setting awareness and intervention strategies for children and young people** A number of FRS in the UK, Nordic countries and elsewhere in Europe deliver intervention courses aimed at children and young people who have been identified engaging in fire play, deliberately setting fires and/or making hoax calls. The main ethos underpinning this work is that fire fighters and FRS employees can convey their practical knowledge and experiences about the devastation that deliberate fire setting and hoax calls can cause. However, it has become apparent during the ANSFR Project that there is currently limited evidence from which to draw firm conclusions about the successfulness of these programmes and strategies. This makes it difficult to identify specific good practice regarding this type of work and to adequately assess the effectiveness of this approach to social fire risk management. It is recommended that FRS currently delivering juvenile fire-setter intervention initiatives should thoroughly evaluate the effectiveness of their approach. This must be completed on an ongoing basis and not as a one-off exercise (see Recommendation 7 on page 41). At a basic level, FRS delivering these schemes should quantify how many individuals set fires after completing these schemes and analyse the intervals between incidents of fire-setting behaviour. However, more complex analysis is also required in order to properly assess the factors contributing to a young person's engagement in fire-setting and to more comprehensively assess the degree to which schemes actually change an individuals' behaviour. Multi-agency working is vitally important for completing this work because multiple agencies will compile relevant data on a particular individual and have a vested interest in addressing individuals' fire-setting and anti-social behaviours (See Recommendation 3, on page 32). It is also recommended that research into juvenile fire-setting interventions is required at a European level. Such research would provide an opportunity to identify evidence of success and good practice across the continent. This would in turn provide the foundation from which to devise more specific recommendations regarding juvenile fire-setting intervention strategies.	• **Finland –** The Tulipysäkki (Fire Stop) Programme in Finland is a good example of a new and innovative multi-agency partnership approach for addressing fire-setting behaviour of young people. The pilot of the project in South West Finland was so successful that Tulipysäkki is now being rolled out across the country. Practitioners from across Europe could benefit from learning about the principles and experiences of this project.[139] • **New Zealand -** The University of Auckland was commissioned by the New Zealand Fire and Rescue Service to produce a process evaluation and an outcome evaluation of the New Zealand (NZ) Fire Awareness Intervention Programme (FAIP). FRS in Europe that currently deliver FAIPs, or similar programmes, should complete a similarly comprehensive process and

[139] Further information about Tulipysäkki is available at: http://www.fire-risk.eu/project/conference2010/conferencepresentationsdayone.htm (English) and http://www.spek.fi/Suomeksi/Paloturvallisuus/Tulipysakki.iw3 (in Finnish and Swedish). Also, a copy of the evaluation of the pilot of Tulipysäkki in South West Finland is available on the ANSFR Project website at: http://www.fire-risk.eu/resources/documents/document_display.htm?pk=72 (in English and Finnish).

No.	Recommendation	Case Study Examples of Good Practice
3	*Continued from previous page.*	*Continued from previous page.* outcome evaluations. Evidence of such work is currently very limited, despite the fact that many FRS in the UK and other European countries are engaged in this type of work.[140]

[140] A presentation on this report was delivered at the Fire Risk in Europe Conference 2010. A copy of this presentation is available at: http://www.fire-risk.eu/project/conference2010/conferencepresentationsdayone.htm . Alternatively, copies of the process and outcome evaluation reports are available at: http://www.fire.org.nz/Fire-Safety/FAIP/Pages/FAIPStatistics.aspx

Chapter 4 - Conclusions

This is the final chapter of the report and it presents the three key conclusions of the ANSFR Project. These conclusions have been developed from the key observations made by the team during the entire course of the project.[141]

The first key conclusion of the ANSFR Project is that risk identification, assessment and management should become integrated into every element of work completed by FRS in Europe. FRS need to be able to effectively quantify risk, both in terms of probability and impact. As an extension of this recommendation, FRS need to acknowledge that fire risk is a fluid concept – it will change over time, space and between and within social groups. Consequently, FRS need to view risk assessment and risk management as continual cyclical processes and not as end products or one-off exercises. Within some FRS in Europe this may require some whole scale changes to existing corporate cultures and paradigms, but within other FRS this may require considerably less change because key foundations have already been created.

The second key conclusion of the ANSFR Project is that the processes of review and evaluation are of central importance to improving current fire risk assessment and management strategies and techniques. While there is a lot of innovation across Europe in this field, there is significantly less evidence of the effectiveness of new and existing approaches. Many FRS simply do not know how effective their approaches to fire risk assessment and management are and why certain initiatives/strategies may or may not be effective. The development of an accurate and reliable evidence-base is crucial, both locally for individual FRS and internationally for the benefit of all FRS in Europe. In order to develop a strong evidence base, FRS need to thoroughly and regularly evaluate and review their processes, procedures, initiatives and strategies.

The third and final key conclusion of the ANSFR Project is that FRS need to work in close partnership with a range of organisations in order to comprehensively assess and manage fire risk. FRS need to work with other stakeholders to reach out and adequately protect all members of society. Within all countries, there are multiple organisations, public, private and voluntary, that work to protect and improve safety for similar social groups to achieve similar generic goals. The primary interests for FRS are to reduce risk of fire and reduce loss of life and damage caused by fire, but there are multiple stakeholders with a general interest in preventing harm to individuals/society and in protecting property and the environment. Good partnership working is a prerequisite for the appropriate and successful targeting of “at risk” social groups and “at risk” environments. FRS cannot work in a silo. It is also important to note that partnership working will not only improve the overall effectiveness of fire risk assessment and management, but it will also improve cost effectiveness and value for money. This is particularly apt considering the current global recession and cut-backs in budgets at national and local levels.

There is no “one size fits all” best practice for all FRS in Europe. European FRS face both similar and contrasting fire risk problems within both similar and contrasting social and environmental contexts. However, the ANSFR Partners believe that this document of

[141] The key conclusions presented within this chapter of the report do not necessarily represent the views or opinions of the ANSFR partner organisations, inclusive of: Northumberland Fire and Rescue Service, Frederikssund-Halsnæs Fire and Rescue Department, Corpo Nazionale dei Vigili del Fuoco, the Emergency Services College, Kanta-Häme Emergency Services and South West Finland Emergency Services.

recommendations contains information of interest and benefit to all FRS. It is the opinion of the project team that this document and the other resources produced during the ANSFR Project will contribute towards a reduction in fire risk within the four project countries and potentially a reduction in fire risk at a wider European level. The impacts of the project will take time to be realised because FRS across Europe will need time to absorb, adopt and implement the good practice identified, generated and shared during the project. However, the potential is now there for all FRS in Europe to benefit from ANSFR by improving the way they assess and manage fire risk and in so doing to reduce fire risk to their communities and the environment.

For further information about this document or about any element of the ANSFR Project, please contact one or more of the officers listed on page 2 of this document.

Appendix 1 – The Northumberland Arson Task Force

The Northumberland Arson Task Force (ATF) is a multi-agency task force that currently consists of 3 personnel from Northumberland Fire and Rescue Service (NFRS) and 1 police officer from Northumbria Police. Personnel within the ATF employed by NFRS include the ATF Manager, ATF Researcher, and ATF Project Officer. Team members are involved in providing a range of community safety and intervention activities. The Northumberland ATF has been identified by the UK government[142] as an example of best practice in effective arson prevention and investigation. The department is dynamic in its response to changes and problems as they occur, and proactive through its anticipation of potential future problems.

The Northumberland ATF aims to reduce and detect arson through a two-pronged strategy of:

1. Arson Prevention
2. Arson Investigation

1. Arson Prevention

Using a problem solving approach the ATF works closely with partner agencies to develop and implement arson reduction and prevention initiatives. The ATF's prevention strategy involves three key strands:

a. Education
b. Removal of Opportunity
c. Deterrence

a. Education

The ATF sits within a larger department within Northumberland Fire and Rescue Service called the Community Safety Academy (CSA). The principle objective of the Community Safety Academy is to improve safety in the community and reduce risks to life through effective partnerships with other agencies. The structure of the CSA has been developed to create three distinct, but mutually supportive teams: the Programme Delivery Team; the Programme Development Team; and the Arson Task Force. However, a review is currently underway which will streamline the department into two distinct areas of delivery, The Research and Intervention Team and the Children and Young People Team. The ATF will form the core of the Research and Intervention Team along with additional areas of work including research, problem solving and situational education and intervention activities. The Children and Young People Team will co-ordinate and deliver the range of youth education courses and opportunities currently delivered. The Members of the ATF assist in the delivery of Fire and Security Awareness training courses given to school caretakers. These courses aim to educate and raise awareness among school caretakers of potential targets for arson attacks and how they can reduce opportunities for arson by implementing simple preventative measures. In addition to this form of education, the CSA has designed and supports delivery of the Schools Education Programme to all schools within Northumberland. This programme is a long-term initiative that educates young people in community safety issues (including fire safety and the dangers of deliberately setting fires). The programme has been designed to mutually support the National Curriculum and is structured to deliver appropriate and relevant messages to children and young people throughout their school lives.

[142] By the former Office of the Deputy Prime Minister (ODPM).

b. Removal of opportunity

A significant proportion of the work completed by the Northumberland ATF involves the identification and removal of potential arson opportunities. This involves continual analysis of the Fire Service Incident Database and the Police Crime and Incident Databases by the Arson Task Force Researcher and Police Officer. The ATF also relies upon information about potential risks being conveyed by the 6 Community Wardens, partner agencies (for instance, the local authority), fire crews attending incidents or completing other duties, and observations made by the team while on duties throughout the County. The ATF also rely upon intelligence provided by members of the public. Where arson risks are identified, the ATF does everything in its power to ensure that the risks are removed as soon as possible. A common arson risk within the county is the existence of fully-laden skips that are not promptly collected. When the ATF identifies a fully-laden skip it notifies the company that owns the skip and requests that they remove it as soon as possible. This proactive approach towards risk removal has contributed to a significant reduction in the number of rubbish fires set within the county.

