

# Re-use & Recycling Crushed Concrete: Examples of Current Practice in Nuclear Sector



*SafeSpur Forum and Cirianetwork Logo's  
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## Today's discussion:

1. **Introductions**
2. **About KDC: Services and Customers**
3. **Drivers for Recycling & Reuse**
4. **How do KDC respond?**
5. **Challenges in the Nuclear Industry**
6. **Typical Decommissioning Cycle**
7. **Practical Experiences & Solutions**
8. **Concluding Comments and Q&A**

# 1. Introductions

## **John Bloodworth: Director Nuclear Business., KDC Contractors Ltd**

- Appointed to KDC board 2007
- Responsible for the development and delivery of nuclear related decommissioning, decontamination and demolition services
- Over 25 years of engineering experience in the UK nuclear industry
- Before KDC, worked for AMEC NNC as a business manager responsible for clean-up business with AWE and other major customers
- Wide ranging project experience includes major decommissioning projects with Magnox, Sellafield, UKAE and AWE

### **Why can KDC contribute to today's conference:**

- Pedigree within nuclear
- Pedigree in other related sectors
- Real experience, real solutions

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## 2. About KDC: Services

- **Leading Decommissioning, De-planting, Demolition and Land Remediation Co.**
- **Provide a full suite of services to the Nuclear, Chemical, Petro-Chemical, Pharmaceutical, Energy & Utilities, Local Authorities**
- **Experienced in regulated environments and the legal requirements.**
- **Employ 145 specialist operatives and management**
- **Own In-House:**
  - Nuclear decommissioning team
  - De-planting and rigging teams
  - Licensed Asbestos abatement team



## 2. About KDC: Customers

- BNFL Sellafield
- RSRL (UKAEA)
- AWE
- BP
- Chevron
- GSK
- AstraZeneca
- Magnox Electrical
- MSD
- Syngenta
- DOW Chemical
- Wrexham Borough Council
- Liverpool 2020
- Royal Mail
- Sembcorp
- Port Authorities
- Wales and West Utilities
- Scottish Power
- Piramal
- Johnson Matthey
- St Modwens
- Croda

Or put another way.....



# Exotic Travel



# Large Tonka Toys



# On Large.....





# And Unusual Sites.....

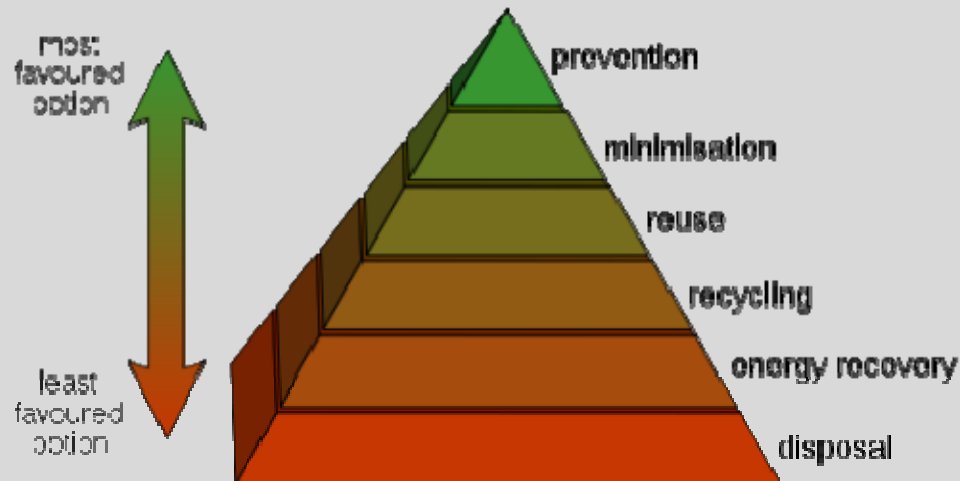


With lots of recyclable aggregate.....



## 3. Drivers for Recycling & Reuse

- KDC's Corporate Social Responsibility (CSR) commitments
- Environmental Policy e.g. the waste hierarchy



- Environmental Protection Act 1990 (EPA 90) provides the main controls for waste management (part II of the Act). These provisions are enforced through the Environmental Protection (Duty of Care) Regulations 1991 (SI 1991 No. 2839). Section 34 of the EPA 90 creates a “Duty of Care” on all who deal with active waste
- Best practice for CO2 reduction

## 4. KDC's response to these drivers in the nuclear sector:

- Waste Hierarchy
- Segregation
- Waste Routes

# 5. Challenges in the Nuclear Industry

- Characterisation: what do we have and where is it?
  - Radiological
  - Asbestos
  - Chemotoxic
- Waste management plan driver for decommissioning methodology:
  - Gear the demolition solution design around the waste segregation and reuse/recycle/dispose routes
- Safety vs. Environmental:
  - Eliminate health risk
  - Segregation options may be reduced

