

Sustainability in Decorative Paints

Continuing Professional Development
Seminar (CPD)



Presentation Material © AkzoNobel 2022



“Buildings have to be more than just functional; coatings and colours are often what customers see first and remember longest.”

Overview

- Introduction to AkzoNobel
- Seminar Objectives
- Sustainability, Paint and the Built Environment
- Creating Sustainable Paint Specifications
- Green Building Standards and Paint
- Where to Find Help
- Review

SOME OF OUR BRANDS



A BRIEF LOOK AT OUR HISTORY



1646

BOFORS FORGE FOUNDED



1792

SIKKENS BUSINESS STARTED



1904

INTERNATIONAL ENJOYS EARLY SUCCESS



1933

DISCOVERY OF POLYTHENE



1953

DULUX LEADS DIY REVOLUTION



1994

AKZO JOINS FORCES WITH NOBEL



2008

AKZNOBEL ACQUIRES
IMPERIAL CHEMICAL INDUSTRIES (ICI)

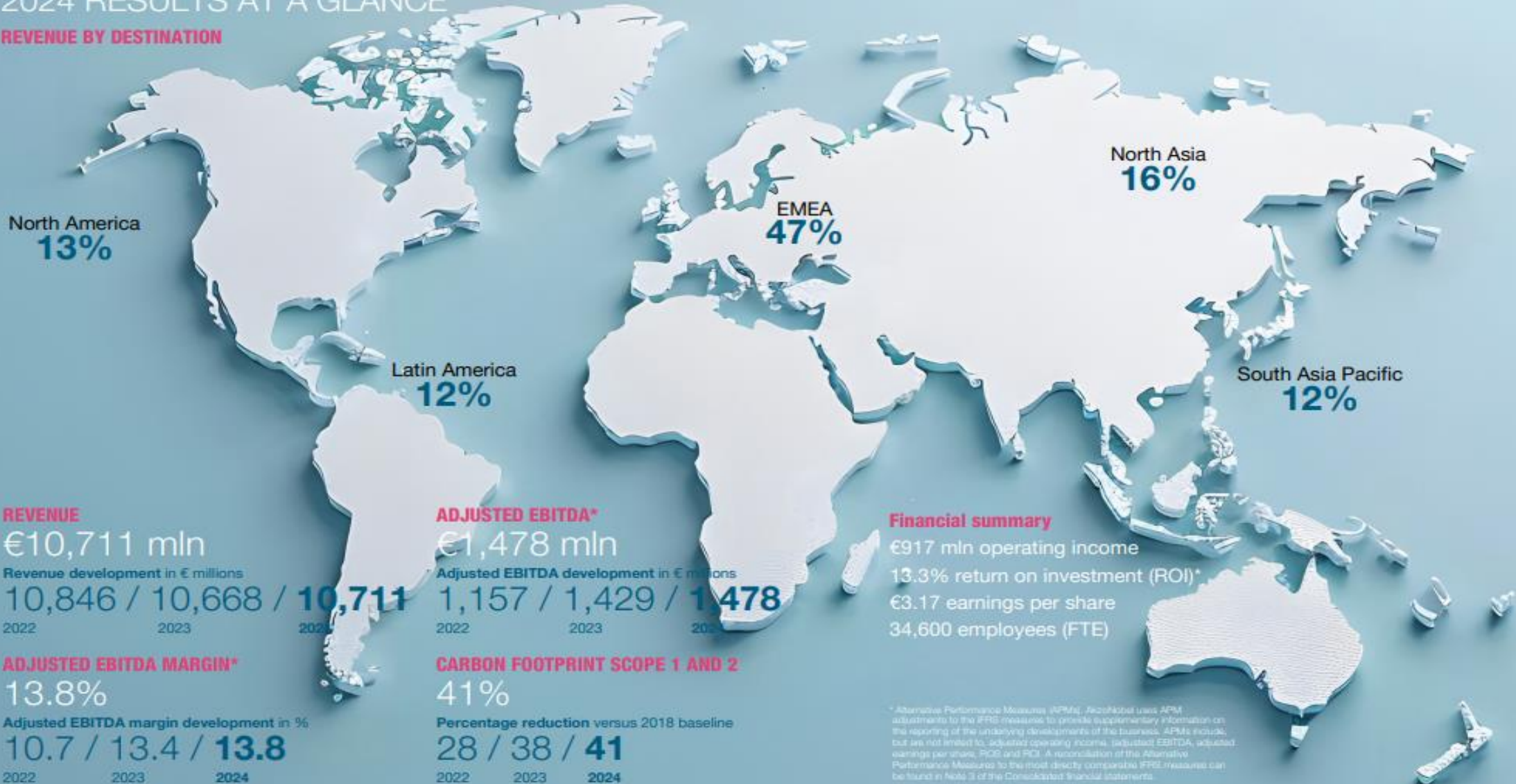


2017

PRODUCTION STARTS IN ASHINGTON

2024 RESULTS AT A GLANCE

REVENUE BY DESTINATION



REVENUE

€10,711 mln

Revenue development in € millions

10,846 / 10,668 / **10,711**

2022

2023

2024

ADJUSTED EBITDA*

€1,478 mln

Adjusted EBITDA development in € millions

1,157 / 1,429 / **1,478**

2022

2023

2024

Financial summary

€917 mln operating income

13.3% return on investment (ROI)*

€3.17 earnings per share

34,600 employees (FTE)