Another specific initiative aimed at removing opportunities for arson which has been set up with the assistance of the Northumberland ATF has been the AVAIL Scheme – Abandoned Vehicle Action Information and Liaison. This initiative involves the rapid removal of abandoned vehicles from the streets of Northumberland. Any abandoned vehicle reported through the central hotline telephone number is removed and impounded within 24 hours. This has helped to significantly reduce the number of criminal fires within vehicles across the county.

c. Deterrence

The deterrent aspect of the ATF's preventative work includes engaging in focused publicity campaigns that warn against the dangers and potential ramifications of fire-setting (particularly during the Bonfire Period around November 5th each year). The ATF also coordinates periodic "letter drops" to homes and businesses within recorded arson hotspots around the county. The letters request that residents pass any information they may have about incidents of fire-setting to the ATF via a confidential telephone number. Any information received is passed directly to Northumbria Police. While these letter drops often yield important information that the Police can act upon, there is also an important deterrent element – individuals who are setting fires are notified that the Fire Service and Police are working together to stop fire setting behaviour in the area and that if they continue to set fires they may be caught and punished.

2. Arson Investigation

No strategy can prevent all criminal fires from occurring. Consequently, when criminal fires do occur, the ATF's strategy involves the completion of thorough fire scene investigations in order to yield information about the origin and cause of the fire, as well as potential evidence that can be used to identify criminal fire setters. By conducting through investigations in partnership with other organisations including the Police, the ATF is working to increase the detection rate for arson and prevent and reduce future arson fires. By thoroughly investigating fire scenes and bringing more fire setters to justice through the courts, the ATF has helped increase the number of successful prosecutions for criminal fire setting. The ATF is also helping to deter some would-be fire setters by making examples of those who have been caught and punished through the use of targeted publicity campaigns.

Appendix 2 - Fire Risk Assessment and Management Resources Identified during the ANSFR Project

This Appendix includes a list of useful website addresses and documents that have been identified during the course of the ANSFR Project. Where possible, the website addresses and documents have been uploaded onto the ANSFR Project website. Those that have been uploaded onto the website can be accessed at the following website address:
http://www.fire-risk.eu/resources/default.htm?logon_mode=2

In order to view resources contained within the ANSFR website (including documents, the contact database and suggested reading), individuals must be registered users of the website with a username and password. Details concerning the registration process are outlined in the footnote below.[143]

Website Addresses

No.	Name/Description of website	Country	Theme/topic area	Website address	Language(s)
1	ANSFR Project Website	Europe	General, Accidental Fire Risk, Environmental Fire Risk and Social Fire Risk	www.fire-risk.eu	English, Danish, Finnish, Italian, Swedish, French & German
2	Comando Provinciale Vigili del Fuoco Latina (Italiano)	Italy	General	http://www.vigilfuoco.it/sitiVVF/latina/	Italian
3	Comando Provinciale Vigili del Fuoco Roma (Italiano)	Italy	General	http://www.vigilfuoco.it/informazioni/uffici_territorio/GestioneSiti/homepageTemplate.asp?s=61&p=101	Italian
4	Comando Provinciale Vigili del Fuoco Siena (Italiano)	Italy	General	http://www.vigilfuoco.it/informazioni/uffici_territorio/GestioneSiti/homepageTemplate.asp?s=502&p=1486	Italian
5	Corpo Nazionale dei Vigili del Fuoco	Italy	General	http://www.vigilfuoco.it/	Italian
6	Corpo Nazionale dei Vigili del Fuoco - Publications	Italy	General	http://www.vigilfuoco.it/speciali/isa/biblioteca/default.asp	Italian
7	Danish Emergency Management Agency (DEMA)	Denmark	General	http://www.brs.dk/uk/	English

[143] To become a registered user, individuals must complete and submit the electronic registration form at http://www.fire-risk.eu/register.htm. In order to successfully submit this form, individuals must confirm that they have read and agree to abide by the Terms and Conditions of Registration available at http://www.fire-risk.eu/registrationdisclaimer.htm. Upon submitting their registration form, the applicant is sent an automatically generated email which contains their username and password. This email will also state that their application is being considered. A further automatically generated email is then sent when an individual's registration has been approved, notifying the applicant that they can access the website resources.

No.	Name/Description of website	Country	Theme/topic area	Website address	Language(s)
8	Derbyshire Constabulary	UK	General	http://www.derbyshire.police.uk/	English
9	Derbyshire County Council	UK	General	http://www.derbyshire.gov.uk/	English
10	Derbyshire Fire and Rescue Service	UK	General	http://www.derbyshire-fire-service.co.uk/	English
11	Emergency Services College	Finland	General	http://www.pelastusopisto.fi/	Finnish
12	Emergency Services College - Current Projects	Finland	General	http://www.pelastusopisto.fi/pelastus/home.nsf/pages/4CB20FB28521E776C22571D500423F27?opendocument	Finnish
13	European Civil Protection	European Union	General	http://ec.europa.eu/echo/civil_protection/civil/index.htm	English
14	European Civil Protection Financial Instrument	European Union	General	http://ec.europa.eu/echo/civil_protection/civil/prote/finance.htm	English
15	European Commission	European Union	General	http://ec.europa.eu/index_en.htm	English, Danish, Finnish, Italian, French & German
16	European Commission Directorate-General for Environment	European Union	General	http://ec.europa.eu/dgs/environment/index_en.htm	English
17	European Commission Directorate-General for Justice, Freedom and Security	European Union	General	http://ec.europa.eu/dgs/justice_home/index.html	English
18	European Commission Humanitarian Aid and Civil Protection Department (ECHO)	European Union	General	http://ec.europa.eu/echo/	English and French
19	European Southern Observatory (ESO)	Europe	General	http://www.eso.org/public/	English
20	Federation of the European Union Fire Officer Associations	European Union	General	http://www.f-e-u.org/feu_member.php?land=en	English, Danish, Finnish, Italian, French & German
21	European Fire Academy - European Fire Statistics	Europe	General	http://www.europeanfireacademy.com/cms/show/id=675053	English
22	Finland Slot Machine Association (RAY)	Finland	General and Environmental Fire Risk	http://www.ray.fi/inenglish/avustustoiminta/	English
23	Finnish National Rescue Association	Finland	General, Accidental Fire Risk, Environmental Fire Risk and Social Fire Risk	http://www.spek.fi/Suomeksi.iw3	Finnish
24	Finnish Rescue Services	Finland	General	http://www.pelastustoimi.fi/media/pdf/esitteet2006/2006_pelastus_en.pdf	English
25	Fire Risk in Europe Conference 2010 – Delegate Bookings	Europe	General	http://www.fireriskeuropeconference.com/	English
26	General Inspectorate for Emergency Situations	Romania	General	http://www.igsu.ro/	Romanian

No.	Name/Description of website	Country	Theme/topic area	Website address	Language(s)
27	Institut de Police Scientifique at the University of Lausanne, Switzerland	Switzerland	General	http://www.unil.ch/esc/page10116.html	French
28	Kanta-Häme Emergency Services	Finland	General	http://www.pelastuslaitos.fi/portal/fi/	Finnish
29	Karlstad Kommun	Sweden	General	http://www.karlstad.se/	Swedish
30	Ministry of the Interior of Finland	Finland	General	http://www.intermin.fi/intermin/home.nsf/pages/index_eng	English
31	Ministry of the Interior of Italy	Italy	General	http://www.interno.it/mininterno/export/sites/default/it/	Italian
32	Nordstat - Nordic Fire Statistics	Denmark, Finland, Iceland, Norway, Sweden	General	http://www.nordstat.net/	English
33	Northumberland Fire and Rescue Service	UK	General	http://www.northumberland.gov.uk/Default.aspx?page=1304	English
34	Northumberland Fire and Rescue Service - ANSFR Project Summary	UK	General	http://www.northumberland.gov.uk/default.aspx?page=4604	English
35	Northumberland Fire and Rescue Service - Integrated Risk Management Plan (IRMP)	UK	General	http://www.northumberland.gov.uk/default.aspx?page=1307	English
36	ODIN Online Data Recording and Reporting System	Denmark	General	https://www.odin.dk/BEREDSKABSSTYRELSEN.ODIN.WEBCLIENT/login.aspx?check=check	Danish
37	Planning a Safe Escape from your Home in the Event of a Fire	UK	General	http://www.direct.gov.uk/en/HomeAndCommunity/InYourHome/Escapingandrecoveringfromafire/DG_071793	English
38	Finnish PRONTO System for the Finnish Rescue Services	Finland	General	http://www.pelastustoimi.fi/en/in-brief/	English
39	Regione Valle d'Aosta Vigili del Fuoco - Valle d'Aosta Region Fire and Rescue Service (Italiano)	Italy	General	http://www.regione.vda.it/vvf/default_i.asp	Italian
40	Finnish Regional Rescue Services	Finland	General	http://www.pelastustoimi.fi/wp-content/uploads/2010/06/rescue_services_in_finland.pdf	English
41	Risk Assessment Approach to Managing a Fire Safety Inspection Programme	UK	General	http://www.communities.gov.uk/documents/fire/pdf/IRMPguidancente4	English
42	South West Finland Emergency Services	Finland	General	http://www.turku.fi/Public/default.aspx?nodeid=8600&culture=en-US&contentlan=2	English
43	Tagish - Contracted ANSFR Website Developer	UK	General	http://www.tagish.co.uk/	English
44	Technical Research Centre of Finland (VTT)	Finland	General	http://www.vtt.fi/	Finnish
45	The Provincial Headquarters of the State Fire Service in Poznan, Wielkopolska	Poland	General	http://www.psp.wlkp.pl/	Polish
46	UN Convention on the Rights of Migrant Workers	United Nations	General	http://www2.ohchr.org/english/law/pdf/cmw.pdf	English
47	United Kingdom Incident Recording System (IRS)	UK	General	http://www.communities.gov.uk/fire/researchandstatistics/firestatistics/newincidentrecording/	English
48	University of Auckland	New Zealand	General	http://www.auckland.ac.nz/uoa/	English

