

GROUND SOURCE HEAT PUMP INSTALLATIONS

SIX 1-DAY 2011 SEMINARS ON STANDARDS, QUALITY & IMPROVEMENTS

Friday 16th September 2011
The Geological Society
Burlington House; Piccadilly; LONDON; W1J 0BG

Chaired by
Brian Stringer - BDA National Secretary
John Grainger – BDA Vice Chairman

GSHP INSTALLATIONS

STANDARDS, QUALITY & IMPROVEMENTS

WELCOME TO FIRST OF 6 SEMINARS

THANKS TO



- Largest Sector Skills Council
- Funding these seminars
- Part of MSDP funding to BDA (Geothermal Drilling certification project)

THANKS FOR SUPPORT



BRITISH DRILLING ASSOCIATION

- Trade Association - founded 1976
(Geological Society Oct 22nd)



- Member of



and

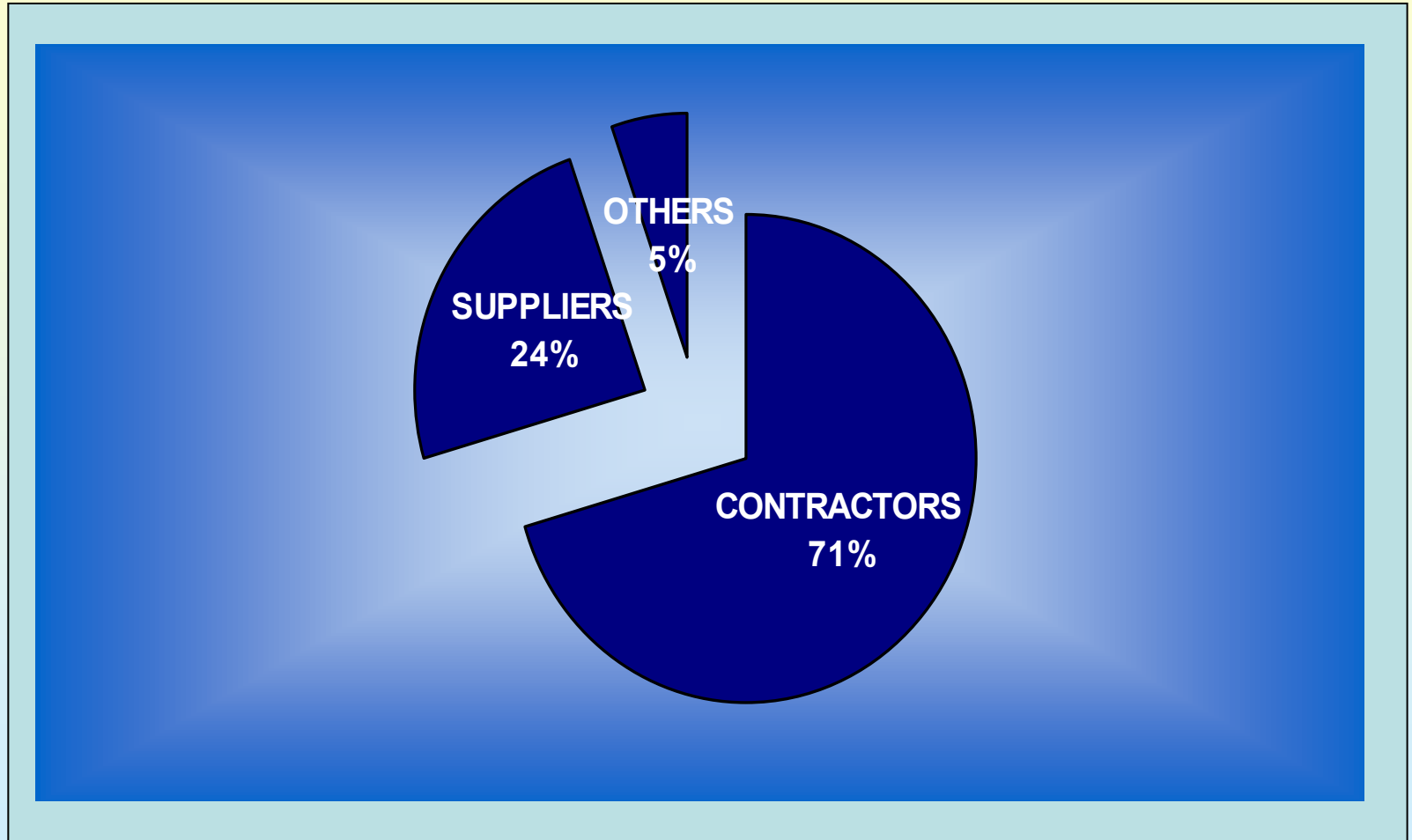


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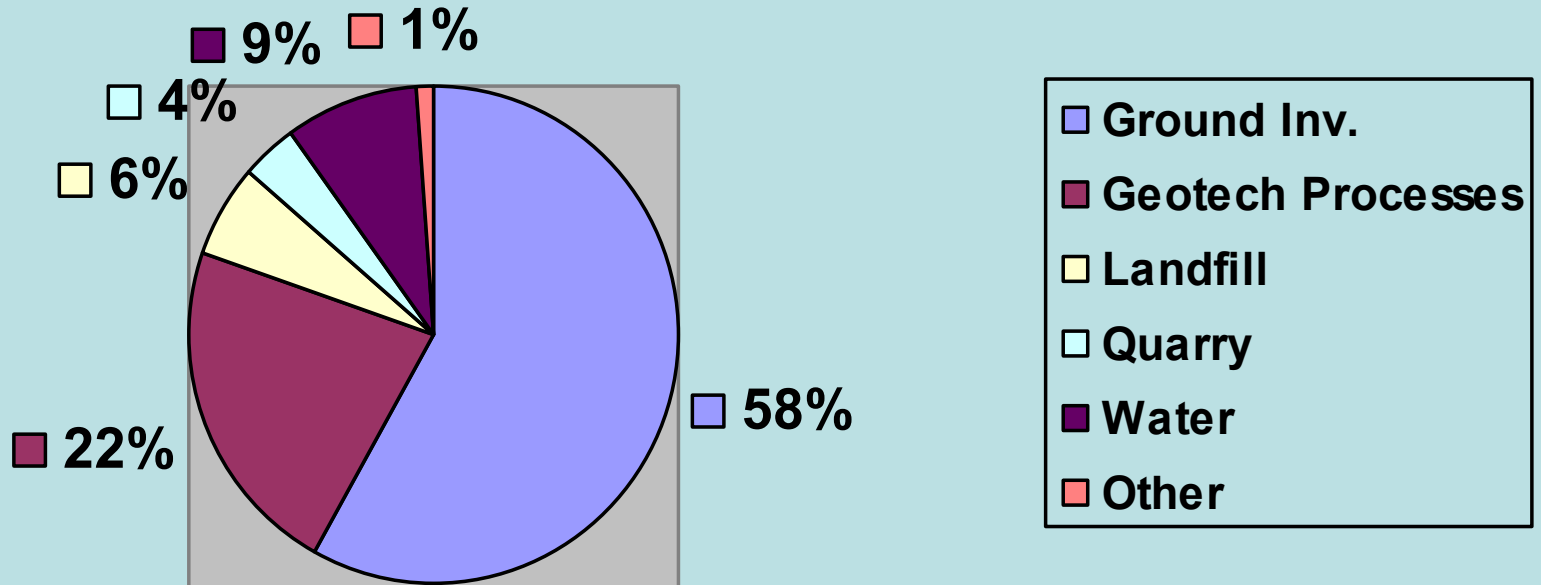
- All Ground Drilling Disciplines excluding Oil/Gas
- Contractors, Manufacturers, Consulting & Civil Engineers, Laboratories, Academics etc.
- 110+ Corporate members
- ***“Committed to Excellence in Health & Safety, Quality of Workmanship and Technical Standards for the Benefit of the Drilling Industry and its Clients”***

