

## **ICL Platin Fossil Fuel Replacement Project - FAQ's**

- **What is Irish Cement announcing?**

- Irish Cement are starting a new process, a planning application, (to An Bord Pleanála), and a licence review, (to the EPA) that, if successful, will allow Irish Cement the flexibility to replace more of the fossil fuels required for cement manufacturing.

- **What happened to the last Irish Cement application?**

- There was no decision on the last planning application which was started back in November 2015 with Meath County Council. Irish Cement were eventually asked to consult with An Bord Pleanála.

- **What fuels are Platin already using?**

- From the start of operations at Platin in the 1970's until 2011, only fossil fuels were used to produce the heat required for the cement manufacturing process. Coal and petroleum coke were the two most common fossil fuels used. Both must be imported into Ireland. In 2011, Platin gradually began replacing these imported fossil fuels by using Solid Recovered Fuel (SRF). In 2016 approximately 50% of the fossil fuels in Kiln 3 were replaced with SRF.

- **What is SRF (Solid Recovered Fuel)?**

- Solid Recovered Fuel or SRF is a mixture of shredded paper, card, plastics and textiles made from non-recyclable residual waste. The SRF is made off site to an agreed specification and delivered to Platin where it is off-loaded into sealed storage systems.

- **What are the benefits of using SRF (Solid Recovered Fuel)?**

- By using SRF in the cement kiln to replace imported fossil fuels there are a number of benefits:
  - reduced dependence on imported fossil fuels
  - the potentially negative impacts of landfilling the residual waste, which makes up the SRF, are avoided;
  - CO<sub>2</sub> emissions are reduced and
  - by sourcing fuel in Ireland local jobs are supported.

- **Why are Irish Cement taking on more alternative fuels? Is the SRF not enough?**

- There has been excellent progress over the past 5 years to achieve 50% fossil fuel replacement on Kiln 3 using SRF. Now it is important to continue improving the efficiency and competitiveness of Platin Cement Works by replacing more fossil fuels. If the current planning and licence review are successful, further fossil fuel reduction will take place in Platin on phased basis over the coming years. The most successful European cement plants typically use a range of alternative fuels to help them achieve maximum fossil fuel replacement.

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- **How will additional fuels be added in Platin?**
  - If the current planning and licence review are successful each new alternative fuel that is introduced will be subject to a test programme supervised by the EPA. The purpose of this EPA test programme is to demonstrate that as each new fuel is introduced compliance with the emission limit values in the licence for Platin is maintained.
  
- **What are the likely new fuels that will be added in Platin?**
  - The likely sequence of fuels in Platin over the coming years will be additional SRF, tyres (chipped and whole), solvents and dried sewage sludge pellets, all of these fuels are manufactured today in Ireland and permitted by the EPA for use in another cement plant. As each new fuel is added an individual test programme will be completed.
  
- **What is a solvent?**
  - A solvent is a liquid that dissolves another material to produce a solution. Water is a very important solvent. Acetone is also a solvent and is used to remove nail polish, turpentine dissolves oil paints and good perfumes are often solutions of the fragrance dissolved in ethanol. These are all examples of solvents. Solvents are used by industry to promote chemical reactions and are recovered by heating the mixture and 'boiling off' the solvents. The solvents can only be used a limited number of times. The waste solvents or mixtures of solvents must then be recycled or recovered.
  
- **Why are you planning on using solvents?**
  - Mixed solvents have been used for 40 years as fuel for kilns. They make ideal fuels as they can be easily handled, can have suitable calorific values and the producers of these wastes typically are also looking for a thermal treatment option that ensures the safe recovery of the heat value of the solvents. The solvents will be blended to an agreed specification in EPA licenced facilities before being delivered dedicated tanks in Platin.
  
- **Why are Irish Cement applying for so many fuels?**
  - Waste materials in Europe are classified using a 6 digit code known as 'List of Waste' (LOW) codes, there are over 3,000 codes in total. Irish Cement are applying for permission to be able to accept 112 LOW codes. The selection of these specific codes followed reference to the Guidance for the cement industry in both Switzerland and Germany and also examined the existing EPA permission in Ireland. Many of these fuels are already licensed for another cement plant in Ireland.

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### **• What kind of harmful emissions are associated with these fuels?**

- There will be no change in the emissions from Platin with further fossil fuel replacement. There are four fundamental features of cement kilns that ensure compliance with the Air Quality Standards:
  - Control of the inputs – testing and quality control for all inputs both raw materials and fuel is part of cement manufacturing.
  - Complete combustion – extreme temperatures inside the kiln (the flame temperature is over 2,000°C) ensure complete combustion of all fuels irrespective of the type. These temperatures in the kiln far exceed the requirements set out in European Regulations.
  - Gas cleaning – the hot combustion gases from the kiln are forced through the incoming flow of fine powdered raw materials (1.8 million tonnes in Platin in 2016). In this way the gases are 'cleaned' when particles in the gas react with the incoming raw materials and are swept back into the kiln to become part of the cement.
  - Fabric filters – the final step involves the air passing through a large fabric filter containing over 2500 individual fabric screen which is the best technology available to modern industries.

### **• What has been the experience elsewhere in Europe?**

- In other European countries cement factories started replacing fossil fuels over 40 years ago. The safety of cement kilns has been confirmed by the Environmental Authorities who are responsible for licencing the cement factories and controlling types and quantities of fuels used. In Ireland, AF's have been used in cement plants since 2009 and their use is licenced and controlled by the EPA. The Platin licence contains fixed emission limit values to protect human health and the environment. Platin has an excellent compliance record in relation to air quality.

### **• Will any of these fuels cause smells in the locality?**

- Some of the fuels can have an odour however with closed deliveries, sealed storage and filtration of the air from the storage facilities there should be no additional smells detected off-site.

### **• Will the fuel deliveries have an impact on local traffic?**

- Local traffic counts and detailed modelling was carried out in preparation for this project. The R152 currently carries approx. 1200 vehicles during the morning 'peak hour' and approx. 1000 vehicles during the evening peak. At full production there will only be an increase of 18 trucks per hour, which is well below the levels considered significant by the planning authorities. Increasing quantities of AF in Platin will be phased in over the coming years so there will be no perceptible increase in traffic locally.

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- **What happens to the ash after the process?**

- During kiln operations no ash is produced. Any ash which is introduced as a component of the fuels will become part of the cement/clinker product. This is a normal feature of clinker manufacture and is called 'co-processing'.

- **Is Platin becoming an incinerator?**

- No. Platin is, and always will be a cement factory. Irish Cement's business is making high quality cements. The manufacturing process requires extreme heat and to achieve this, fuel must be combusted inside the kiln. Platin can already use over 200,000 tonnes of fossil fuels per annum. The current proposal seeks to replace these imported fossil fuels using locally sourced alternative fuels. The main differences between an incinerator and a cement factory are that:
  - specified fuel is required for a cement kiln,
  - fuel is only used during the clinker manufacturing process,
  - the operating temperatures inside a cement kiln are higher than those required by an incinerator,
  - no ash is produced by a cement kiln

- **What can I see coming out of the chimney?**

- The visible plume that can be seen coming from the stack is primarily water vapour that condenses when it meets the cold air. The plume is more visible during cold weather, just like you can see your own breath on a cold morning. The way to confirm that it is water vapour is to look for the clear 'gap' between the top of the stack and where the condensation becomes visible.