No.	Name/Description of website	Country	Theme/topic area	Website address	Language(s)
49	Use of helicopters and fixed wing aircraft by the Fire Service and Police	Germany	General	http://www.brand-feuer.de/index.php/Feuerwehr_%26_Polizei_in_%22einem%22_Hubschrauber	German
50	Warwickshire Fire and Rescue Services	UK	General	http://www.warwickshire.gov.uk/fireandrescue	English
51	West Sussex Fire and Rescue Service	UK	General	http://www.westsussex.gov.uk/default.aspx?page=7803	English
52	Asociación Nacional de Investigadores de Incendios de España (ANINCE)	Spain	General – Fire Investigation	http://www.anince.es/index.php	Spanish
53	Brand-feuer.de - Article advocating benefits of an aerial view for fire investigations	Germany	General – Fire Investigation	http://www.brand-feuer.de/index.php/Feuerwehr_%26_Polizei_in_%22einem%22_Hubschrauber	German
54	Corpo Nazionale dei Vigili del Fuoco – Nucleo Investigativo Antincendi	Italy	General – Fire Investigation	http://www.vigilfuoco.it/default.asp	Italian
55	Civil Contingencies Act 2004	UK	General – Emergency Planning	http://www.cabinetoffice.gov.uk/ukresilience/preparedness/ccact.aspx	English
56	Civil Contingencies Act 2004 - Guidance	UK	General – Emergency Planning	http://www.cabinetoffice.gov.uk/ukresilience/preparedness/ccact.aspx	English
57	Corpo Nazionale dei Vigili del Fuoco - Direzione Centrale per la Prevenzione e la Sicurezza Tecnica	Italy	General – Fire Safety Engineering	http://www.vigilfuoco.it/speciali/sicurezza/direzione.asp	Italian
58	Annual 112 Day in Finland	Finland	Accidental Fire Risk	http://www.112-paiva.fi/en/home.html	Finnish, Swedish & English
59	Boat Fire Safety Guidance	UK	Accidental Fire Risk	http://webarchive.nationalarchives.gov.uk/+/www.direct.gov.uk/en/HomeAndCommunity/InYourHome/FireSafety/DG_071774	English
60	Boat Fire Safety Leaflet	UK	Accidental Fire Risk	http://www.direct.gov.uk/en/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_074011.pdf	English
61	Bonfire Safety Guidance	UK	Accidental Fire Risk	http://www.direct.gov.uk/en/HomeAndCommunity/InYourHome/Escapingandrecoveringfromafire/DG_180786	English
62	Brandforebyggelse – National Fire Prevention Campaign in Denmark	Denmark	Accidental Fire Risk	http://www.brandforebyggelse.dk/	Danish
63	Brandkampagner – National Fire Prevention Campaign in Denmark	Denmark	Accidental Fire Risk	http://www.brandkampagner.dk/	Danish
64	Campaign to prevent accidents in the home in Finland	Finland	Accidental Fire Risk	http://www.tapaturmapaiva.fi/fi/mika-on-tapaturmapaiva	Finnish & Swedish
65	Candle Safety Advice	UK	Accidental Fire Risk	http://webarchive.nationalarchives.gov.uk/+/www.direct.gov.uk/en/HomeAndCommunity/InYourHome/FireSafety/DG_071677	English
66	Corpo Nazionale dei Vigili del Fuoco - ANSFR Project Roma Workshop Gallery of Photographs (2) (Italiano)	Italy	Accidental Fire Risk	http://www.vigilfuoco.it/notiziario/galleria.asp?codnews=8992	Italian

No.	Name/Description of website	Country	Theme/topic area	Website address	Language(s)
67	Corpo Nazionale dei Vigili del Fuoco - ANSFR Project Roma Workshop Gallery of Photographs (Italiano)	Italy	Accidental Fire Risk	http://www.vigilfuoco.it/notiziario/galleria.asp?codnews=9044	Italian
68	Corpo Nazionale dei Vigili del Fuoco - Article on the ANSFR Project and ANSFR Roma Workshop (Italiano and English)	Italy	Accidental Fire Risk	http://www.vigilfuoco.it/notiziario/notizia.asp?codnews=9044	Italian & English
69	Corpo Nazionale dei Vigili del Fuoco - Fire Prevention Advice	Italy	Accidental Fire Risk	http://prevenzioneonline.vigilfuoco.it/VVF/jsp/serviziPPI.jsp	Italian
70	Corpo Nazionale dei Vigili del Fuoco - Fire Prevention for Children	Italy	Accidental Fire Risk	http://www.vigilfuoco.it/servizi/bambini/default.asp?menu=79	Italian
71	Danish Emergency Law	Denmark	Accidental Fire Risk	https://www.retsinformation.dk/Forms/R0710.aspx?id=123670	Danish
72	Danish Emergency Law – List of types of premises that must be inspected by local fire authorities in Denmark	Denmark	Accidental Fire Risk	http://www.brs.dk/fagomraade/tilsyn/forbyg/brandsyn2008.htm	Danish
73	Edukacja i profilaktyka pożarowa (Education and Fire Prevention Portal)	Poland	Accidental Fire Risk	http://www.edukacja.psp.wlkp.pl/	Polish
74	Electrical Appliance Fire Safety	UK	Accidental Fire Risk	http://www.direct.gov.uk/en/HomeAndCommunity/InYourHome/FireSafety/DG_071712	English
75	Finnish National Institute for Health and Welfare	Finland	Accidental Fire Risk	http://www.thl.fi/en_US/web/en	Finnish, Swedish & English
76	Fire Kills – National Fire Safety Campaign	UK	Accidental Fire Risk	http://firekills.direct.gov.uk/index.html	English
77	Fire Safety Advice for the Use of Candles	Finland	Accidental Fire Risk	http://www.spek.fi/Suomeksi/Paloturvallisuus/Jokakodin_paloturvallisuus/Kynttilat_ja_ulkotulet.iw3	Finnish & Swedish
78	Fire Safety Advice for Christmas – Guidance Booklet	UK	Accidental Fire Risk	http://www.direct.gov.uk/en/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_171373.pdf	English
79	Fire Safety Advice for Parents and Carers	UK	Accidental Fire Risk	http://www.direct.gov.uk/en/Parents/Yourchildshealthandsafety/Yourchildssafetyinthehome/DG_10038395	English
80	Fire Safety Education for Children and Young People	Italy	Accidental Fire Risk	http://www.vigilfuoco.it/servizi/bambini/lezioni/sicurezza/, http://www.vigilfuoco.it/speciali/sicurezza/sicurezza_insieme/scuola_sicura/, and http://www.vigilfuoco.it/servizi/info/feste_sicure/giocattoli.asp	Italian
81	Fire Safety Education for the Elderly	Italy	Accidental Fire Risk	http://www.vigilfuoco.it/servizi/info/anziani/ and http://www.vigilfuoco.it/servizi/info/disabili/pdf/soccorso_disabili.pdf	Italian
82	Fire Safety for Smokers and Smoking Materials	UK	Accidental Fire Risk	http://www.direct.gov.uk/en/HomeAndCommunity/InYourHome/FireSafety/DG_071693	English
83	Fire Safety in Construction	UK	Accidental Fire Risk	http://books.hse.gov.uk/hse/public/saleproduct.jsf?catalogueCode=9780717663453	English
84	Fire Safety in the Home	Italy	Accidental Fire Risk	http://www.vigilfuoco.it/speciali/sicurezza/sicurezza_insieme/incasa/sicurezza.pdf	Italian
85	Fire Safety in the Home – A Quick Guide	UK	Accidental Fire Risk	http://www.direct.gov.uk/en/HomeAndCommunity/InYourHome/FireSafety/DG_10030963	English
86	Fire Safety in the Home Guidance Booklet	UK	Accidental Fire Risk	http://www.direct.gov.uk/en/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_073993.pdf	English