BRITISH DRILLING ASSOCIATION



BRITISH DRILLING ASSOCIATION

CONTRACTOR ACTIVITY (by number of companies)

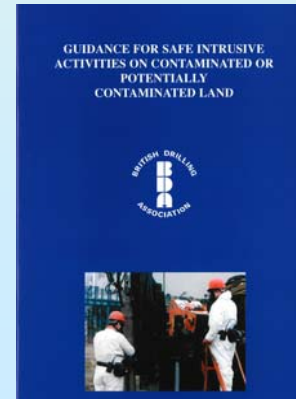
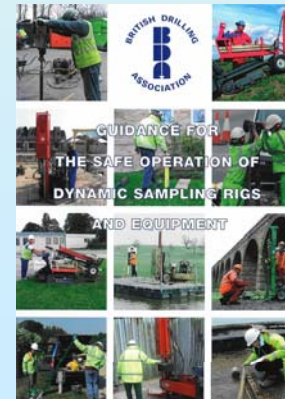
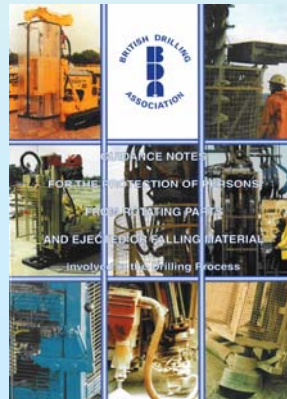
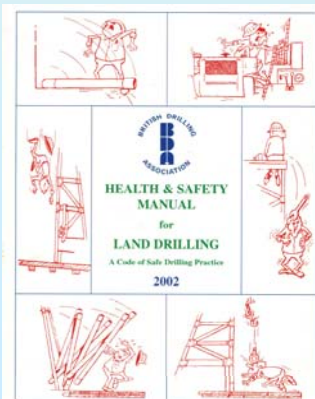


THIS CHART DOES NOT REPRESENT VALUE OF WORKS DONE

BRITISH DRILLING ASSOCIATION

SAFETY PUBLICATIONS

- Specific to drilling sector
- Establishes sector safety standards
- HSE supports and helps in their production
- 5 produced in 10 years
- 3 were partially funded by CITB ConstructionSkills
- Funding allows a consultant to be employed
- Sales provide income to BDA

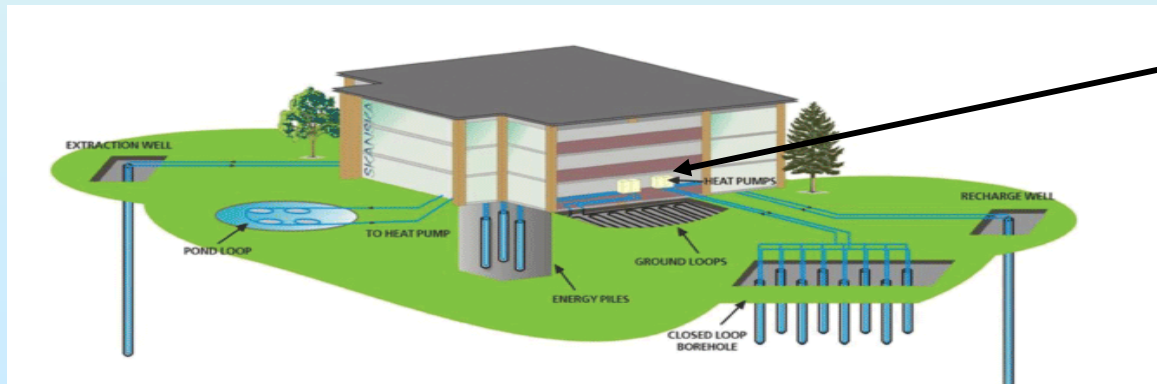


GSHP INSTALLATIONS

STANDARDS, QUALITY & IMPROVEMENTS

HEAT PUMP TECHNOLOGY

- Electrically powered
- Evaporator / Condenser principle (similar to fridges)
- Low grade heat → usable heat (space / hot water)
- Renewable Heat sources – Air, Water & Ground
- Performance factor >3
(if system design and installation is correct)
- Also utilised for cooling



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RENEWABLE HEAT POTENTIAL

- Dec 2008 – **David Mackay** in his book “Sustainable Energy” (*From Oct 2009 – DECC’s Chief Scientific Advisor*)



"For forest-dwellers, there's wood. For everyone else, there's heat pumps."