ADJUSTED EBITDA MARGIN*

13.8%

Adjusted EBITDA margin development in %

10.7 / 13.4 / **13.8**

2022

2023

2024

CARBON FOOTPRINT SCOPE 1 AND 2

41%

Percentage reduction versus 2018 baseline

28 / 38 / **41**

2022

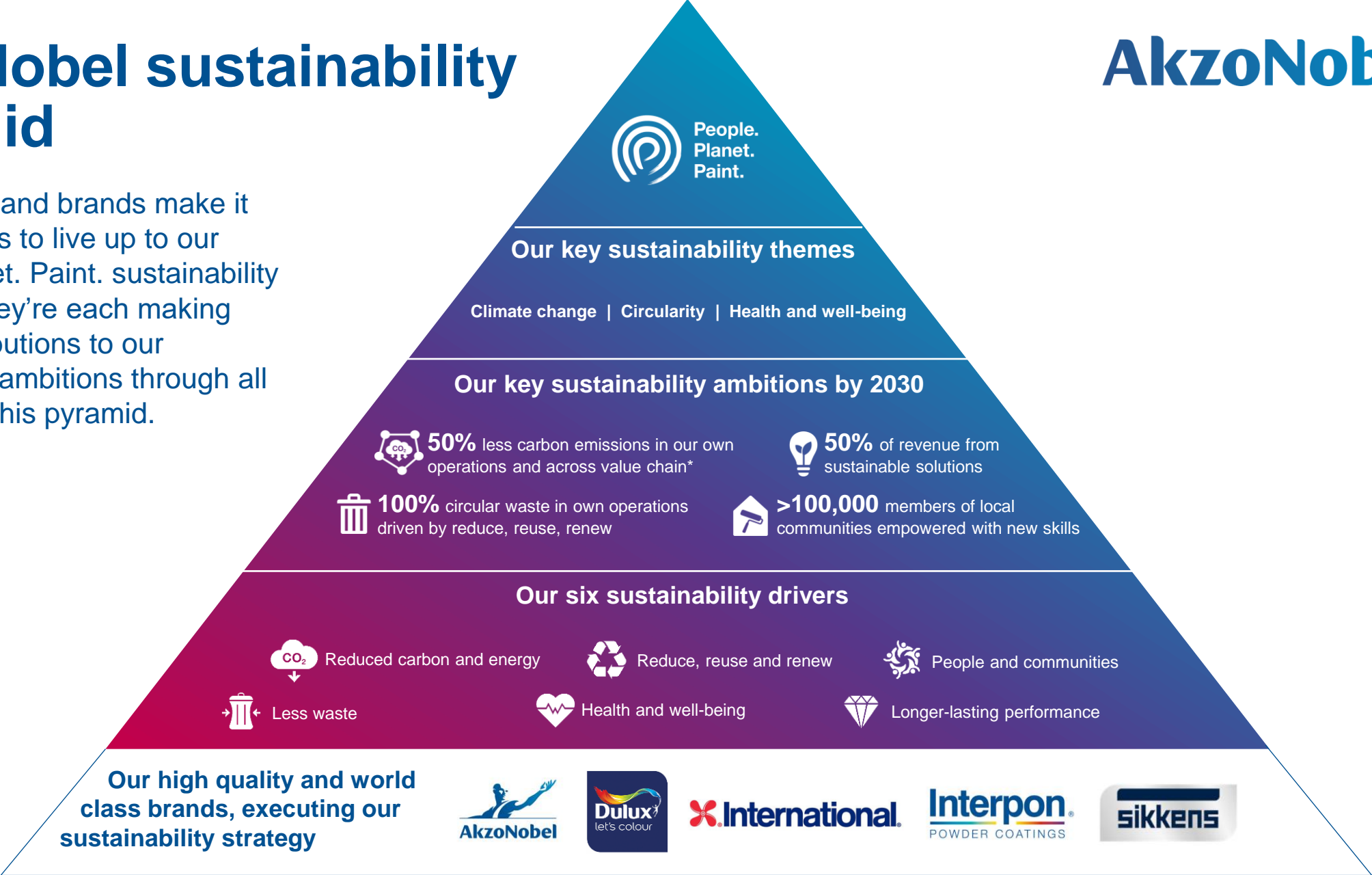
2023

2024

* Alternative Performance Measures (APMs). AkzoNobel uses APM adjustments to the IFRS measures to provide supplementary information on the reporting of the underlying developments of the business. APMs include, but are not limited to, adjusted operating income, adjusted EBITDA, adjusted earnings per share, ROI and ROIC. A reconciliation of the Alternative Performance Measures to the most directly comparable IFRS measures can be found in Note 3 of the Consolidated financial statements.

AkzoNobel sustainability pyramid

Our products and brands make it possible for us to live up to our People. Planet. Paint. sustainability approach. They're each making crucial contributions to our sustainability ambitions through all the layers of this pyramid.



*Baseline 2018

Aims of this seminar

1. Understand how paint can contribute to more sustainable built environment
2. Build confidence in creating sustainable paint specifications
3. Learn about the support available to help you