No.	Name/Description of website	Country	Theme/topic area	Website address	Language(s)
87	Fire Safety in the Kitchen	UK	Accidental Fire Risk	http://www.direct.gov.uk/en/HomeAndCommunity/InYourHome/FireSafety/DG_071645	English
88	Fire Safety Outdoors – Barbeques and Camping	UK	Accidental Fire Risk and Environmental Fire Risk	http://webarchive.nationalarchives.gov.uk/+/www.direct.gov.uk/en/HomeAndCommunity/InYourHome/FireSafety/DG_071759	English
89	General Safety Advice	Finland	Accidental Fire Risk	http://www.pelastusopisto.fi/pelastus/home.nsf/pages/FAD992C681363111C22571C300307244?opendocument	Finnish
90	Guidance for Fire Authorities in Denmark on Implementing Fire Inspection Schedules	Denmark	Accidental Fire Risk	http://www.brs.dk/info/2008/Vejledning%20om%20brandsyn%20010408.pdf	Danish
91	Guidance on Installing Smoke Alarms in Homes	UK	Accidental Fire Risk	http://www.direct.gov.uk/en/HomeAndCommunity/InYourHome/FireSafety/DG_071751	English
92	Ministry of Social Affairs and Health	Finland	Accidental Fire Risk	http://www.stm.fi/en/welfare;jsessionid=b44ecb2cf9d026ef07a2316e9350	Finnish, Swedish & English
93	National Fire Safety Campaign in Denmark	Denmark	Accidental Fire Risk	http://www.brs.dk/fagomraade/tilsyn/sta/forebyggelseogkampagner.htm	Danish
94	Notice for Fire Authorities in Denmark on the Required Frequency of Fire Inspections for Individual Types of Building	Denmark	Accidental Fire Risk	https://www.retsinformation.dk/Forms/R0710.aspx?id=114230	Danish
95	Nou Hätä (No Problem) Campaign	Finland	Accidental Fire Risk	http://www.nouhata.fi/ and http://www.spek.fi/Suomeksi/Ajankohtaista/Kampanjat/Nou_Hata!.iw3	Finnish & Swedish
96	Portugal without Fires Campaign	Portugal	Accidental Fire Risk, Environmental Fire Risk and Social Fire Risk	http://www.prociv.pt/sites/en4/fdc/Pages/default.aspx	Portuguese & English
97	Preventing Burns and Scolds to Children	UK	Accidental Fire Risk	http://www.direct.gov.uk/en/Parents/Yourchildshealthandsafety/Yourchildssafetyinthehome/DG_078862	English
98	TUKES – Technical Safety	Finland	Accidental Fire Risk	http://www.tukes.fi/en/	Finnish, Swedish & English
99	Advice on open fires and peat land fires in Finland	Finland	Environmental Fire Risk	http://www.pelastustoimi.fi/aihe/neuvontapalvelu	Finnish
100	Corpo Forestale dello Stato - Italian State Forestry Service	Italy	Environmental Fire Risk and Social Fire Risk	http://www3.corpoforestale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/1	Italian
101	Danish Embassy in Athens - Participation of Hellenic Fire Service in ANSFR Project (Dansk)	Denmark and Greece	Environmental Fire Risk	http://www.ambathen.um.dk/da/menu/OmOs/Nyheder/ATHENSBRANDVAESENSOMAKTIVDELTAGERIINTERNATIONALTBEREDSSKABSSEMINARIDANMARK.htm	Danish
102	Danish Forest and Nature Agency - Dänischen Generaldirektorat für Forst und Natur	Denmark	Environmental Fire Risk	http://www.skovognatur.dk/International/	German & English
103	Dipartimento Protezione Civile (National Civil Protection Department)	Italy	Environmental Fire Risk	http://www.protezionecivile.it/minisite/index.php?dir_pk=252	Italian

No.	Name/Description of website	Country	Theme/topic area	Website address	Language(s)
104	Environment Agency	UK	Environmental Fire Risk	http://www.environment-agency.gov.uk/	English
105	European Forest Fire Information System	Europe	Environmental Fire Risk	http://effis.jrc.ec.europa.eu/current-situation	English
106	Final Report of the 2009 Victorian Bushfires Royal Commission	Australia	Environmental Fire Risk	http://www.royalcommission.vic.gov.au/Commission-Reports	English
107	Fire Paradox Project	Portugal	Environmental Fire Risk	http://www.fireparadox.org/	English
108	Interim Report of the 2009 Victorian Bushfires Royal Commission	Australia	Environmental Fire Risk	http://www.royalcommission.vic.gov.au/getdoc/208e8bcb-3927-41ec-8c23-2cdc86a7cec7/Interim-Report	English
109	Investigating Wildfire Part 1 of 2	USA	Environmental Fire Risk	http://www.interfire.org/features/wildfires.asp	English
110	Investigating Wildfire Part 2 of 2	USA	Environmental Fire Risk	http://www.interfire.org/features/wildfires2.asp	English
111	Managing Efforts to Prevent Forest Fires in South America	South America	Environmental Fire Risk	http://www.fs.fed.us/psw/publications/documents/psw_gtr208en/psw_gtr208en_661-672_julio-alvear.pdf	English
112	Ministry of the Environment of Finland	Finland	Environmental Fire Risk	http://www.vn.fi/ministeriot/ym/en.jsp	English
113	Monash Sustainability Institute	Australia	Environmental Fire Risk	http://www.monash.edu/research/sustainability-institute/	English
114	Moorland Association	UK	Environmental Fire Risk	http://www.moorlandassociation.org/	English
115	National Farmers Union (NFU)	UK	Environmental Fire Risk	http://www.nfuonline.com/	English
116	National Gamekeepers Association	UK	Environmental Fire Risk	http://www.nationalgamekeepers.org.uk/	English
117	National Parks Authorities	UK	Environmental Fire Risk	http://www.nationalparks.gov.uk/index.htm	English
118	Natural England	UK	Environmental Fire Risk	http://www.naturalengland.org.uk/	English
119	Northumberland Fire Group	UK	Environmental Fire Risk	http://www.northwoods.org.uk/fire-group-northumberland	English
120	Northumberland National Park	UK	Environmental Fire Risk	http://www.northumberlandnationalpark.org.uk/	English
121	Partnership Working and Multi-Agency Cooperation During and After the L'Aquila Earthquake in 2009	Italy	Environmental Fire Risk	http://www.vigilfuoco.it/notiziario/notizia.asp?codnews=8013 and at http://terremotoabruzzo09.itc.cnr.it/	Italian
123	REACT Project (Reaction to Emergency Alerts using voice and Clustering Technologies) - Multi-agency coordination of forest fire interventions	Italy	Environmental Fire Risk	http://www.react-ist.net/wordpress/	Italian
124	Report from "Collaborating for Change: Symposium Advancing Bushfire Arson Prevention in Australia"	Australia	Environmental Fire Risk	http://www.monash.edu.au/research/sustainability-institute/assets/documents/bushfire-arson/advancing-bushfire-arson_report.pdf	English

No.	Name/Description of website	Country	Theme/topic area	Website address	Language(s)
125	Report on the Economic Costs of Wildfires	New Zealand	Environmental Fire Risk	http://www.fire.org.nz/Research/Publishsed-Reports/Documents/FINAL%20-%20BERL%20(2009)%20The%20economic%20cost%20of%20wildfires.pdf	English
126	Rural Development Initiatives Ltd.	UK	Environmental Fire Risk	http://www.ruraldevelopment.org.uk/	England
127	Scottish Gamekeepers Association	UK	Environmental Fire Risk	http://www.scottishgamekeepers.co.uk/	English
128	Scottish Wildfire Forum Annual Report 2005	UK	Environmental Fire Risk	http://www.confor.org.uk/Upload/Documents/25_swfannreport0506.pdf	England
129	Second Interim Report of the 2009 Victorian Bushfires Royal Commission - Priorities for Building in Bushfire Prone Areas	Australia	Environmental Fire Risk	http://www.royalcommission.vic.gov.au/getdoc/0ee9cf62-b75e-4c81-95b1-741b05d9d441/Interim-Report-2	English
130	Slovenia Forest Service	Slovenia	Environmental Fire Risk	http://www.zgs.gov.si/eng/about-sfs/organization/slovenia-forest-service/index.html	English
131	South Carolina Fire Fighter Arson Study	United States of America	Environmental Fire Risk and Social Fire Risk	http://www.state.sc.us/forest/lear.htm	English
132	South East of England Wildfire Group	UK	Environmental Fire Risk	http://www.ruraldevelopment.org.uk/case-studies/south-east-england-widlfire-group-enabling-partnership-working	English
133	Summary List of Recommendations of the 2009 Victorian Bushfires Royal Commission	Australia	Environmental Fire Risk	http://www.royalcommission.vic.gov.au/Assets/VBRC-Final-Report-Recommendations.pdf	English
134	Tapio – Forestry Management	Finland	Environmental Fire Risk	http://www.tapio.fi/home	Finnish, Swedish, English & Russian
135	The Economic Value of Risk Reduction of Forest Fires in Spain	Spain	Environmental Fire Risk	http://www.medforex.net/research/publications.htm#2._Forest_management_	English
136	The Met Office	UK	Environmental Fire Risk	http://www.metoffice.gov.uk/	English
137	2009 Victorian Bushfires Royal Commission Opens in a new window	Australia	Environmental Fire Risk	http://www.royalcommission.vic.gov.au/	English
138	Wildfire Emergency Plans Produced by Dipartimento Protezione Civile	Italy	Environmental Fire Risk	http://www.protezionecivile.it/minisite/index.php?dir_pk=252	Italian
139	Arson Control Forum	UK	Social Fire Risk	http://www.arsoncontrolforum.org.uk/?not_logged_in=true	English
140	European Exchange of Best Practice in Arson Prevention and Investigation	Europe	Social Fire Risk	http://www.northumberland.gov.uk/default.aspx?page=1311	English
141	Fire Crime in Europe Conference 2008	Europe	Social Fire Risk	http://www.northumberland.gov.uk/default.aspx?page=3796	English
142	L'Arson Prévention Club	Belgium	Social Fire Risk	http://www.arson.be/	French
143	Northumberland Arson Task Force (ATF)	UK	Social Fire Risk	http://www.northumberland.gov.uk/default.aspx?page=605	English
144	National Observatory for Sporting Events (NOSE)	Italy	Social Fire Risk	http://www.osservatoriosport.interno.it/	Italian

