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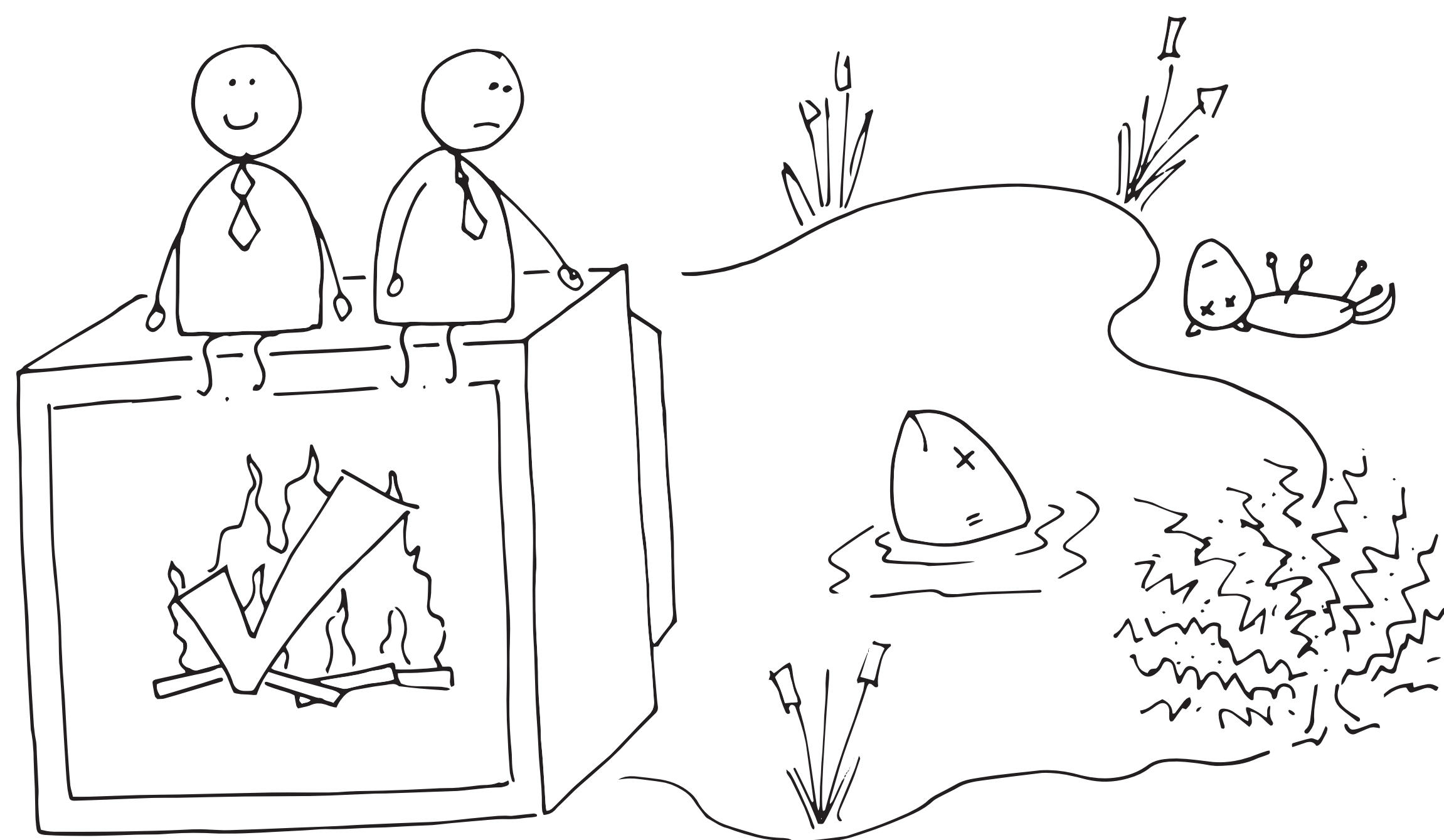
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