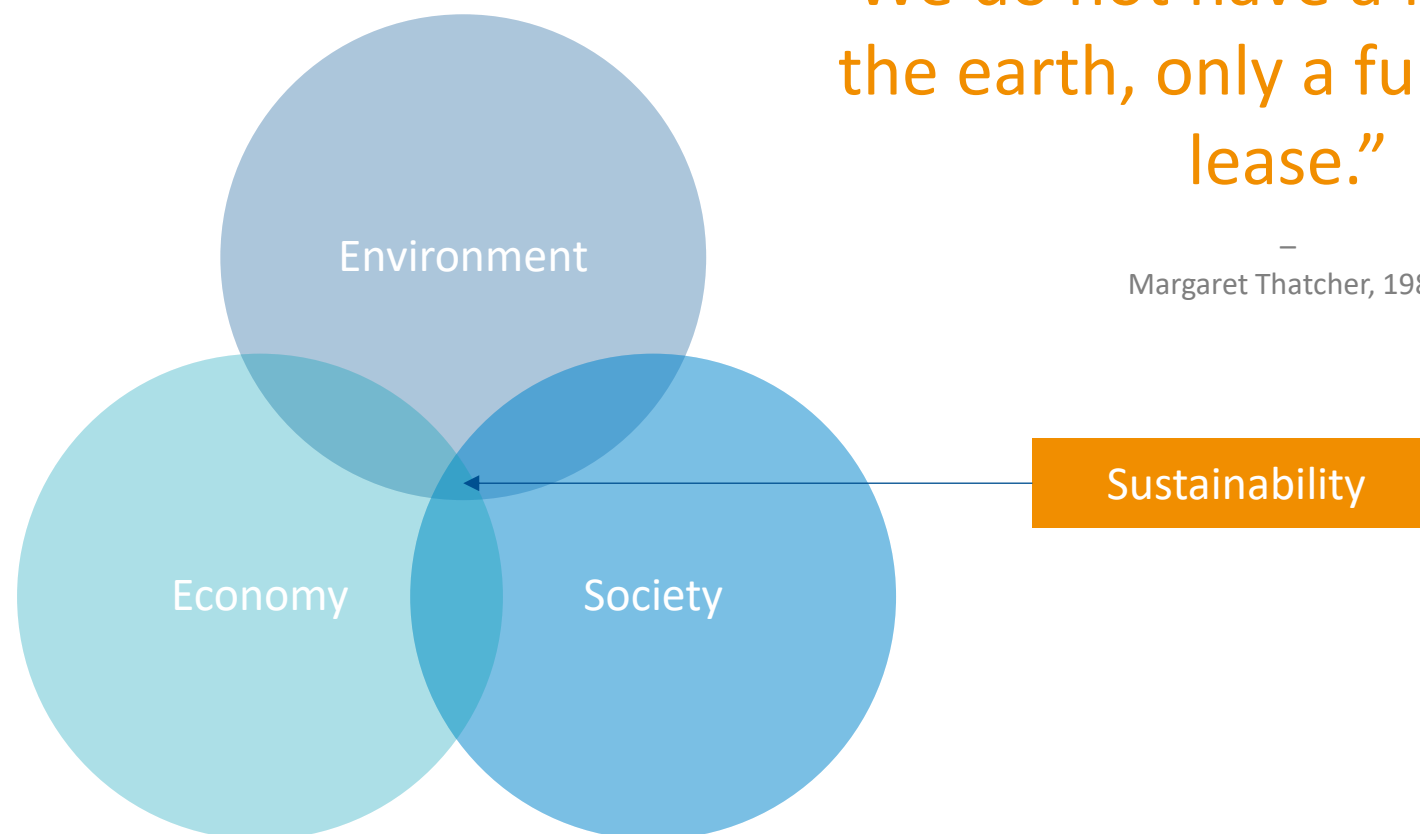
Quick Quiz

1. What is the average number of half-used paint cans in garden sheds?
2. What percentage of gross sales in the commercial market are solvent-based?
3. Does BREEAM give credits for the use of traditional solvent based paints for trim?

Sustainability, Paint and the Built Environment

Sustainability – What do we mean?

Sustainability means meeting our needs without compromising the ability of future generations to meet their own needs



“We do not have a freehold on the earth, only a full repairing lease.”

—
Margaret Thatcher, 1988

Sustainability and the built environment

Construction has a huge impact on our planet!



The built environment accounts for around 35% of UK Carbon emissions



The UK construction industry uses over 400 million tonnes of materials each year



The construction industry is the largest generator of waste in the UK

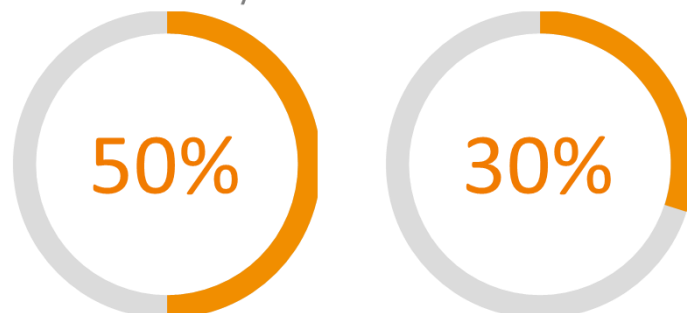


80% of buildings that exist today will be here in 2050

But what is being done?

Government

Construction 2025 – Government strategy for UK construction industry



lower emissions

lower costs

Refers to whole life costs and not just initial construction costs
Whole life carbon must also be considered

UK Packaging taxes

