

A programme to measure radon gas in English schools



Progress review and lessons learnt

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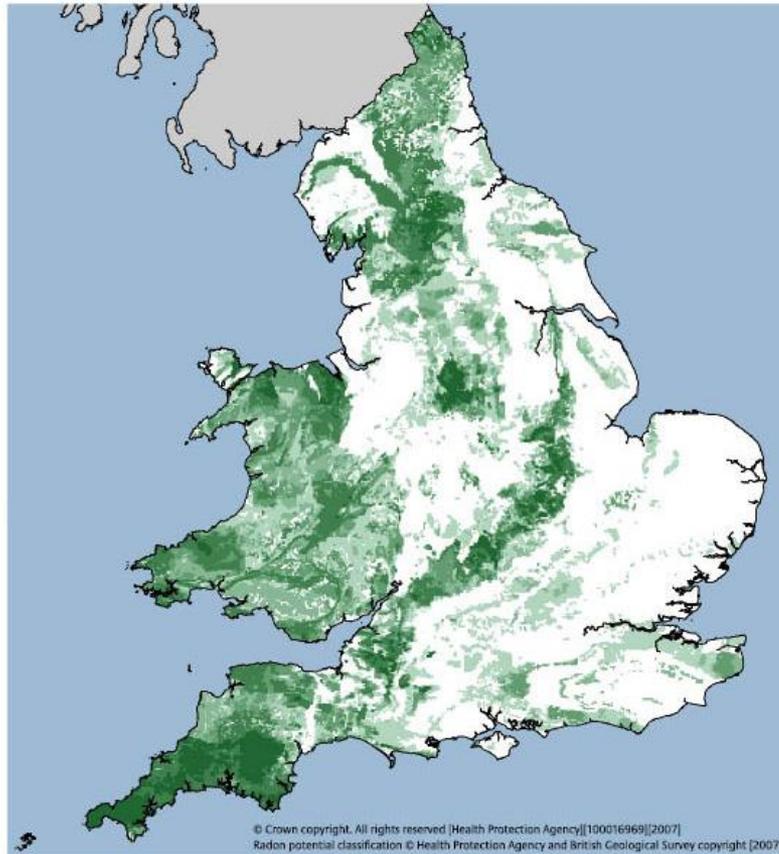
Why measure radon in schools?



- **Largest source of radiation exposure to members of the public; focus on children**
- **Major revision of radon map - new dataset of Affected Areas**
- **HPA has considerable experience of monitoring schools in high radon areas and providing advice**
- **Radon mitigation techniques are well-established and durable**
- **Legislation requires employers to take action in radon-prone areas**
- **Aim: To improve health protection by giving duty holders in schools the means to ensure that no individual is exposed to excessive levels of radon gas**

Radon indicative map of England and Wales

Overall map of radon Affected Areas in England and Wales (from HPA-RPD-033)



- **Radon Affected Areas show where at least 1% homes exceed 200 Bq m⁻³ Action Level**
- **Affected Areas are based on radon measurements in existing homes, combined with geological units**

Radon in English schools programme (2008 -)



A multi-year, cross-government programme to:

- raise radon awareness in schools (age range 5-16)
- identify which schools are in radon Affected Areas
- target councils and school managers, and provide relevant radon information and advice
- encourage radon measurements
- help duty holders to understand the results and act upon them appropriately
- emphasise the need to protect children from excessive radon exposure

The Management of Health and Safety at Work Regulations 1999

- 3 (1) Every employer shall make a suitable and sufficient assessment of -
- (a) the risks to the health and safety of his employees to which they are exposed whilst they are at work...