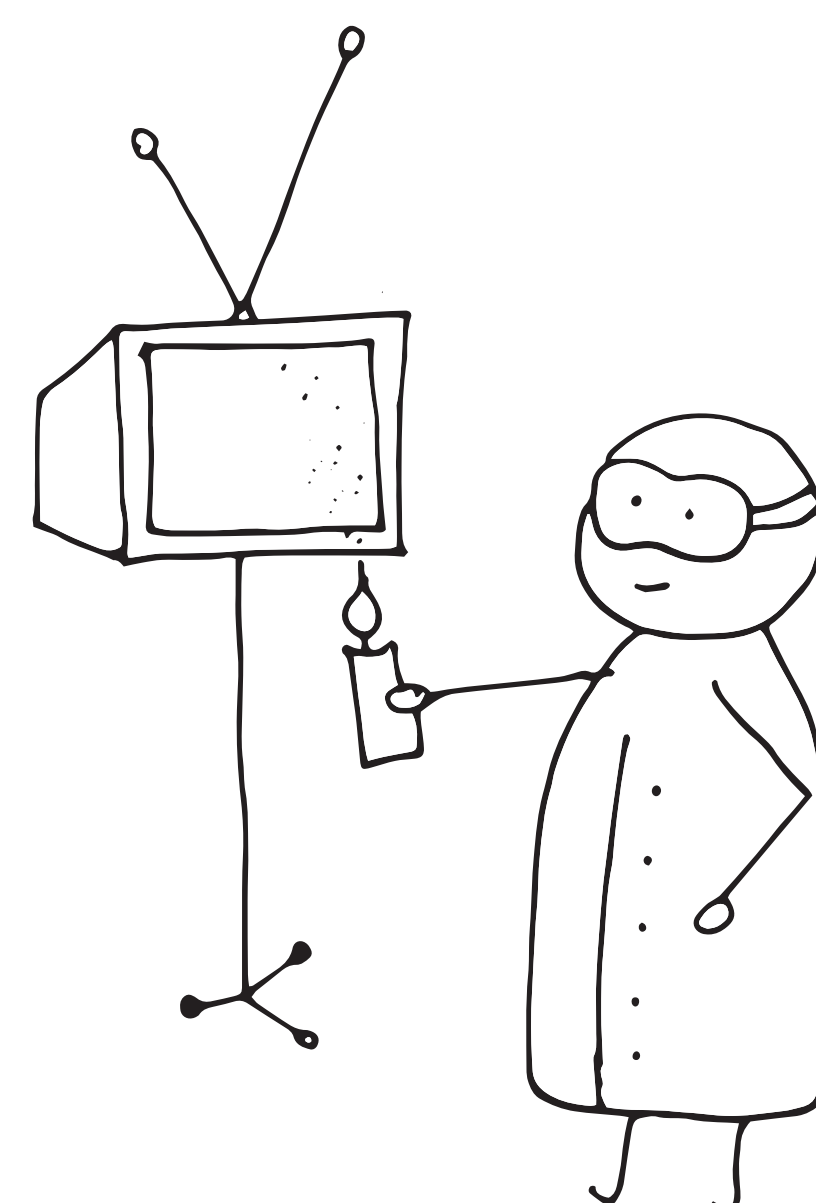
# Minimising the environmental impact of fire safety measures in electronic equipment: a role for standards?