In 2022, there were two taxes suppliers may have to pay dependent upon the material and volume of their packaging. The Government plans to develop PRN into EPR in 2023 with the first payments in 2024.



2022



Producers' liable if:

- Handled 50+ tonnes of packaging per year AND
- Turnover over £2 million

+



Introduced April 2022
Producers' liable if:

- Manufacture or import 10 tonnes or more of plastic packaging over year

The thresholds will half in 2023.

2023



'LARGE' Producers' liable for fees if:

- Handled 50+ tonnes of packaging per year AND
- Turnover over £2 million

'SMALL' Producers' liable to report only (NO FEES):

- Handled 25-50 tonnes of packaging per year
- Turnover £1-£2 million

+



Producers' liable if:

- Manufacture or import 10 tonnes or more of plastic packaging over year



Industry



Circl in Amsterdam built by BAM – every single material used is recyclable



UK Net Zero Carbon Buildings Standard

Paint and a more sustainable built environment

AkzoNobel

Areas of
consideration



1. Preserving and protecting buildings



2. Positive impact



3. Indoor Air Quality



4. Waste from commercial decorating

1

Preserving and Protecting Buildings

Durability brings long term benefits for budgets and the environment

For high traffic internal areas or exteriors

- Reduce environmental impact by extending the maintenance cycle – this reduces resource use