No.	Name/Description of website	Country	Theme/topic area	Website address	Language(s)
145	Nucleo Investigativo Antincendi Boschivi (NIAB), a fire investigation department within Corpo Forestale dello Stato	Italy	Social Fire Risk	http://www.foresteurope.org/filestore/foresteurope/Meetings/2010/Workshop_Forest_Fire/13_Colletti.pdf (English) and http://www3.corpoforestale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/330 (Italian)	Italian & English
146	Outcome Evaluation of New Zealand Fire Service Fire Awareness and Intervention Programme	New Zealand	Social Fire Risk	http://www.fire.org.nz/Research/Current-Round/Documents/An%20Outcome%20Evaluation%20of%20NZ%20Fire%20Service%20FAIP%20-%20recidivism%20rate%20part.pdf	English
147	Police Academy of the Netherlands	Netherlands	Social Fire Risk	http://www.onderzoekinformatie.nl/en/oi/nod/organisatie/ORG1239700/	Dutch & English
148	Sparking up an Old Flame: A Process Evaluation of the Fire Awareness and Intervention Programme (FAIP) in New Zealand	New Zealand	Social Fire Risk	http://www.fire.org.nz/Research/Publishsed-Reports/Pages/SparkingupanOldFlameAProcessEvaluationoftheFireAwarenessandInterventionProgramme(FAIP)inNewZealand.aspx	English
149	Tulipysäkki (Fire Stop) Programme	Finland	Social Fire Risk	http://www.spek.fi/Suomeksi/Paloturvallisuus/Tulipysakki.iw3	Finnish

Documents

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
1	ANSFR Project Summary	General	This document provides a summary of the project partners working on the ANSFR Project. The document also briefly outlines the aim, objectives, and deliverables of the project and introduces the topics of the four ANSFR Project workshops	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=10	English (Executive summary is also available in Danish, Italian and Finnish).
2	Summary Report on the Terminology used in the United Kingdom, Denmark, Italy and Finland for the Assessment and Management of Fire Risk.	General	This report provides a summary of some of the key terminology used by organizations responsible for identifying, assessing and managing fire risk in the United Kingdom, Denmark, Italy and Finland. The material presented and discussed within this report was collected through exercises designed and delivered as part of the ANSFR Project.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=9	English
3	The ANSFR European Project - Effective Fire Risk Assessment and Management	General	ANSFR is a two-year European-Union co-financed project which aims to reduce the human, financial and environmental cost of fires in the partner countries (United Kingdom, Denmark, Italy and Finland) and across Europe. The project will achieve its aim through the design and delivery of several key activities that facilitate the discussion and critique of techniques used in Europe to identify, assess and manage fire risk. These activities are organised around three key themes: accidental fire risk, environmental fire risk and social fire risk. During the presentation, Rob introduced delegates to the project partners, provided an explanation of the three key project themes and summarised the key project activities, both completed and ongoing. Rob also provided a demonstration of the ANSFR Project website (www.fire-risk.eu).	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=35	English
4	ANSFR Project: Northumberland Workshop Handbook	General	This handbook documents the sessions delivered and the material produced during a European workshop hosted by Northumberland Fire and Rescue Service (UK) on 18th-21st May 2009. The workshop was the first of four workshops to be delivered over the course of the two-year ANSFR Project.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=11	English (Executive summary is also available in Danish, Italian and Finnish).
5	ANSFR Project: Fire Risk in Europe Conference 2010 Handbook	General, Accidental Fire Risk, Environmental Fire Risk and Social Fire Risk	A finalised event programme for the Fire Risk in Europe Conference 2010 has now been released. The event included plenary presentations, interactive workshop sessions, poster presentations and networking opportunities.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=31	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
6	Fire Risk Management in Romania	General	This presentation looked at the methods used in fire risk assessment and management in Romania. The presentation also looked at how fire risk assessment and management is regulated.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=45	English
7	Frederikssund-Halsnæs Brand and Redningsberedskab	General	Frederikssund-Halsnæs Fire & Rescue Service exists to serve the 76,000 people who live in the municipalities of Frederikssund and Halsnæs as well as local businesses and visitors to the area. We cover an area of 382 km² from six fire stations in Frederikssund, Frederiksværk, Hundested, Jægerspris, Skibby and Slangerup, and employ about 20 full-time staff, 90 part-time staff and enjoy the support of about 100 volunteers some of whom are dog handlers. Many people associate the work of a fire and rescue service with flashing blue lights and driving around in fire engines, but, as you will find out when reading this leaflet, providing emergency services is only one aspect of the many services we provide.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=70	English
8	Introduction to Fire Risk Assessment and Management by Corpo Nazionale dei Vigili del Fuoco	General	This document introduces the role and responsibilities of Corpo Nazionale dei Vigili del Fuoco. The document also provides an introduction to some of the risk assessment and management practices that are currently implemented by Corpo Nazionale dei Vigili del Fuoco.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=8	English
9	Introduction to Fire Risk Assessment and Management by Frederikssund-Halsnæs Fire and Rescue Service	General	This document introduces the role and responsibilities of Frederikssund-Halsnæs Fire and Rescue Service. The document also provides an introduction to some of the risk assessment and management practices that are currently implemented by Frederikssund-Halsnæs Fire and Rescue Service.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=7	English
10	Introduction to the Emergency Services College and the Finnish Regional Rescue Services	General	This document provides a summary introduction of the work and responsibilities of the Emergency Services College and the 22 Regional Rescue Services in Finland.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=14	English
11	Performance Management and Risk Assessment by Northumberland Fire and Rescue Service	General	This document describes how the processes of risk assessment and performance management are closely interrelated and interdependent within Northumberland Fire and Rescue Service (NFRS). In brief, risk assessment and management is central to performance management at NFRS.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=6	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
12	Pronto Statistical Data System in Finland	General	The Finnish Rescue Act says: “Regional Rescue Services may preserve registry on action for monitoring and developing of rescue services, and for the clarifying of an accident.” Ministry of Interior has generated a web-based system for these purposes in 2000. System includes data from the year 1996 on every operation fire brigade called on accidents and other tasks. It includes also data on for example resources and risk areas. System has over 3.700 users, which are mainly rescue services authorities. Also other authorities and researchers can have an access to the system. The main outputs of the system are standard reports or spatial presentation which can be used for example for fire prevention.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=37	English
13	Recommendations of the ANSFR Project	General, Accidental Fire Risk, Environmental Fire Risk and Social Fire Risk	This document provides guidelines and recommendations concerning good practice in the identification, assessment and management of fire risk. The recommendations have been collaboratively developed by the six partner organisations delivering the ANSFR Project. This collaborative process has taken two years and has involved four workshops, one international conference and continuous dialogue between the project partners. The recommendations have been developed primarily as a response to issues that currently exist within the four ANSFR countries; however, the recommendations will be of significant interest and relevance to all fire and rescue services in Europe.	Forthcoming. A copy of the document will be downloadable in the future from the following page:	English, Danish, Italian and Finnish
14	Risk Management in Scientific Intergovernmental Organisations	General,	The European Southern Observatory (ESO) poster covers risk management and fire prevention aspects specific to intergovernmental organizations, as they are hosted by different countries all over Europe. These organizations: are exterritorial to their host-state; they run – for some of them - installations outside Europe; their workforce is multinational; they come in different configurations, as far as country-membership is concerned, and with their specific raison d'être, which -in case of scientific organisations - may add to their particular risk-potential; they operate experimental equipment at the forefront of science and technology; their “raison d’être” is the sheer size and value of research installations.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=51	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
15	Situational Classification of Fire Risks	General	This research aims at identifying situations that are likely to create a fire-risk, following-up these risks through methodology and tools and suggesting preventive measures by their analysis. Fire is considered to be the consequence of a situation where the control of an energy source is lost. Consequently, specific situations are likely to generate specific fire-risks (a burning cigarette left unattended in an ashtray is not dangerous, whereas the same cigarette on a sofa will probably lead to a fire). The analysis of the data gathered from the many institutions interacting with fires in a database will allow finding similar cases, identifying special fire-risks, to finally suggest measures to reduce the risk.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=57	English
16	The Role of Fire Safety Engineering in Fire Prevention in Italy	General	This presentation described the two different approaches now available in Italy for fire prevention: the traditional prescriptive approach and the recently-legitimated performance-based approach. Advantages and shortcomings of these two possibilities were briefly underlined and the current situation of their application in Italy was reported. Moreover, the experimental and study activities carried out at present by the laboratories of the Italian national fire brigade in the field of fire safety engineering were described. Finally, some important applications of fire safety engineering were discussed, namely: fire prevention; fire investigation; research; optimizing fire rescue procedures.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=46	English
17	Emergency Planning and Community Risk Registers in the UK	General - Emergency Planning	This presentation informed attendees of the Risk Assessment methodology required of the UK Fire and Rescue Service under the Civil Contingencies Act 2004 and how this is used to prioritize contingency planning against high priority risks. The links to Integrated Risk Management Plans and how resources are employed to mitigate the effects of the identified risks were also explained.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=38	English
18	Emergency Planning and Community Risk Registers in the UK and Northumberland/ Northumbria	General - Emergency Planning	This document provides a summary introduction to emergency planning and resilience in Northumberland, Northumbria and the UK. The document makes specific reference to important legislation in the UK regarding resilience, the Northumbria Local Resilience Forum, and the Northumbria Community Risk Register.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=13	English
19	Northumbria Community Risk Register	General - Emergency Planning	This document is version 5.0 of the Northumbria Community Risk Register. The Northumbria Community Risk Register is produced by the Northumbria Local Resilience Forum to fulfil its statutory duties as laid out in the Civil Contingencies Act 2004.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=25	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
20	Northumbria Local Resilience Forum and Community Risk Register	General - Emergency Planning	This document provides an overview of the Northumbria Local Resilience Forum in the UK. The document also provides some context to the production of Community Risk Registers by Local Resilience Forums in the UK.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=12	English
21	Fire Investigation of a Superstore Arson Poster	General - Fire Investigation	The poster describes the fire investigation activities related to a fire that developed in a do-it-yourself super store, damaging the whole area and all the structures of the fire compartment where it originated. According to the evidences the fire originated from a plastic cabinet shown on metallic shelves. In order to understand the dynamics of this fire, a numerical simulation of the cabinet combustion was carried out. The results of the numerical simulation were used to define a test plan for a full-scale experimental simulation, subsequently executed.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=60	English
22	Introduction to Fire Investigation in Finland	General - Fire Investigation	This document provides a summary introduction to fire investigation in Finland. Specific reference is given to recent changes in the structure of fire investigation in Finland since 2004 and recent fire investigation projects in Finland.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=2	English
23	Accident and Fire Prevention Legislation in Finland	Accidental Fire Risk	This document provides brief overview of some of the important pieces of legislation in Finland which aim to prevent and reduce fires and other accidents. Specific reference is made to prevention work completed by the Finnish Rescue Services, national legislation for self-preparedness and duty of care, fire inspections and the prevention of open fires and chimney fires.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=15	English
24	ANSFR Project: Roma Workshop Handbook	Accidental Fire Risk	This handbook documents the sessions delivered and the material produced during a European workshop hosted by Corpo Nazionale dei Vigili del Fuoco - Nucleo Investigativo Antincendi (Italy) on 30th November - 3rd December 2009. The workshop was the third of four workshops to be delivered over the course of the two-year ANSFR Project. The event focused on risk assessment and management for accidental fires, with a particular focus on fire safety engineering; risk assessment matrices; risk assessment of domestic premises; risk assessment of care homes; and, education to raise awareness and knowledge of accidental fire risk.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=75	English (Executive summary is also available in Danish, Italian and Finnish).

