

# Firefighter Safety and Renewable Energy Systems

Training curriculum for firefighters

**Presenter:** Dan Fink, renewable energy consultant and author (<http://www.buckville.com/consult.html>), firefighter with Rist Canyon Volunteer Fire Dept, Larimer County, Colorado, USA (<http://www.rcvfd.org>).

**Purpose:** Only 10 years ago, renewable energy systems that generate electricity from sun, wind, water or combustible fuels were found only in extremely remote and rural areas, far from the utility electric grid. Today, such systems are found everywhere—even in urban areas—and most of the renewable energy industry is now focused on such urban and urban/wildland interface installations where energy is bought from and sold to the utility. Because these systems generate electricity on site at potentially lethal levels, it is essential for firefighters to understand how they work, how to identify them, what can go wrong, and the safety precautions required when working a fire or smoke report near any renewable system.

**Overview:** The class is structured into three morning classroom sessions, plus a half-day session of site visits to local homes and businesses where renewable energy systems are already installed. The core two-hour morning session “*Firefighter safety and renewable energy systems: Suggested safety procedures*” is recommended for *all* personnel, while the entire eight-hour program is intended more for company officers and chiefs, training and safety officers, SOP writers, and fire code inspectors. Personnel who attend the entire program should then be able to present and train firefighters from other departments using the included curriculum materials, plus the instructor's guide.

## Outline for the 8-hour class:

### MORNING

*Introduction to renewable energy systems* (1 hour)

(break)

*Common NEC code violations in renewable energy systems: what, why and effects* (1 hour)

(break)

Core Session: *Firefighter safety and renewable energy systems: Suggested safety procedures* (2 hours)

(lunch break)

### AFTERNOON

Site visits to local renewable energy installations, both home and commercial.

## Required materials:

For each student, a printed copy of “*Firefighter safety and renewable energy systems: Suggested safety procedures*” (included, 12 page double-sided, also can be photocopied at sponsor's location).

For departments who wish to later give this presentation to others and have attended the entire program, the *Instructor's Guide* is available for \$100, and includes all powerpoint slideshows and their outlines, student handouts, instructor's presentation notes, and suggested community building and electrical code requirements—in both printed and digital (CD or Thumb Drive) formats.

## Cost:

All travel, lodging and food expenses for the presenter for 2 nights and one day, plus US\$1,000. For volunteer departments with limited budgets, rates can be negotiable. For the 2-hour core session, student total can be upwards of 50, if ample laptop projector and microphone facilities are available. For the entire eight-hour day session, a maximum of 10 or 12 is recommended, especially for site visits. The presenter is not at all picky about lodging and food, and he does not wear a suit and tie. Sponsoring department may need to provide spare Turnout gear (at least boots, pants, and helmet) for presenter if it is requested that we ladder and climb to rooftop energy installations for inspection during the afternoon site visits session.

**Contact:**

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Note that I live off the grid in a remote area; the nearest phone service (including cell) is an hour's drive from my office way up in the mountains.

*Use email instead please, it's via satellite and I can usually respond very quickly:*

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**Author information:** Dan Fink has been a firefighter for the Rist Canyon Volunteer Fire Department for more than 10 years, and has lived off-grid in a remote corner of their response area for 18 years, 11 miles from the nearest utility electric or phone line. He has been certified for wildland and structural firefighting, with a BA in Technical Journalism from Colorado State University. He spent 10 years as a renewable energy system consultant, designer and installer, and has since been employed as a renewable energy technical author and educator since the year 2000. He is co-author of the book "Homebrew Wind Power," and his articles and photographs frequently appear in such magazines as Home Power, Back Home, the Energy Self Sufficiency Newsletter, and Lighting Today. He is an on-call "Ask the Experts" columnist for Home Power Magazine.