Look for:

- High durability finishes for high wear areas such as hallways and corridors
- Specialist exterior products that are formulated to withstand harsh weather conditions



2

Positive impact – products

Sustainability can also be delivered by solutions that offer sustainability benefits over their life cycle

Examples of positive impact products include:

- **Highly reflective paint** – makes rooms appear bigger & brighter thus reducing need for additional lighting
- **Anti-bacterial and Anti-viral coatings** – inhibit bacteria and virus spread and help promote a more hygienic environment

AkzoNobel



3

Indoor air quality

Indoor air quality can be impacted by a number of influencing factors:

Outdoor
contaminants
from traffic and
industry

Soft
furnishings

Emissions from
building materials –
including paints and
coatings

Electronic
equipment

Cleaning
products

Using high VOC paints contributes to poor IAQ

Did you know?

- There are water based trim paints and ultra-low VOC wall paints available now**
- There are pollution-neutralising products that can reduce Formaldehyde (internals) and NOx & SOx (externals)

4

Waste From Commercial Decorating

Decorating creates significant amounts of waste –

- Over 100 million paint cans and 55 million litres of paint go to waste every year - plus accessories and wash water

Did you know

- Empty paint cans can be recycled – through Dulux Decorator Centres or other distributor schemes
- Left over paint can be put to good use – e.g. Community RePaint
- Amount of water used to clean out equipment can be reduced through good practice



Creating sustainable paint specifications



Specify Water-Based Trim paints

Water-based trim paints offer a high quality alternative to higher-impact traditional solvent-based products

Benefits:

- Comparable finish to traditional trim
- Less solvent/VOC content
- Lower embodied carbon
- Reduced impact on air quality
- Quicker drying & faster re-coats
- Lower odour
- Longer lasting whiteness, less yellowing
- Easier to clean out brushes after use



Switching the industry to Water Based for Trim – how is it going?

	Solvent-Based	Water-Based
UK	45%	55%
UK Consumer	40%	60%
UK Trade	50%	50%

Interior Trim Only	Gloss		Satin	
	Solvent Based	Water Based	Solvent Based	Water Based
UK Commercial Market NB. AN Sales only	70%	30%	40%	60%
Netherlands Market – SB illegal internally	0%	100%	0%	100%

UK Commercial Market is lagging behind. **Why?**

1. Specification
2. Traditional Painter Behaviour

B Avoid unnecessary resource use – don't overspecify

Unnecessary resource use



High Durability Emulsion on Ceilings
– is it necessary?



Refreshing a white ceiling –
are 2 coats necessary?

But don't underspecify either!



Specify durable coatings for high
traffic areas



Include a clause on Responsible Sourcing

- Procurement choices can have profound environmental and ethical impacts – a risk of child labour, poor environmental practices and slavery
- To promote the sustainable procurement many companies look to procure products which are able to demonstrate compliance to a recognised responsible sourcing scheme
- BES 6001 enables manufacturers to ensure and then prove that their products have been made with raw materials that have been responsibly sourced



AkzoNobel



D Think About Waste



Include a clause on can recycling

Example spec clause on can recycling:

‘Recycle all empty cans at one of the many decorators merchant outlets operating a can recycling service’



Include a clause on left-over paint

Example clause for unused paint:

‘Ensure all left-over or unused paint does not enter the waste stream, and is instead donated to worthwhile organisations for re-use such as the Community Repaint scheme (www.communityrepaint.org.uk)’

E Consider Environmental Impact Over the Whole Lifecycle

Specify Products with Environmental Product Declarations (EPDs)