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
25	Fire and Accident Safety of Disabled People in Finland	Accidental Fire Risk	The project "Fire and Accident Safety of Disabled Persons" is part of the Internal Security Programme of the Finnish government, established in autumn 2004. According to this programme, the frequency of leisure time accidents and fire accidents is alarmingly high and disabled persons are frequent victims. This document summarises the project and presents the new tools that have been developed to improve safety in the home for disabled persons in Finland.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=4	English
26	Fire and Accident Safety of Disabled Persons in Finland	Accidental Fire Risk	In June 2005 , the Finnish National Rescue Association started a national project in order to develop fire and accident safety of disabled persons. The project was financed by the Fire Safety Fund. The target of the project was to: 1. produce methods and tools of assessment of fire and accident safety risks for the local authorities in health, social, rescue and housing divisions in order to be able to prevent emerging risks in practice; 2. increase co-operation of the local authorities in health, social, rescue and housing divisions in order to promote accident and fire safety; and, 3. increase common safety knowledge especially concerning disabled persons.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=49	English
27	Fire Safety - Make the Connection	Accidental Fire Risk	While the number of accidental dwelling fires in Wales and consequent injuries and deaths has been steadily decreasing, certain groups of people are significantly over-represented amongst these casualties. A 2009 survey undertaken by Firebrake also found that attitudes towards fire risk amongst the general population are likely to affect their fire safety. As an independent charity Firebrake works to support the sharing of information, experience, and good practice across sectors, as well as promoting and co-coordinating collaborative working on a regional and national basis. Following the tenets of evidence-based practice, the 17organisation aims to advance better targeting, engagement, and delivery.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=62	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
28	New quality in social fire risk assessment and management in the State Fire Service in Wielkopolska, Poland	Accidental Fire Risk and Social Fire Risk	This presentation examined the innovative approach to social fire risk assessment and management in State Fire Service in Wielkopolska. The development team has been appointed to draw up education and Fire Prevention Programme in Wielkopolska. Within the approach all data from State Fire Service evidence records, analyses of fire statistics was analysed. The Education and Fire Prevention Programme in Wielkopolska consists of activities for developing community awareness, especially among young children and teenagers in the field of home fire safety. This goal will be achieved by creating educational materials (leaflets), preparing educational campaigns and various training activities for local communities. Drawing up and implementation of educational programmes, based on fire risk assessment, addressed to children and young people, adults and various occupational groups, cause the reduction of injuries and deaths of people (in practice a reduction in the number of fires of ca. 12 000 to 8 000 and the reduction in fire losses about 40 - 50 %).	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=50	English
29	New quality in social fire risk assessment in Wielkopolska	Accidental Fire Risk and Social Fire Risk	The presentation examines the innovative approach to social fire risk assessment and management in State Fire Service in Wielkopolska. The development team has been appointed to draw up Education and Fire Prevention Programme in Wielkopolska. Within the approach all data from State Fire Service evidence records, analyses of fire statistics was analysed. The Education and Fire Prevention Programme in Wielkopolska consists of activities for developing community awareness, especially among young children and teenagers in the field of home fire safety. This goal will be achieved by creating educational materials (leaflets), preparing educational campaigns and various training activities for local communities. Drawing up and implementation of educational programmes, based on fire risk assessment, addressed to children and young people, adults and various occupational groups, cause the reduction of injuries and deaths of people (in practice a reduction in the number of fires of ca. 12 000 to 8 000 and the reduction in fire losses about 40 - 50 %).	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=69	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
30	Working with Children and Young People to Reduce Fire Risk in Frederikssund-Halsnæs, Denmark	Accidental Fire Risk	This presentation introduced delegates to Frederikssund-Halsnæs Fire and Rescue Service, its management, and its key areas of work and responsibility. The presentation then provided a summary of the strategy and specific initiatives that officers from Frederikssund-Halsnæs have developed in order to reduce fire risk for children and young people. The presentation concluded with some comments about the new "Junior Fire Brigade" scheme that Frederikssund-Halsnæs will deliver for the first time this year.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=48	English
31	An Introduction to Fighting Wildfires in Finland	Environmental Fire Risk	This document presents a range of information related to fighting wildfires in Finland including: statistics about the dominant natural environments within Finland; details about some of the most recent and highly destructive forest fires in Finland; an overview of the incident command system used by the Fire and Rescue Services during wildfire incidents; and, some of the common challenges and problems faced by Fire Fighters fighting wildfires in Finland.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=16	English
32	ANSFR Project: Frederikssund-Halsnaes Workshop Handbook	Environmental Fire Risk	This handbook documents the sessions delivered and the material produced during a European workshop hosted by Frederikssund-Halsnæs Fire and Rescue Department Denmark) on 28th September - 1st October 2009. The workshop was the second of four workshops to be delivered over the course of the two-year ANSFR Project. The event focused on risk assessment and management for environmental fires, with a particular focus on wildfires and forest fires.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=30	English (Executive summary is also available in Danish, Italian and Finnish).
33	Arson and Bushfires in Australia	Environmental Fire Risk and Social Fire Risk	This document provides a summary context to arson and bushfires in Australia, making specific reference to the devastating bushfires that occurred in the State of Victoria in February 2009. The document makes reference to climate change and its influence on the 2009 bushfires, as well as the potential influence of climate change on future bushfires. The document also makes reference to some of the outcomes of the 2009 bushfires, some of the key challenges to reducing and preventing bushfires in Australia and the work of the newly created Australasian Centre for the Prevention of Bushfire Arson.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=24	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
34	Development of Wildfire Statistics in the UK	Environmental Fire Risk	The presentation focused on the development as well as the challenges and barriers of wildfire statistics and risk impacts. Firstly the development of UK Vegetation Fire Standard (UKVFS), that links land management and fire recording. The focus was on the development of the Fire and Rescue Service's Incident Reporting System, the United Kingdom's largest data source on incidents. Next, wildfire impacts that have been identified within risk management in land use, fire response and national resilience were considered. The impacts cover social, economic and environment as well as climate change agendas. Like the US Forest Service's Incident Command System, the presentation challenged the fire service's present approach.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=41	English
35	Fighting Wildfires in the Archipelago of South West Finland	Environmental Fire Risk	This document provides a summary of the challenges associated with fighting wildfires in the archipelago of South West Finland. The article provides information about two specific case studies and discusses some of the techniques and strategies that have been developed and implemented in order to improve response to wildfires, in particular the South West Finland Water Supply Unit.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=17	English
36	Forest Fires in Italy	Environmental Fire Risk	The poster deals with the principal techniques used in Italy to fight forest fires.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=58	English
37	Forest Fires in Italy	Environmental Fire Risk	This document provides a summary overview of forest fires in Italy. The document discusses statistics on the annual number of forest fires that occur in Italy, the techniques used by Italian fire fighters to fight forest fires, and the strategies used to manage and coordinate Corpo Nazionale dei Vigili del Fuoco's response to forest fires.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=19	English
38	Management of Forest Fires in Greece	Environmental Fire Risk	This document provides a summary of the plans, strategies and techniques used by the Hellenic Fire Service in Greece to manage, prevent and respond to forest fires. Forest fires are a significant problem in Greece during the annual fire season which runs between April and October. Specific reference is made to: Specialist Disaster Management Units (EMAK); the Forest Fire Index; Operational Readiness; Aerial and Ground Observation and Intervention; Direct and Indirect Attack during forest fires. In addition, a case study of the Attica Region illustrates a number of key points related to management of forest fires in Greece.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=28	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
39	Mapping wildfire risk, deprivation indicators and resident perceptions of wildfire in South Wales in the UK	Environmental Fire Risk	This poster explores ongoing research into deliberate wildfire ignition. Social indicators of relative deprivation, the geographical features, and data from quantitative research into community perceptions of wildfire are mapped against wildfire incidence data. We argue that the success of intervention measures depends upon organisations addressing the wildfire problem in the context of acute social deprivation and the apparent public acceptance of wildfire incidents. We present recommendations for the design of interventions and for potential changes in forest management based around understanding wildfires as a social issue and aim to propose evidenced-based solutions for tackling deliberately set wildfires.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=61	English
40	Natural Fire Risks in Finland	Environmental Fire Risk	This document provides a statistical overview of the key characteristics of wildfires and forest fires in Finland. Specific reference is made to the annual number of forest fires/wildfires in Finland, the most frequent causes of these fires and the impact of these fires on land, property, health and the economy.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=18	English
41	Northumberland Fire Group	Environmental Fire Risk	This document provides an overview of the Northumberland Fire Group (NFG). Specific reference is made to why the NFG was created and the type of work and training that the NFG now completes. Comparisons are made between how wildfires were tackled prior to the existence of the NFG and the new and improved response to wildfire that has been facilitated and developed by the NFG. The NFG's innovative multi-agency partnership approach to fighting and preventing wildfire is now considered best practice in the UK and the general principles of the NFG can be considered a good foundation for the creation of similar successful Fire Groups in other areas of the UK and in other European countries.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=26	English
