

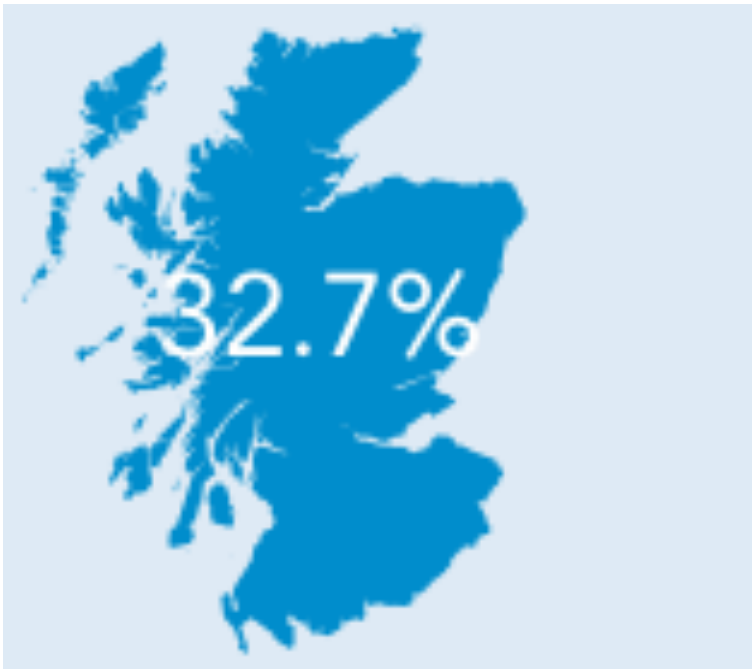
# Dedicated Indoor Drying Spaces- A step towards improving indoor air quality

Rosalie Menon, MEARU

## PASSIVE DRYING LAUNDRY POSES A HEALTH RISK IN CURRENT HOUSING DESIGN



### PROBLEMS



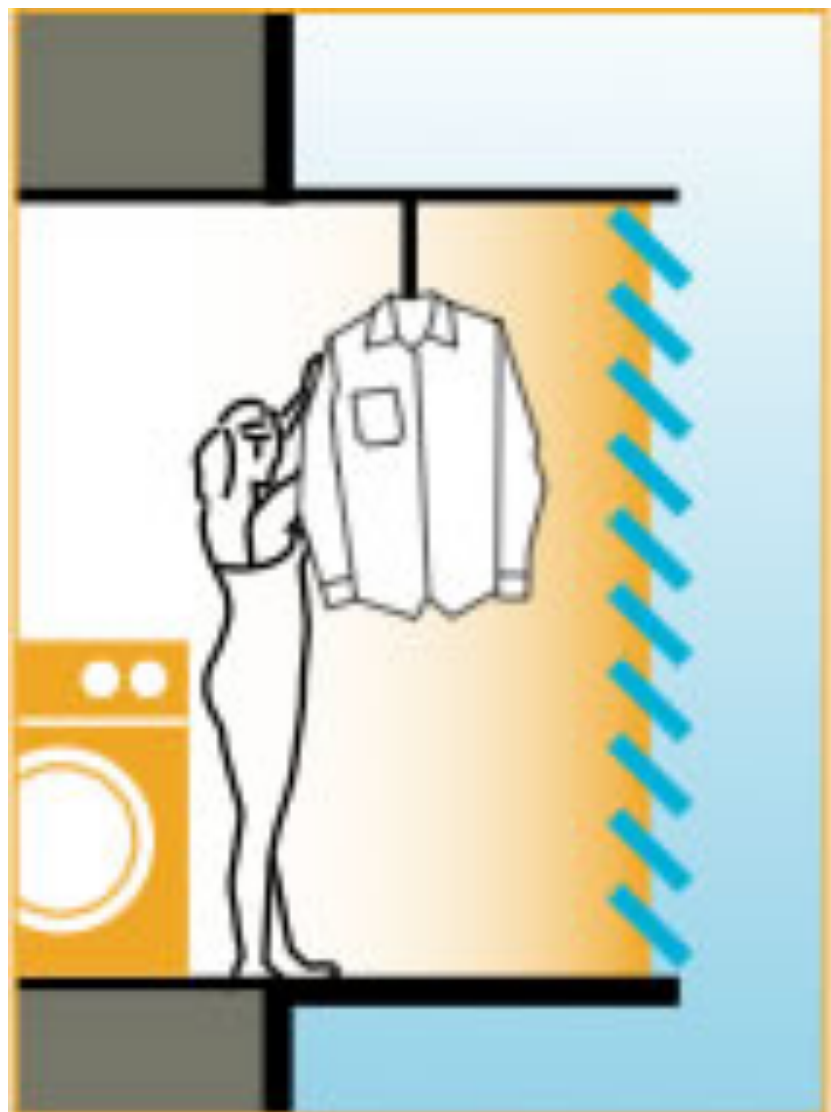
#### SCOTTISH CONTEXT

- High level of fuel poverty: — 32.7% Scotland — 20.1% England
- More indoor drying
- Less tumble dryer usage in Glasgow

### SOLUTIONS

#### DEDICATED DRYING SPACES

Current housing has a lack of dedicated drying spaces, utility rooms or other suitable spaces in which to dry clothes within the home. Not only can the sun, even in Scotland, help to dry our clothes, it is also a natural disinfectant.