Benefits of EPDs

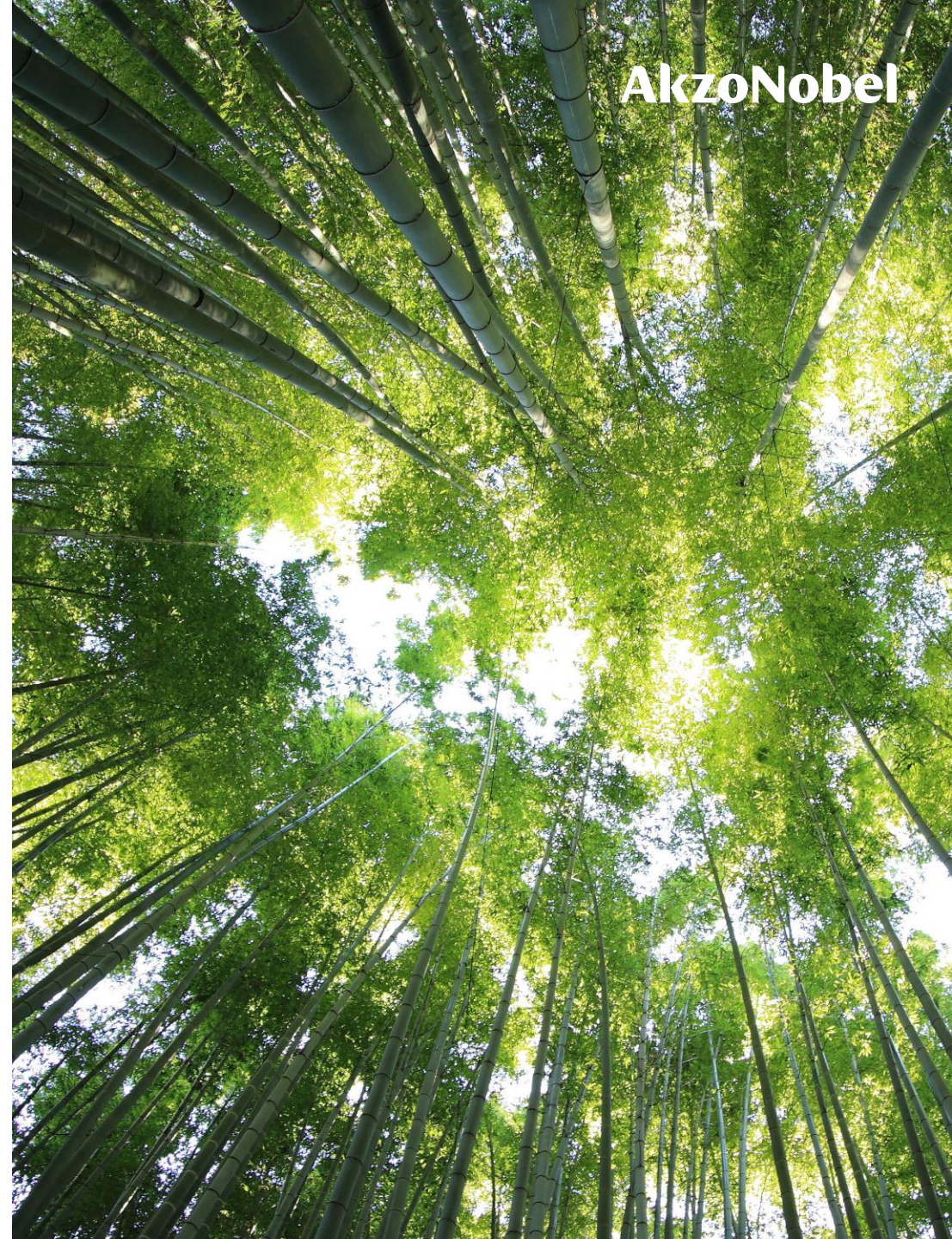
Projects focused on circular economy

- Enable more sustainable specifications by providing data and evidence
- Allow for comparison of key environmental metrics e.g. carbon footprint
- Required for compliance with green building standards



Summary – tips for sustainable specifications

- Use waterbased trim paints to reduce VOCs
- Use ultra-low VOC wall paints**
- Use extra durable products in high-traffic environments
- Don't over specify – use standard paint on ceilings
- How are the ingredients sourced – include a clause on responsible sourcing
- **Think about waste – include a clause on can recycling and left over paint**
- Think about creating a positive impact on sustainability with paint – water-based gloss, colour, etc
- Look for paint supply partner with good sustainability credentials
- Use EPDs to support projects incorporating lifecycle impact measurement
- Think about compliance with BREEAM/LEED/WELL early on



Green Building Standards and Paint

Environmental Assessment Methods – BREEAM, LEED.....

We've all heard of BREEAM and LEED, but what are they and why are they important?

They are methods for assessing, rating and certifying the sustainability of buildings and they aim to:

- Reduce the environmental impacts of buildings
- Distinguish green buildings in the marketplace
- Set environmental criteria for buildings that are stricter than regulations
- Provide a credible environmental label for buildings
- Aid comparison and benchmarking of green buildings

The BREEAM logo consists of the word "BREEAM" in a bold, green, sans-serif font, followed by a registered trademark symbol (®).

