14 July 2021

Impact on the construction and civil engineering sector and mining industry due to closure of the limestone quarry at Slite

➢ *200,000–400,000 jobs are at risk as a direct result*
➢ *The construction industry accounts for approximately 11% of GDP, and this loss will offset all GDP growth in 2022*
➢ *There are no reasonable alternatives, not even in the foreseeable future*

On 6 July 2021, the Swedish Land and Environment Court of Appeal ruled to reject Cementa's request for a renewal of its permit to mine limestone at the existing quarries at Slite on Gotland. The ruling will have a serious impact on the construction and civil engineering sector, including the cement and concrete industry, and other related industries. This brief impact assessment focuses on the direct consequences for the construction and civil engineering sector, which also affect the mining industry.

Cement production at Slite currently accounts for approximately 75% of all cement used in Sweden. The current quarrying permit will expire on 31 October 2021. Cement stocks at Slite will run out in November. It is not possible to solve the acute cement shortage by importing the volumes needed, due to the availability of cement from other suppliers, logistics systems and technical specifications . It could take several years before all of the cement produced at Slite can be replaced by imports. As a result, Sweden will already be facing a cement shortage by the end of the year. The cement supply situation for infrastructure projects will rapidly become acute.

Our initial assessment shows that the cement shortage could rapidly lead to serious consequences:

- **Construction stoppage**: The cement shortage affects all types of construction, and infrastructure projects in particular.
  There will be no concrete without cement. Critical projects that are necessary for social development and the climate transition will be suspended or significantly delayed. Initiatives announced by the government will not be possible to implement as planned.

- **Unemployment**: Redundancy notices are expected in the construction and civil engineering sector, approximately 175,000 people are directly affected. If the effects for related industries are included, 280,000 people are affected. Due to the high number of people who will be made redundant, notice must be given at least three months in advance, which means we are facing major redundancy decisions by the end of the summer holidays.

- **Economic slowdown**: The estimated investment fallout due to the cement shortage is more than SEK 20 billion per month.

In the mining industry, cement is used to make shotcrete walls, for example, to provide safe working conditions in the mines. Without cement and the ability to provide safe working conditions, underground mining works, in particular, will be unable to maintain the same level of productivity. In other words, the consequences will be serious for the Swedish mining industry, especially when

there are no sustainable solutions in sight with regard to the availability of cement from other suppliers.

If a solution is not found, serious consequences are expected in terms of lower productivity and job losses, both directly for companies and indirectly in the sub-contractor chain.

Due to the seriousness of the situation for the industries concerned, as well as the Swedish economy and jobs, we urgently request a meeting with the government ministers responsible to discuss how the government and industries can work together to mitigate the effects, and what can be done in the long term to prevent similar situations from recurring.

The impact assessment was based on the information set out below.

Catharina Elmsäter-Svärd (CEO, Swedish

Construction Federation), Johan Lindholm

(President, Swedish Building Workers' Union),

Marie Nilsson (President, Swedish Metal

Workers Union), Per Hidesten (CEO, Swedish

Association of Industrial Employers),

Malin Löfsjögård (CEO, Svensk Betong AB),

Maria Sunér (CEO, Swedish Association of Mines, Mineral and Metal Producers)

Svensk Betong

14 July

Svensk Betong AB – information for impact assessment due to rejection of mining permit application for cement production at Slite

The suspension of cement production at Slite is highly likely to result in a construction stoppage across Sweden by as early as late autumn. This is because concrete is used in nearly all forms of construction in some way, even when other building materials are used. A construction stoppage will have serious consequences, not only for the concrete industry but for the entire construction sector, related industries and other operators in the value chain, with the risk of a severe adverse effect on society in general. Critical projects that are necessary for social development and the climate transition will be suspended or significantly delayed. The situation is particularly serious for infrastructure projects.

It is not possible, in either the short or medium term, to replace all of the cement that is needed with imports, due to the availability of cement from other suppliers, logistics systems and technical specifications .

If a cement shortage arises, concrete companies will need to adapt their operations to lower production levels, followed by staff cutbacks. Due to the short time frame at hand, redundancy notices may already be relevant by early autumn.