#### HEALTH RISKS

There are three main health risks associated with indoor drying, all relating to moisture.

#### MOISTURE AND EXCESS DUST MITES

= asthma risk

#### INDOOR DRYING + FABRIC SOFTENER

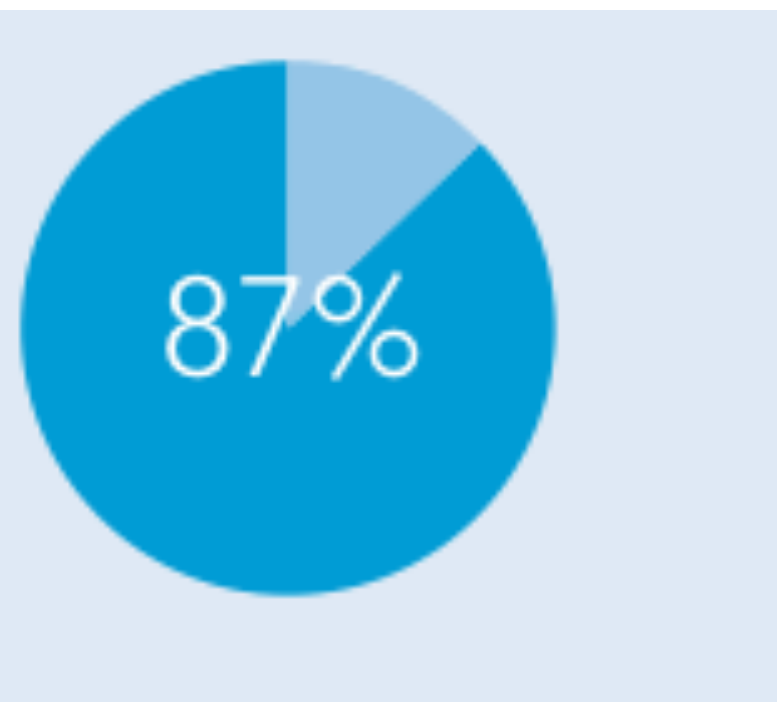
= hazardous carcinogenic chemical

= health risk heightened with moisture

#### INDOOR DRYING

= high mould spore count

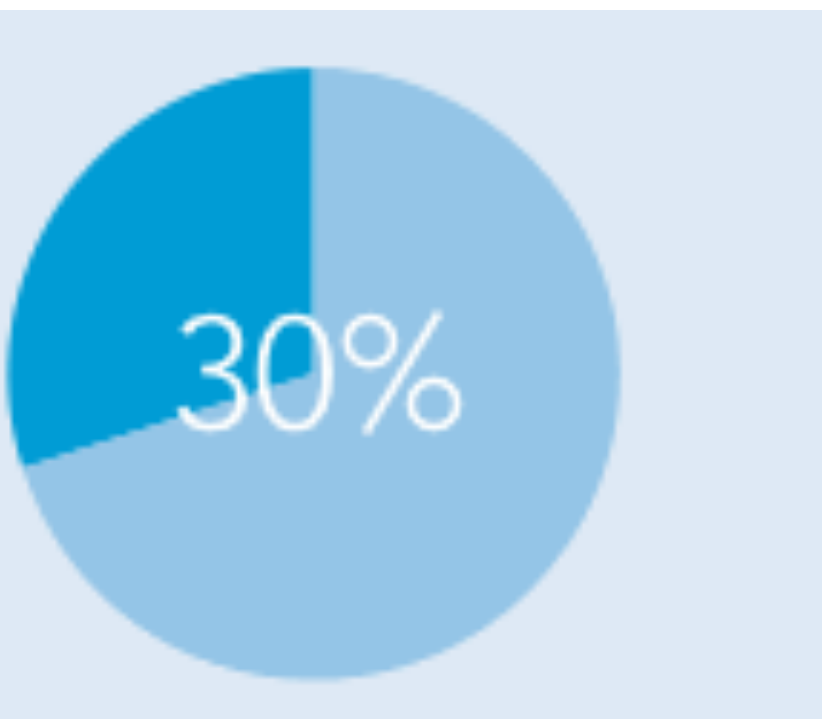
= asthma, eczema etc. risks



#### INDOOR DRYING HABITS

- 87% dry indoor during the heating season
- Open window + heat
- = fuel poverty
- Closed window + moisture
- = health risk

This poster discusses the outcomes of a three year multidisciplinary project led by the Mackintosh Environmental Architecture Research Unit (MEARU) at the Glasgow School of Art together with the Centre for Research on Indoor Climate and Health (RICH) at Glasgow Caledonian University and Energy Systems Research Unit (ESRU) at the University of Strathclyde.



#### MOISTURE FROM DRYING

30% of moisture in homes is attributable to clothes drying on wash days.

#### INDOOR DRYING CUPBOARD

- Health risk removed
- Low energy consumption

#### VENTILATION

Mechanical extract vent with intermittent capability of 30 l/s (humidstat @ 50–65% RH) or Mechanical Heat Recovery Ventilation (variable flow up to 30 l/s).

#### MATERIALS

Hygroscopic materials on walls and ceiling e.g. untreated timber or clay board.

#### HEATING

Low-grade heat source {from 'wet' heating system or 'borrowed' from free source – e.g. boiler or hot water cylinder).  
Vent in door for supply air.