## 6. Typical Decommissioning Cycle

- Radiological
- Asbestos
- Soft Strip
- Demolition
- Land Remediation



**Waste processing**

# 7. Practical Experiences and Solutions

## Characterisation



RSRL Building Characterisation Survey

# 7. Practical Experiences and Solutions

## Characterisation



RSRL Sampling



# 7. Practical Experiences and Solutions

## Decontamination



RSRL immobilisation of contaminated storage tubes

# 7. Practical Experiences and Solutions

## Decontamination



RSRL immobilisation of contaminated storage tubes

# 7. Practical Experiences and Solutions

## Decontamination



RSRL towards end of demolition

# 7. Practical Experiences and Solutions

## Decontamination



RSRL targeted decontamination

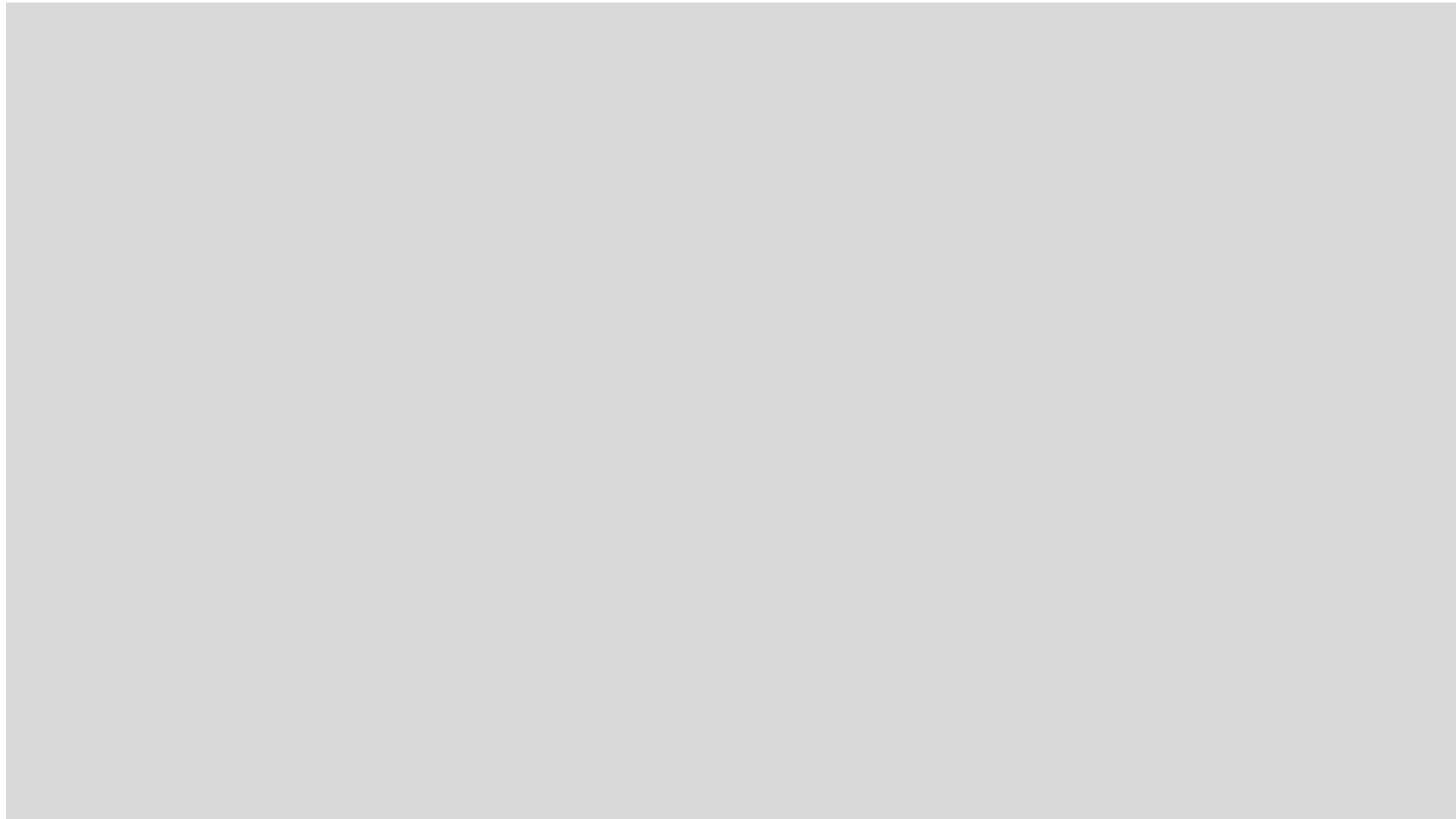
# 7. Practical Experiences and Solutions