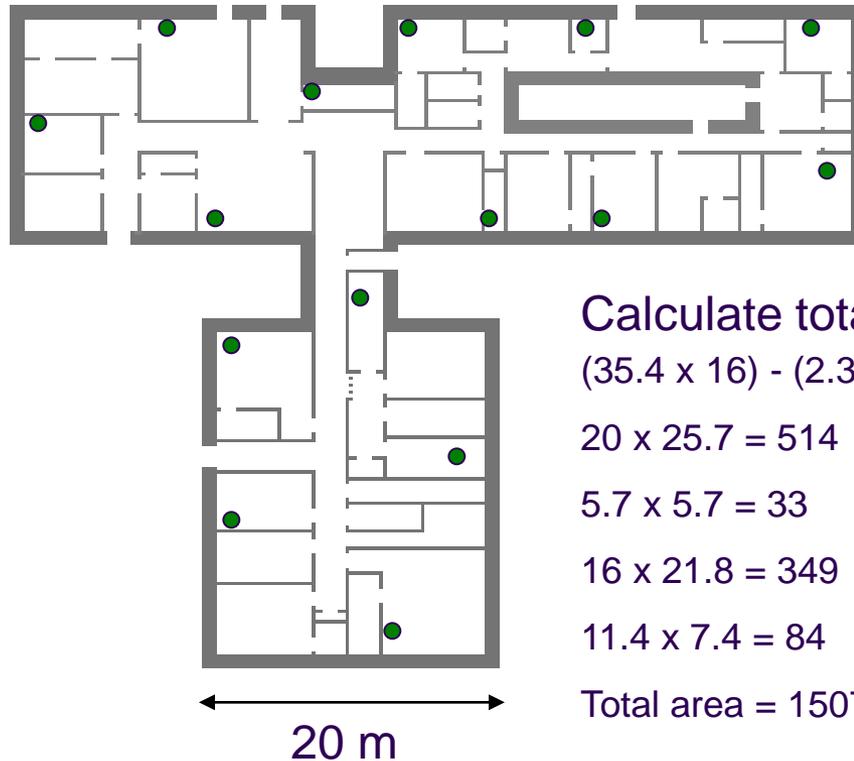
The Ionising Radiations Regulations 1999

- 3 (1) ...these Regulations shall apply to -
- (b) any work... carried out in an atmosphere containing radon 222 gas at a concentration in air, averaged over any 24 hour period, exceeding 400 Bq m⁻³...

Limitation of Human Exposure to Radon RCE-15 2010

The HPA recommends that the domestic Action and Target Levels should be applied to... all schools.

Radon testing in a school



Calculate total area

$$(35.4 \times 16) - (2.3 \times 17) = 527$$

$$20 \times 25.7 = 514$$

$$5.7 \times 5.7 = 33$$

$$16 \times 21.8 = 349$$

$$11.4 \times 7.4 = 84$$

$$\text{Total area} = 1507 \text{ m}^2$$

Number of monitors = total area/100 \cong 15 or 16

Region	Councils		Schools		
	Committed/ monitored	Not committed/ no information	Monitored	> 400 Bq m ⁻³	% > 400 Bq m ⁻³
North West	15	4	261	24	9.2
West Midlands	7	6	190	11	5.8
East Midlands	5	3	437	64	14.6
North East	3	5	111	10	9.0
Yorkshire & Humberside	6	6	63	16	27.1
Total	36	24	1061	125	11.8

Phase 1 - North West, West Midlands

Phase 2 - East Midlands, North East, Yorkshire & Humberside

- Changes within councils - new Directors and staff losses
- Change of government - pressure on finances
- Collaborative groups of councils within region - mutual support, but local precedents
- Councils undertaking measurement outside the Radon in Schools programme schedule - embellishments and editing
- Timescales extended from original three-year schedule
- Challenge of responding to local needs when high radon levels found - difficulties finding local mitigation services and remonitoring
- Coping with new advice on schools from HPA

- Use existing contacts and resources
- Know your audience - use existing terms and be aware of local issues
- Tailor the literature and other resources for the programme
- Explain clearly which schools have been chosen and why
- Ensure that responsibilities are allocated appropriately
- Establish clear communications with contacts of sufficient authority
- Promote consistency of approach across councils and regions
- Follow up and support, especially when high radon levels are found

The programme aim



To improve health protection by giving duty holders in schools the means to ensure that no individual is exposed to excessive levels of radon gas

www.ukradon.org