“we should replace all our fossil-fuel heaters with electric-powered heat pumps”

- March 2011 - **Chris Huhne**, Energy Minister

“Renewable heat is a largely untapped resource and an important new green industry for the future”



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GSHP POTENTIAL

- Look abroad



- Been accepted for decades
- Many 100,000s installed (Sweden > 250,000. pop. 6M)
- UK best estimate ~ 30,000 to date. pop. > 60M
- BUT WE HAVE GOT (or have we ??)



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TIME TO GET REAL

- Forget Climate Change for a moment (I'll be back)
- **UK energy security is threatened**
- Fossilised fuels are coming from elsewhere at increasing cost
- Will be easy to shut down UK either by embargo or economic ransom (price)



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BIG PICTURE

- UK energy security is threatened
- Low carbon targets (80% reduction by 2050)
- Fossil fuel heating to decline (gas principally)
- Renewable heat will replace
- Solar thermal, biomass and heat pumps big future
- Electrical powered heating high on government agenda
- Witness government plans for electricity generation

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GOVERNMENT INCENTIVE FOR RENEWABLE HEAT

- RHI (Renewable Heat Incentive)
- £860 M
- Payments to consumers (generators) for 20 years
- Starts (Phase 1) September 30 – industrial, commercial, public sector + £15M for premium payments)
- Phase 2 (Domestic) anticipated Oct 2012 with Green Deal)
- **Everything ‘hunky-dory’ for GSHPs ??**

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STANDARDS, QUALITY & IMPROVEMENTS

WHAT WENT WRONG HERE - WHAT WAS RESULT?



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WHAT COULD GO WRONG WITH GSHP PROGRESS?

- Failing and poor systems (EST trials)
- Poorly designed (undersized)
- Ground Heat Exchanger (GHE) not fit for sustainable purpose (e.g. pipe & grouting materials)
- GHE incorrect installation (e.g. poor drilling practice)
- Environmental issues
- Unregulated market and overselling
- **ALL LEADING TO LOSS OF CONSUMER CONFIDENCE**

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WHY ARE WE HERE TODAY?

- To consider

GSHP STANDARDS, QUALITY & IMPROVEMENTS

- To witness many initiatives to avoid disasters
- To take back and implement what we learn
- To grow a unified GSHP professional industry

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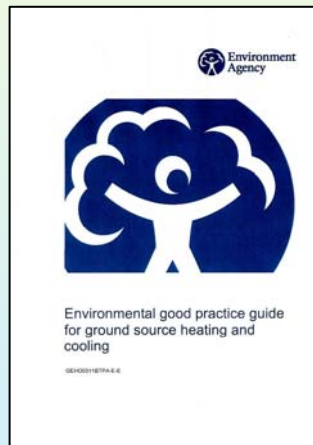
STANDARDS, QUALITY & IMPROVEMENTS

MUCH HAS BEEN HAPPENING IN LAST FEW MONTHS

- Today you'll have a précis of over 330 document pages



RHI - March



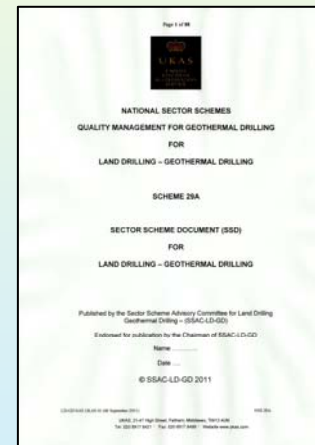
EA - May



MCS - Sept



GSHPA - Sept



BDA - Sept



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THANK YOU FOR LISTENING