## SUMMARY



Fire-safe consumer technology with minimum environmental impact is desirable. While standards are increasingly seen as having a role to play in achieving this, experience at British Standards Institution committee EPL108 shows how incorporating environmental considerations into international safety standards presents a challenge.

## A CASE STUDY



Standards IEC 60065 and IEC 62368, concerned with the safety of audio-visual equipment. Should the standards require that TV housings resist ignition from a candle flame?

## INITIAL STALEMATE



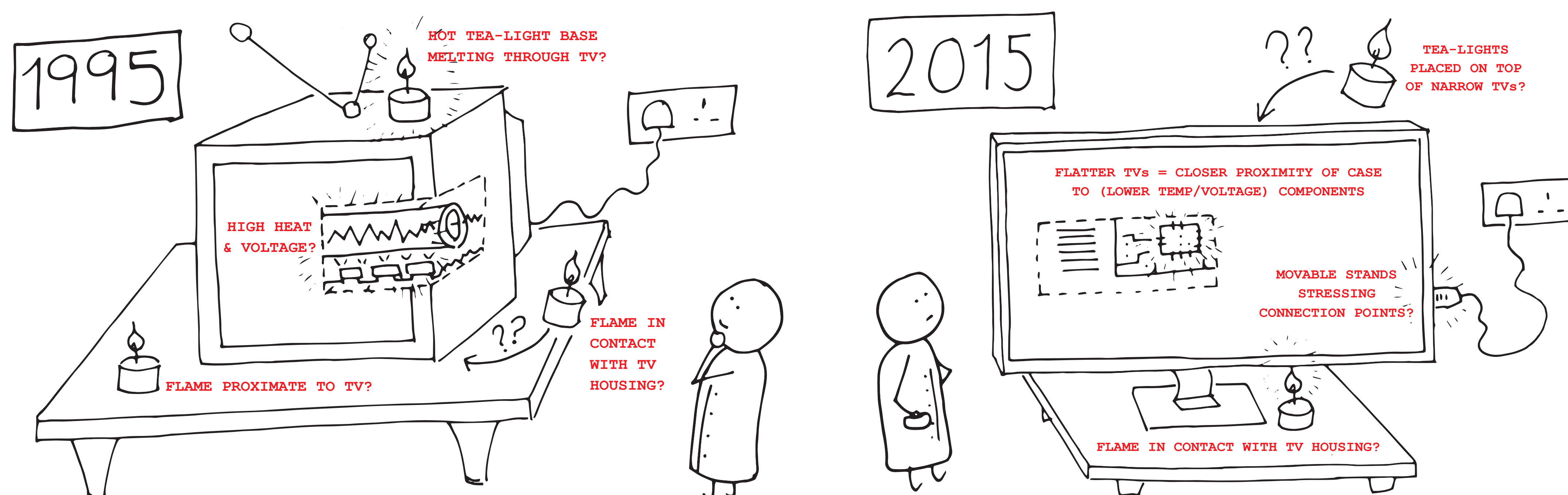
Discussion about the fire-safety benefits of making TVs ignition-proof from candles vs. the environmental risks of achieving this (probably with chemical flame retardants) ended in stalemate. Consensus had to be looked for elsewhere.

## QUESTIONS ABOUT FITNESS-FOR-PURPOSE OF IGNITION TEST

In the end, EPL108 decided there was insufficient evidence of TV fires being started by candles.

TV technology has changed significantly between 1995 and 2015, probably rendering the ignition test obsolete.

And although the candle test is easy, repeatable and robust, it does not simulate well fire risk from candles.