## Demolition

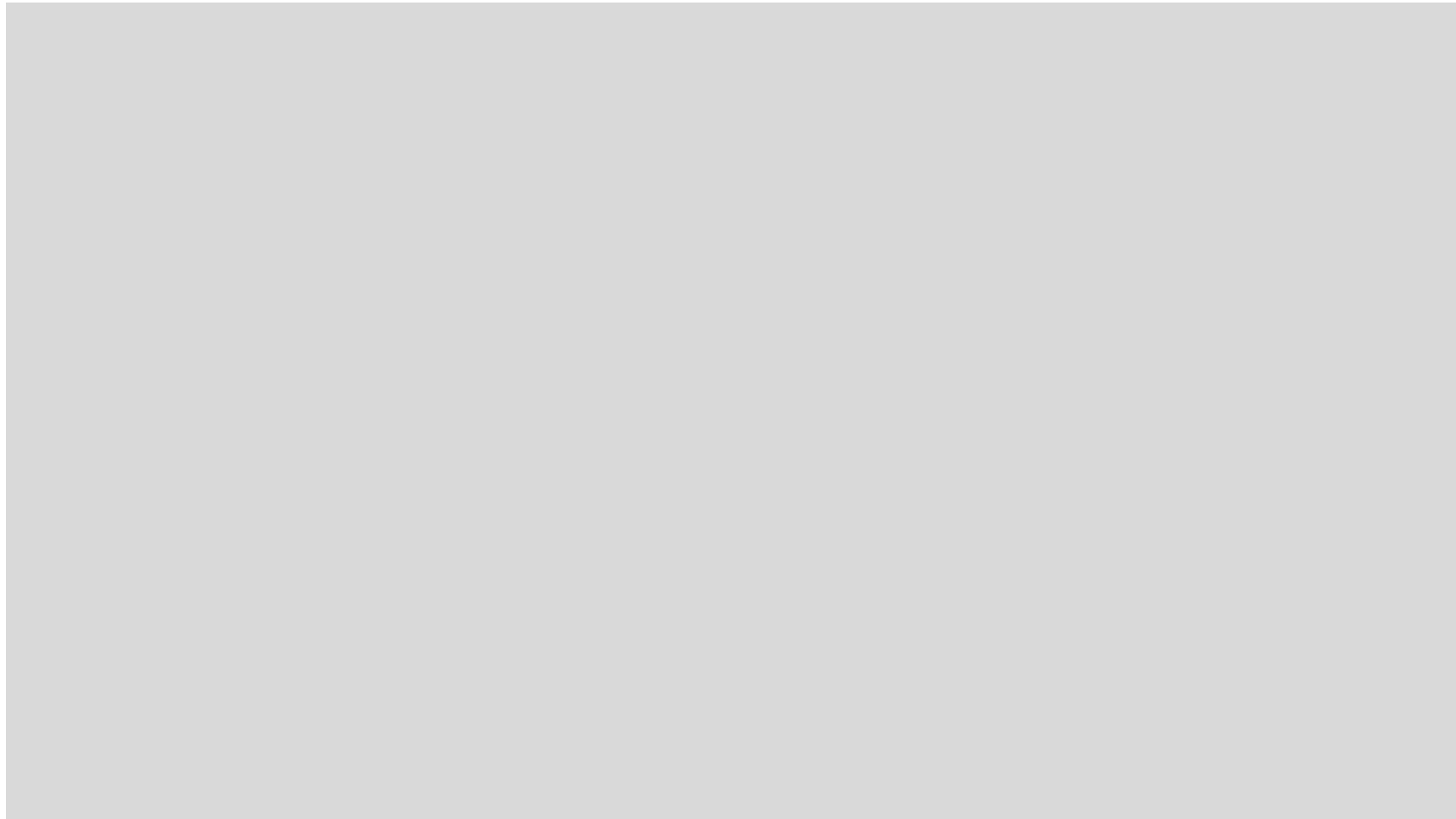


Use of plant to bring down building frame

# Demolition of Croda



# Demolition at Dow Wilton



# What our Clients think

**Richard Smith, Dow Global Demolition Director, said:**

*“KDC Continues to demonstrate an outstanding commitment to the safe planning and execution of all field work on Dow demolition projects.*

*We truly believe KDC’s superlative performance is a reflection of the leadership and support of the entire KDC management team, as well as the diligence and dedication of all KDC personnel”.*





## 8. Concluding comments and Q&A:

- KDC delivers >97% recycling levels across all projects.
- Other non nuclear examples:
  - Wrexham: asbestos contaminated building
  - Recycled 98%, concrete recycled in local road building project.
- Solution design is critical to ensure safety and maximise environmental benefits.

Thank You