42	Prescribed Burning and Wildfire Suppression in Portugal	Environmental Fire Risk	This presentation described fire management activities in Portugal concerning fire use. Prescribed burning goals, historic perspective in Portugal, training and certification processes were all highlighted. Some examples were also shown. Wildfire suppression activities were explained with a brief explanation of the Portuguese wildfire problem, the base concept of the GAUF teams and their activity from 2006 to 2009. A short example of a wildfire intervention was given.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=39	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
43	Preventing Forest Fires and Wildfires in Finland	Environmental Fire Risk	This document presents information related to the prevention of forest fires and wildfires in Finland. More specifically, this document describes the Finnish Forest Fire Index, which is used to predict risk of forest fires and wildfires on any given day, and the system of Forest Fire Observation Flights that is used to rapidly identify and locate forest fires and wildfires in progress. The document also provides an overview of national and local-level education and legislation concerning the prevention of forest fires and wildfires.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=74	English
44	The Northumberland Wildfire Prediction System	Environmental Fire Risk	This document describes the development of a new and more appropriate wildfire prediction system (WPS) for use at wildfire incidents by fire fighters and fire officers from Northumberland Fire and Rescue Service. This WPS can be used as an effective management tool to predict fire behaviour, predict rate of spread, predict fire intensity and identify windows of opportunity. The WPS can also be used to improve and manage the safety of fire fighters deployed at wildfire incidents.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=67	English
45	UK Wildfire Groups - Addressing Risk Through Collaboration	Environmental Fire Risk	Wildfire Groups are County or sub-region based partnerships of public, voluntary and private organisations working together on a range of activities to reduce the risk of wildfires and promote an effective response when they do occur. They identify opportunities to improve methods for wildfire prevention and suppression through collaboration. Activities are aimed at reduction, readiness and response. In addition to building relationships between partner organisations, primary group activities include wildfire specific training, preparation and maintenance of fire plans for individual properties, public awareness campaigns, equipment sharing arrangements and general advice on wildfire issues.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=42	English
46	Wildfire, Weather and Climate Change	Environmental Fire Risk	Intuitively, we know that the weather is a major factor affecting wildfire. As such, if we can understand their relationship, then by understanding the weather and climate, we can better understand the likelihood of wildfire and its behaviour if in progress.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=40	English
47	A Priority Crime? A briefing guide to the investigation of vehicle arson	Social Fire Risk	The briefing guide is a DVD and booklet titled “A Priority Crime?” It has been produced to provide advice and guidance to police and FRS personnel in relation to how they should deal with incidents of vehicle arson. It is not the intention to suggest that car fires are more important than other types of crime, but vehicle fires impact significantly on both agencies. A car fire is the final act committed by an offender who may be responsible for much more than the theft of just one vehicle.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=47	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
48	ANSFR Project: Kuopio Workshop Handbook	Social Fire Risk	This handbook documents the sessions delivered and the material produced during a European workshop hosted by the Emergency Services College (Finland), with the assistance of Kanta-Hame Emergency Services (Finland) and South West Finland Emergency Services, on 31st August – 3rd September 2010. The workshop was the final of four workshops to be delivered over the course of the two-year ANSFR Project. The event focused on risk assessment and management for social, with a particular focus on arson/deliberate fires and fires among those living "high risk" lifestyles.	Forthcoming. A copy of the document will be downloadable in the future from the following page: http://www.fire-risk.eu/project/workshops/kuopio2010.htm	English (Executive summary is also available in Danish, Italian and Finnish).
49	Anti Social Behaviour Intervention Team	Social Fire Risk	The Anti Social Behaviour Intervention Team (ASBIT) is designed to address the causes of the very prevalent issues affecting certain areas of the county. ASBIT is a multi agency team of Fire Officers and Police Community Support Officers, deployed in hotspot areas, with the aim of engaging with young people to intervene, educate and in some cases enforce an improvement in their attitudes and behaviour towards their own community. ASBIT's success is down to the skills within each of the team members, and the way they are able to break down barriers with young people and to build trust and respect for the emergency services.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=55	English
50	European Exchange of Best Practice in Arson Prevention and Investigation - Final Project Report	Social Fire Risk	This is the final report of an innovative two-year project that was delivered by Northumberland Fire and Rescue Service (UK) in partnership with Northumbria Police (UK) and Laboratoire Central de la Préfecture de Police (Paris, France). The project was delivered between January 2007 and December 2008 and was co-financed and supported by the European Union through the 2006 Call for Proposals in Civil Protection. The key focus of the project was to implement activities that would stimulate and facilitate greater levels of cross-border communication between professionals working to prevent and investigate arson in Europe.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=76	English
51	Making a Difference to Young People and Local Communities in Northumberland	Social Fire Risk	The poster presents a sample of some the youth engagement and intervention programmes that are currently delivered by Northumberland Fire and Rescue Service. These programmes are designed and delivered to make a positive difference to young people and local communities in Northumberland.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=53	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
52	New Zealand Fire Awareness and Intervention Programme	Social Fire Risk	The New Zealand Fire Awareness and Intervention Programme (FAIP) has been operating in New Zealand for 15 years. It is a national programme that has grown to now include all geographical regions throughout New Zealand. In 2009 the University of Auckland undertook an outcome evaluation of 200 children who had participated in the programme in 1999. Using police national intelligence database, offence histories of 200 children was analysed. This presentation outlined the New Zealand FAIP programme and the results of this evaluation.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=43	English
53	Northumberland Arson Task Force (ATF)	Social Fire Risk	This document provides an outline of the work of the Northumberland Arson Task Force (ATF). The Northumberland ATF is a multi-agency task force responsible for preventing, reducing and investigating arson in the County of Northumberland in Northern England.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=5	English
54	Portsmouth City Council Arson Reduction Best Practice	Social Fire Risk	In 2004 the reported number of arsons in the City of Portsmouth was over 1400 and, as a result, in 2005 it was agreed to set aside some funding for a Fire Reduction Community Warden. The Warden works alongside the Community Liaison Officer from Hampshire Fire & Rescue Service to reduce the number of arsons in the City. This document presents arson reduction best practice that has been developed by Portsmouth City Council and Hampshire Fire and Rescue Service.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=71	English
55	Serial Arson Investigation in the Netherlands	Social Fire Risk	In 2007 a serial arsonist in a small Dutch village caused significant unrest, which well exceeded the local community. Subsequently, other Dutch serial arson cases made national headlines. The impact and difficulties in investigating serial arson cases led the Police Academy of the Netherlands to carry out an exploratory research project on serial arson and the criminal investigation of serial arson. During this presentation some main outcomes were presented such as characteristics of serial arson cases, the criminal investigation process and cooperation with Dutch Fire Brigade. Moreover, various problems encountered were discussed, as well as recommendations for investigation and cooperation.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=44	English
56	Social Marketing: An Introduction	Social Fire Risk	This file documents a workshop delivered at the Fire Risk in Europe Conference 2010 by Hippo Creative and Explain Market Research Ltd. The workshop focused on social marketing and specifically how social marketing can be used to influence and change behaviour.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=64	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
57	The Northumberland Arson Task Force	Social Fire Risk	The key aim of the Northumberland Arson Task Force is to ensure Northumberland remains a safe place to live, work and visit. More specifically, the team aims to prevent deaths injuries, and damage to property and the environment, as a result of arson, deliberate fire-setting, crime and anti-social behaviour. The Northumberland Arson Task Force is an integral part of Northumberland Fire and Rescue Service's Community Safety Academy. The Arson Task Force team consists of one Manager, a Fire Investigation and Research Officer, a Project Officer and eight Community Wardens. The poster summarises some of the important work completed by the Northumberland Arson Task Force team.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=52	English
58	The Writing on the Wall - Promoting Positive Behaviour in Schools	Social Fire Risk	Derbyshire Fire and Rescue Service (DFRS) are in partnership with Derbyshire County Council (Education Improvement Service), Derbyshire Police, Derby University and Karlstad Kommun, Sweden, in an innovative and exciting research project that aims to explore factors and influences that promote positive behaviour in the school environment. The project began in 2009 and the first phase will formally conclude at an international conference on May 5th 2011in Derbyshire. By using students as researchers the project aims to identify both structural and emotional factors that can influence positive behaviour in and around the school environment.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=63	English
59	Tulipysäkki-hankkeen vaikuttavuustutkimus	Social Fire Risk	An evaluation report of the Tulipysäkki Project. Tulipysäkki (Fire Stop) is a nationwide programme in Finland that deals with children and young people who have demonstrated a fascination with fire. This early intervention programme is aimed at children and young people aged up to and including 17 years of age. The aim of the programme is to build a multi-agency network to work with juvenile firesetters in Finland.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=72	English and Finnish
60	Working in Partnership to Tackle Domestic Violence	Social Fire Risk	The aim of a MARAC (Multi-Agency Risk Assessment Conference) is to reduce the risk of death or serious harm for a domestic abuse victim and to increase the safety, health and well-being of other victims, both adults and children. Local agencies, including the Community Safety Unit and the Fire & Rescue Service from within West Sussex, meet to discuss the highest risk victims in their area. Information about the risks faced by those victims, the actions needed to ensure safety and the resources available locally are shared and used to create a risk management plan involving all relevant agencies.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=56	English