……

- The concrete and cement industry generates annual sales of SEK 30 billion and employs nearly 9,000 people. Companies in the concrete sector are located all over Sweden and contribute to jobs and social development in many communities. In recent years, more than 6 million cubic metres of concrete has been produced in Sweden on an annual basis.

- Reinforced concrete is the most widely used building material in Sweden and concrete is used in nearly all forms of construction in some way, from small structures to large-scale projects, even when other building materials are used.

- Concrete is made by mixing aggregate and water with a binding agent. The binding agent is mainly cement, which is made from limestone. Other binding agents (furnace slag and fly ash – residues from other industrial activities) are also used to some extent now, but under current regulations, these binding agents may not be used to replace all of the cement and cement is still an essential ingredient for making concrete. There is no other material at present that can be used completely as a substitute for limestone and cement.

- There is a major need for new housing, new infrastructure and other important structures such as schools and hospitals and so forth for continued social development, as well as operations and maintenance needs in various areas and investments related to the ongoing climate transition.

- On 6 July 2021, the Swedish Land and Environment Court of Appeal rejected Cementa's application for a renewed permit to mine limestone at the existing quarries at Slite on Gotland. The Land and Environment Court of Appeal approved Cementa's application for a renewed mining permit for its operations at Slite in January 2020, but the decision was appealed to a higher court, and is now under review. Cementa applied for an extension of its mining permit until 2041 since the current permit expires in October this year.

- Cement AB is the sole producer of cement in Sweden, with plants in Skövde and Slite. About 10–15% of cement is imported from cement producer Schwenk. About 75% of the cement used in Sweden is currently produced at Slite. Cementa's other plant in Skövde is running at full capacity and is unable to handle any additional production. The Skövde plant supplies western Sweden exclusively.

- The mining permit for Cementa AB's plant at Slite, Gotland, expires on 31 October 2021. This means that cement stocks will already run out by the end of November.

- Opportunities for increased imports in the short/medium term to completely replace production losses at the cement plant in Slite are severely limited, due to the availability of cement from other suppliers, logistics systems and technical specifications :

    - Supplies of locally produced cement are severely limited, and even at European level, there is no current capacity or capability to replace the shortfall from the Slite plant, which corresponds to 75% of Sweden's cement needs.

    - The availability of cement for infrastructure projects in Sweden is particularly critical, since few other producers in Europe can provide cement that meets the technical and functional specifications.

    - The logistics systems that are currently in place, with ports, terminals, depots and logistics chains, are not designed to accommodate a significant increase in imports. Upgrades for handling larger vessels, for example, will be required. Shipping systems are already overburdened.

    - Due to technical requirements and standards, it is not possible to completely substitute one type of cement for another. EU standards and Swedish codes of practice
      must be met both for cement and for concrete production. Requirements are also specified in Boverket's Building Regulations (BBR), General material and workmanship specifications for work sites (AMA anläggning) and other regulatory frameworks.

    - Concrete producers will also need to adapt their concrete formulas when using other types of cement. Moreover, considerable lead times will arise for testing and verification in order to guarantee the quality of approved products in relation to strength development, sulphate resistance, freeze-thaw resistance, fire resistance, and so forth.

There are already long lead times for some of these tests for external accredited testing bodies. As a result, when more producers have to re-test their recipes, the lead time will be even longer.

Fire resistance testing, for example, takes about six months (there are technical requirements for some structures).

- It could take up to several years before all of the cement produced at Slite can be replaced by imports. Moreover, some of these imports will probably need to be purchased from non-European suppliers, entailing more long-distance transportation and a subsequent need for larger, customised vessels. Sweden does not currently have the logistics systems, such as ports and terminals, with the capacity required to receive these vessels. Nor are there hubs for this purpose in Europe. In addition to transportation and logistics capacity, this will more than likely drive up the cost of materials and lead to higher raw material and transportation costs.