Introduction to BREEAM

- An assessment method that provides an all round measure of the sustainability of a building
- From BRE – Building Research Establishment (BREEAM = Building Research Establishment Environmental Assessment Method)
- Around 35% of new construction in the UK is

BREEAM certified

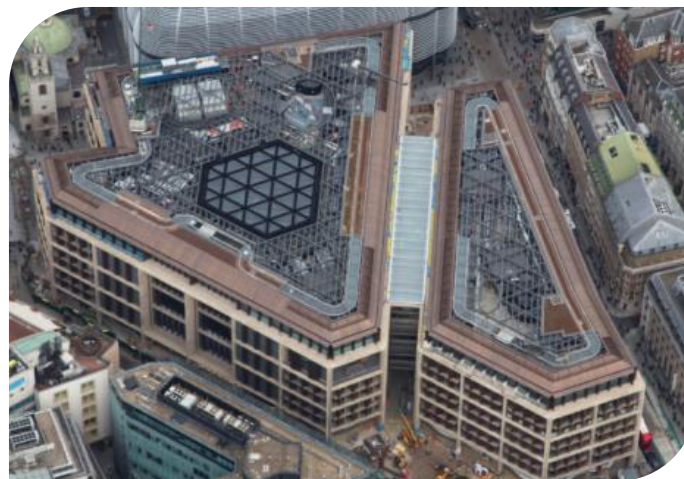
- Largest sustainable building assessment method in UK
- Covers new construction, in-use commercial, infrastructure, refurbishment and fit out

BREEAM®

Buildings with a BREEAM Outstanding rating:



Bloomberg HQ London



7 More Riverside London



Co-Operative Group HQ Manchester

How does paint comply with BREEAM?

BREEAM UK New Construction 2018 – main credits relevant to paints and coatings

Low VOC emission paints - Health and Wellbeing Hea 02 Indoor air quality maximum of 3 credits available

- VOC **content** must be below limits specified - only water-based for trim
- VOC **emissions** limits must be met – testing certificates provided
- Exemplary credit available for products with very low emissions

Environmental Product Declarations -Materials Mat 02 Environmental impacts from construction products

- Up to 1 credit available for using products with EPDs
- Must be third party accredited and compliant to ISO 14025



AkzoNobel



Hea 02 BREEAM credits – paints & coatings detailed requirements

HEA02 aim is to support healthy internal environments with good indoor air quality
- up to 3 credits available

Compulsory requirement for paints – all must meet VOC content limits (Table 1)

To achieve 1 credit, three of the five product types listed must meet the basic emission limits (Table 2 shows limits for paints):

- Interior paints and coatings
- Wood-based products including wood flooring
- Flooring materials
- Ceiling, wall, and acoustic and thermal insulation materials
- Interior adhesives and sealants

To achieve 2 credits, all five product types must meet the basic emission limits (Table 2)

To achieve 1 exemplary credit ,
All five product types meet more stretching VOC Emissions requirements (Table 3 shows exemplary limits for paints)

Table 1

Product category	Free TVOC content of ready-to-use product (g/l)
Interior matt walls and ceilings (Gloss <25@60°)	10
Interior glossy walls and ceilings (Gloss >25@60°)	40
Interior trim and cladding paints for wood and metal	90
Interior trim and varnishes and wood stains, including opaque wood stains	65
Interior minimal build wood stains	50
Primers	15
Binding Primers	15
One-pack performance coatings	100
Two-pack reactive performance coatings for specific end use such as floors	80
Multi-coloured coatings	80
Decorative-effect coatings	80

Table 2

Formaldehyde	Total volatile organic compounds (TVOC)	Category 1A and 1B carcinogens
Interior paints and coatings		
<0.06 mg/m ³	<1.0 mg/m ³	<0.001 mg/m ³

Table 3

Formaldehyde	Total volatile organic compounds (TVOC)	Total semi volatile organic compounds (TSVOC)	Category 1A and 1B carcinogens
Interior paints and coatings			
<0.01 mg/m ³	<0.3 mg/m ³	<0.1 mg/m ³	<0.001 mg/m ³

Note:

- Paints used in wet areas need to protect against mould growth
- Certificates for testing lab need to be provided as evidence for VOC emissions

Why VOC emissions testing?