No.	Name of document	Theme/topic area	Summary	Website address	Language(s)
61	Working with Juvenile Firesetters in Finland	Social Fire Risk	In a recent survey in Finland one third of the compulsory school pupils reported that they had played with fire. Children's unsupervised involvement with fire is characterized by the concealment and belittlement of the activity. Couple of years ago a program called "Tulipysäkki" started. Juvenile fire setters and their parents were invited for a multi-agency referral at the local police station. Later on, a multi-agency network of the authorities around juvenile fire setting was created in Finland.	http://www.fire-risk.eu/resources/documents/document_display.htm?pk=36	English

Appendix 3 – Potential Causes/Contributory Factors for Accidental, Environmental and Social Fires

- Access to fire safety knowledge and education
- Alcohol consumption
- Animals and pets (e.g. rodents biting through cables)
- Ash
- Biological (e.g. peat)
- Boredom
- Buildings of multiple occupancy
- Building ownership (e.g. owner occupier or rented to tenants)
- Buildings of sole occupancy
- Burning of waste/rubbish
- Camping
- Candles
- Civil unrest (e.g. riot)
- Controlled burning
- Coal and wood burning stoves
- Chemical
- Cigarettes and smoking materials
- Chimneys and flues
- Climate
- Cooking (inside and outside)
- Deliberate fire-setting (arson/fire crime)
    - a) Organised arson
        - Crime concealment
        - Extremist motivated
        - Profit motivated
        - Revenge motivated
    - b) Disorganised arson
        - Crime concealment
        - Excitement motivated
        - Revenge motivated
        - Serial arson
        - Spree and mass arson
        - Vandalism motivated
- Drug taking
    - a) Illegal drugs
    - b) Prescription drugs
- Electricity/Electrical
- Empty/void properties
- Excluded members of society
- Explosions/explosives (e.g. gas explosions, nuclear explosions etc.)
- Failure to apply common sense
- Fascination with fire/play with fire
- Fire work (i.e. welding)
- Fireworks
- Frictional heat
- Hazardous substances (e.g. flammable and explosive substances)
- Heat
- Human error
- Lighting (artificial)
- Maintenance of equipment
- Marital status
- Mechanical
- Mental health difficulties
- Misuse of equipment/machinery
- Negligence
- Non-compliance with building regulations
- Non-compliance with health and safety regulations
- Open fires
- Overheating of an object (for instance, of a machine and/or electrical appliance)
- Ownership of fire safety measures
- Personal/domestic crises
- Physical impairment
- Poor (or no) maintenance (i.e. of machines, of chimneys/fire places, saunas etc.)
- Prescribed burning
- Racial/hatred
- Recession (economic downturn)
- Re-ignition of earlier fire
- Religious practices
- Saunas and steam rooms
- Self-excluded members of society (e.g. hermits, some homeless people etc.)
- Self immolation
- Smoking materials (cigarettes, tobacco, lighter, matches etc.)
- Spark (for instance, from fire place or machine)
- Suicide
- Sunlight (refracted)
- Terrorism and Extremist groups
- Weather conditions (including: storms and high winds, lightning, volcanic eruptions, earthquakes, draught, cold)
- Other

Appendix 4 - Potential Location Types for Accidental, Environmental and Social Fires

Property Types

- Agricultural buildings (barns etc.)
- Care homes for the elderly
- Caravans
- Camp sites
- Club rooms
- Community centres/buildings
- Day care centres
- Dormitories/other residential properties
- Electricity sub stations
- Empty/void properties
- Festivals/events
- Holiday/summer homes
- Hospitals
- Hotels/Guest Houses
- Homes/dwellings
- Illegal drug farms (cannabis farms etc.)
- Leisure centres/sports halls
- Libraries
- Museums
- Oil rigs/extraction plants
- Offices
- Entertainment venues (cinemas, theatres, dance halls/discos and nightclubs)
- Petrochemical processing plants
- Places of worship (for instance, churches, synagogues, mosques etc.)
- Power plants
- Prisons
- Pubs and restaurants
- Shops
- Storage facilities (other than warehouses)
- Temporary/mobile homes
- Transport centres (airports, bus stations, train stations, ports)
- Warehouses
- Waste centres (for instance, waste storage sites, recycling facilities etc.)
- Other

Landscapes/Environments

- Coastland
- Grassland
- Heathland
- Moorland
- Peat
- Wildland (Wildfire)
- Woodland/forest (both natural and man-made/managed)
- Other

Modes of Transport

- Aeroplanes
- Bicycles
- Bulk carrier ships (for instance, container ships, oil tankers etc.)
- Buses/coaches
- Car transporters
- Cars
- Construction vehicles (i.e. excavators, cranes etc.)
- Cross-country vehicles (snowmobile, quad bike etc.)
- Ferries/Cruise Ships
- Fishing boats
- Inshore boats/ canal boats
- Jet ski
- Lorries/heavy goods vehicles
- Motorbikes
- Offshore pleasure boats
- Tractors and farm vehicles (including combine harvesters)
- Trains
- Trailers
- Other

Appendix 5 – Social Groups "At Risk" of Experiencing/Causing Accidental, Environmental and Social Fires

- Alcohol/drug abusers
- Divorced
- Economically/socially deprived
- Landowners and land managers
- Mentally impaired
- Migrant workers[144]
- Neo-unskilful[145]
- Physically impaired
- Single
- Smokers
- Elderly
- Very young (infants, children)
- Working in high risk occupations (for instance, steel smelting/production, oil rig workers, quarry workers, miners (particularly those blasting for stone or other minerals) etc.
- Unemployed
- Widowed

[144] The term "migrant worker" refers to a person who is to be engaged, is engaged or has been engaged in a remunerated activity in a State of which he or she is not a national" (UN Convention on the Rights of Migrant Workers, 1990. Last accessed on 3.07.09 at http://www2.ohchr.org/english/law/pdf/cmw.pdf).

[145] The category "neo-unskilful" refers to a group of individuals who have not learnt and/or are not interested in learning the knowledge and skills required to act and behave safely particularly (although not solely) around fires, the safe use of fire and fire prevention. The knowledge and skills that were traditionally passed on from generation to generation, and to a degree via closer contact with fire during everyday life (for instance, cooking on open fires, open fires for heating etc.), are no longer widely possessed by the general public. This social group has been identified as 'at risk' in Finland and in other European countries.

Northumberland Fire and Rescue Service (NFRS) provides fire and rescue cover to the County of Northumberland in northern England. The County covers an area of almost 2,000 square miles (approximately 500,000 hectares) and is home to approximately 310,000 residents. NFRS has a long term strategic aim of improving the social, economic and environmental well being of the residents of the county it serves. Central to this is "preventing fires and other emergencies happening" and in doing so "reducing death, injury and damage to property".

Frederikssund-Halsnæs Fire and Rescue Department provides fire and rescue cover to Frederikssund and Halsnæs Municipalities. Frederikssund and Halsnæs Municipalities cover an area of almost 382 square miles (approximately 98,935 hectares) and are home to approximately 75,000 inhabitants. Frederikssund-Halsnæs Fire and Rescue Department has a strategic aim to "prevent fires and other emergencies happening" and in doing so to "reduce death, injury and damage to property".

Corpo Nazionale dei Vigili del Fuoco (CNVVF) is the Italian State Fire Fighters Corps within the Ministry of Interior in Italy. CNVVF provides fire and rescue services across the whole of Italy through various central and local sub-departments and divisions. Nucleo Investigativo Antincendi (NIA) is the department responsible for delivering CNVVF's contribution to the ANSFR Project. NIA is a department based in Rome within the central technical core of CNVVF. NIA is responsible for fire investigation and other related activities.

The Emergency Services College (ESC) is situated in Kuopio in central Finland and provides education, vocational training and further training to the Finnish Rescue Services. ESC also provides courses and consultancy in preparedness training for disturbances in normal and emergency conditions, international emergencies and civil crisis management.