Apprenticeship Goes Green

Concerns

- Energy Efficiency
- Conservation of Natural Resources
- Environmental Issues
- Emerging Technologies
- Equipment Expectations
- Installation/Service/Maintenance

Apprenticeship Role

- Fore Front of changes
- Cross exposure to equipment/systems
- Level of training required
- Constant upgrading
- Responsibilities/duties
- Safety issues and concerns

Plumbing

- Materials – Metals, Plastics
- Joining methods and techniques
- Boilers – types
- Domestic hot water – storage/heating
- Radiant/Solar/Recovery
- Back-flow preventors
- Septic tanks – piping/pumping
- Sink-aerotors (garburators)

- Low flow toilets → 22 lpf → 13 lpf
  → 6 lpf → 1.5 lpf
- Pressurized flush toilets
- Low flow shower heads
- Intermittent shower heads
- Grey water flush systems

Electrical

- Wireless
- Electronic devices
- Voltage requirements (hi-low - AC/DC)
- Uninterrupted power supplies
- Wind turbines
- Generators (multi-fuel)
- Materials
- Lighting

Heating

- Hi-efficiency equipment
- Heat pumps – ground source
- Heat recovery (cogeneration)
- Hot water heating systems
- Radiant/Solar/Storage
- Fossil fuel equipment issues
- Hybrid heating systems

Refrigeration

- Refrigerant types - SEER, ODP, GWP, TEWI
- Compressor technologies
- Heat exchanger technologies
- Control technologies – electronics
- Building Automation - DDC controls
- Load matching - capacity control
- Hybrid systems - recovery

LEED

- Driving the demand for more efficient and ecological buildings
- Innovative combination of systems and how their applications
- Performance based
- Associated costs
- Design concept

Education

- Classroom / Lab/shop incorporated into training (classical method
- CD – DVD / On-line programs
- Local – distributors, associations, private – product specific
- Colleges/Unions/Universities ….
- Trade magazines and websites
- Mentoring programs
- High school ??

Other Greening

of

Apprenticeship Programs??