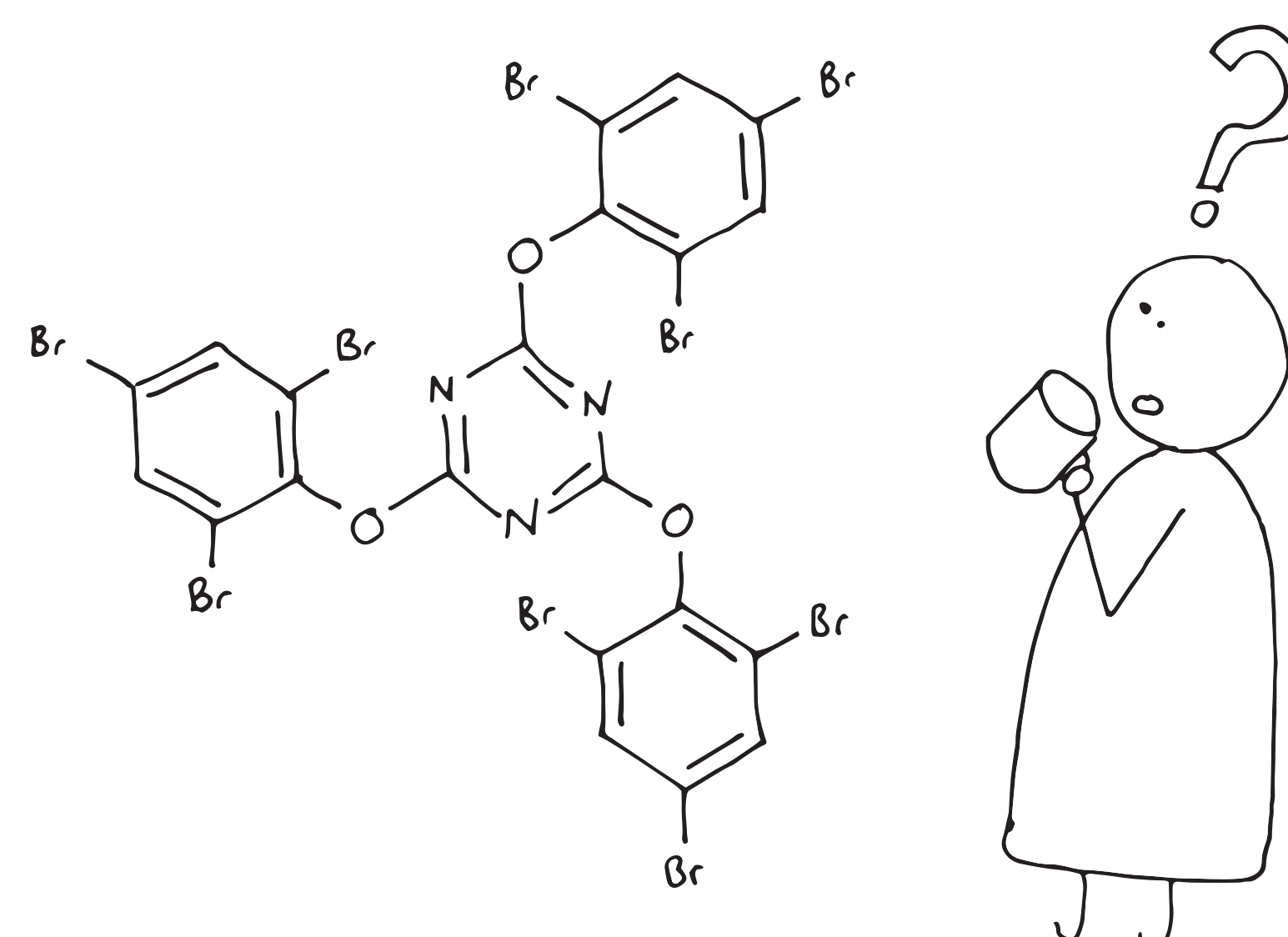
## TREATING THE SYMPTOMS

Although an environmental risk from a fire safety measure agreed to be unnecessary has been averted, a mechanism for addressing the root concern which sparked the debate (the environmental implications of a standard) has yet to manifest.

Although regulation forbids use of bad actor chemicals, this does not mean permitted chemicals present negligible environmental risks; nor does regulation encourage use of the most benign of the technological solutions to fire risks.

## AN EXAMPLE

TTBP-TAZ. Discovered this year in EU electronic equipment by Dutch researchers (Ballesteros-Gomez et al. 2014). Novel compound, possibly replacing octa- and deca-BDE, likely to be persistent and bioaccumulative.



## PROCESS GUIDANCE

Process guidelines and access to a systematic evidence base would help committees directly address the environmental implications of a standard.

- Relative risks: Accessible summaries of risk and hazard profiles of possible technology options
- Necessity for use: Are there technological and design options which avoid the environmental hazard?

Objective information about relative risks is difficult to access and may require specific capacity in reviewing literature to be developed.