- The suspension of cement production at Slite will cause direct problems for cement supplies, since it is not possible to replace the entire shortfall with imports within the relevant window of time. This will have an immediate impact on Swedish concrete producers. Concrete production will need to adapt by scaling down production, since the availability of cement will be insufficient, which will lead to redundancies and staff cutbacks. Due to the short time frame, and the fact that a cement shortage could arise within a few months, redundancy notices may already be relevant after the summer. Suppliers of ingredients such as aggregates, additives and admixtures, companies that install precast concrete, concrete pumping service providers, and other operators directly associated with concrete production will also be affected to a large extent.

- A construction stoppage in which employees are made redundant, and where the situation may be long-lasting, could lead to a loss of skills that takes time to replace once production resumes. The time frame is also pivotal to how long companies can manage to survive the construction stoppage and significant project delays economically. We are at risk of losing large parts of the sector that could take a long time to rebuild.

- A cement shortage is highly likely to cause a construction stoppage in Sweden during the autumn since nearly all construction contains concrete in some form. This will have a negative impact on most of the construction that is currently in progress or planned, including housing, infrastructure, hospitals, schools and wastewater management systems. Critical projects that are necessary for social development and the climate transition will be suspended or significantly delayed. Projects in the infrastructure area are deemed most critical, with a major risk that ongoing and planned projects in Sweden are essentially suspended or significantly delayed immediately.

- Major negative economic impacts are expected, which could have consequences for the national economy.

- Concrete is currently imported for precast concrete products, such as concrete panels for residential construction. Swedish operators who work with precast imports as well as foreign operators can cover some of the need, but this is considered marginal. However, this will lead to the loss of Swedish-produced precast capacity. Site-cast concrete, which is used extensively in infrastructure projects, for example, cannot be imported due to the manner in which it is produced and transported. Ready-mixed/site-cast concrete is produced locally and transported short distances, and poured into position at the construction site.

- Slite is one of the most technologically advanced and de-carbonised cement production plants in Europe.

Cementa is also planning to develop the Slite plant into the world's first climate-neutral cement plant by 2030. A suspension of cement production at Slite will delay the concrete

and construction industry's transition to climate-neutral construction. This affects opportunities for implementing the roadmaps for fossil-free competitiveness put forward by Fossil Free Sweden, and for the Climate Law and the political objectives of reduced climate impact by 2045 being achieved.

Contact:

Malin Löfsjögård, CEO, Svensk

Betong

malin.lofsjogard@svenskbetong.se
+46 076-128 75 17

About Svensk Betong

Svensk Betong in an industry organisation for companies that produce ready-mixed concrete, provide concrete pumping services and manufacture and/or install precast concrete products. The member companies are located all over Sweden and contribute to job creation and social development in many communities across the country. Companies may be associated with Svensk Betong through research, consultancy or similar activities in the industry or through other business relations with member companies.

BYGGFÖRETAGEN BYGGNADS

Closure of the Slite plant: Assessment of impact on the construction and civil engineering sector.

In the brief assessment below, the Swedish Construction Federation makes the following basic assumptions, which are also shared by the Swedish Building Workers' Union:

- Two thirds of the total construction market requires cement in order to operate; all new builds are dependent on the availability of cement.
- Slite accounts for 75% of all cement used in Sweden; approximately half of all construction is now directly dependent on the Slite plant.
- The multiplier effect of the construction industry is 1.60, which means that a production loss of SEK 1 billion in the construction industry will lead to an indirect loss of SEK 600 million in other economic sectors.

› The Swedish Construction Federation assesses that all cement stocks at Slite will run out in the second half of November. This will result in a widespread disruption of ongoing
infrastructure projects. In addition, housing construction will fall sharply. The Slite plant produces 75% of the cement that is currently used in Sweden. Since all foundations are made in the form of site-cast concrete slabs, construction will be stopped for three out of four new homes from the second half of November. This applies all to all types of new-build dwellings,
from detached houses to apartment buildings, and regardless of whether they have timber, steel or concrete frames.

Lost investment per month (SEK billion)	**23**
- residential construction	18
- infrastructure construction	5
Percentage of annual GDP growth lost/ month (%)	
- solely construction and civil engineering	0.46
- including other directly affected industries	0.74
Number of jobs affected	
- solely construction and civil engineering	175,000
- including other directly affected industries	280,000
Monthly decline in housing construction	

(number of apartments commenced)

3,600