In previous versions of BREEAM and LEED the focus was solely on VOC content of paints and coatings – why has this now shifted to VOC emissions and what is the difference?



- VOC content only tells us about what is in the can and not how VOCs emit from the paint once it is on a wall
- Not all VOCs are emitted from the paint/surface at the same rate
- There is some correlation between VOC content and VOC emissions into indoor air – but not it's not necessarily direct



Introduction to LEED?

- Essentially the U.S. equivalent of BREEAM – but operates globally
- Developed by US Green Building Council
- LEED – Leadership in Energy & Environmental Design
- Currently small in UK but is gaining popularity – in particular with U.S. companies developing here such as Google and Deloitte
- Covers: new and existing commercial, institutional, residential, major renovation
- Estimate that 5% of new construction in UK is LEED certified



UBS Broadgate office, London



Google Kings Cross Office, London

How does paint comply with LEED?

LEED V4 for Interior and Construction:
Credits relevant to paints and coatings

- Indoor Environmental Quality (EQ) – Low Emitting Materials – 1 to 3 points available
- Paints must meet VOC content limits set out by EU Decopaint Directive (for projects outside U.S.)
- For VOC emissions paints should meet the limits of one of the certification schemes listed in the standard (e.g. Indoor Air Comfort Gold)
- Materials and Resources: Building Product Disclosure and Optimization – **Environmental Product Declarations** – 1 to 2 points available



LEED points available for low emissions paints

From LEED V4 for Interior and Construction

- Aims to reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment.
- Up to 3 points available for a range of product categories

The points can be achieved for paint by meeting the requirements for both VOC content and emissions:

- For VOC emissions* paints should meet the limits of one of the permissible certifications
- For VOC content paints need to meet the requirements of the European Decopaint Directive

*Certificates for testing lab need to be provided as evidence for VOC emissions

AkzoNobel



WELL Standard - The Growing Importance of Wellbeing

WELL is a performance-based system for measuring, certifying and monitoring features of the built environment that impact human health and well-being through seven concepts:

For paint the focus is on:

- Using low VOC paints for minimum impact on air quality
- Material safety and reduction of toxic materials*
- Surface design – average light reflectance value of walls and ceilings
- Attractive use of colour in communal spaces



Summary – tips for complying with green building standards

1. Think about compliance at specification stage
2. **Read up on the requirements early on**
3. Low VOC requirements can be hard to meet and **information on VOC emissions** is not commonly available on datasheets or manufacturers websites
4. Make sure that only water based products are used for trim
5. EPDs can often be used to gain extra credits
6. Seek help from paint manufacturers if uncertain
7. Make sure you have all the right evidence – certificates, EPDs, datasheets etc.



Information and Support
available to help you

Information and Support

Major Paint Manufacturers should be able to supply:

- Compliance statements – LEED, BREEAM, Ska and WELL
- EPDs
- **Carbon Footprint data**
- BIM Objects
- Certificates – BES 6001, ISO 14001
- Environmental policies



Genuinely striving to improve the industry

AkzoNobel



Review learning aims of the seminar

1. Understand how paint can contribute to a more sustainable built environment
2. Build confidence in creating sustainable paint specifications
3. Learn about available support to help you

Water-based paint
for trim



Waste



Durable products



Help is available!

More Quiz questions

1. What %age reduction in emissions does the government want to see from the construction industry by 2025?
2. **What compounds present in paint impact indoor air quality?**
3. What documents help with lifecycle modelling?
4. **What can architects do to reduce packaging waste in commercial decorating?**
5. **What is the name of the scheme that distributes left-over paint to people in need and community projects?**

Questions



Useful Resources

<https://www.duluxtradepaintexpert.co.uk/en/products/sustainability>

<https://www.ukgbc.org/>

<https://communityrepaint.org.uk/>

<https://www.duluxdecoratorcentre.co.uk/can-recycling>

Specification Essentials

Technical and Safety Datasheets for all Dulux Trade and Armstead products can be found on our website: www.duluxtrade.co.uk

Contact Us

AkzoNobel Decorative Paints,
Wexham Road, Slough, SL2 5DS
Tel +44 (0)333 222 7070
www.duluxtrade.co.uk
project.support@akzonobel.com