1. Energy Efficiency in times of the Corona Crises

Due to the measures to contain the corona crisis, much of Luxembourg’s economic sectors’ activities have significantly decelerated. Two reliable indicators revealing about how much the local manufacturing sector is impacted, are their consumption volumes of electricity and gas. Indeed, since March 2020, the local energy grid operators report consumption drops between 25-30% in the 65KV and 20KV electricity grid which is mainly used by the manufacturing sector. The volumes of industrial gas consumption decreased similarly.

Those unforeseen energy savings show that the measures taken to contain the COVID-19 virus have a devastating impact on industrial activity. Even though previsions about the development of future consumptions are difficult, some grid operators expect that the second quarter of 2020 will continue to stay about 20% below the normal consumption levels. And insiders from the energy sector do not believe that even by the end of this year, industrial energy consumption will have fully recovered. This would make 2020 a year with one-of-a-kind energy savings.

While those energy savings are real, within the context of climate policy, the industry cannot take advantage of them in its primary energy-savings tool, the Voluntary Agreement (VA) 2017-2020. On the contrary, the VA risks to penalise them as the agreement’s target indicator measures energy efficiency (EE) as a relation of consumption to production output. In the manufacturing industry, energy consumption is, however, rarely linearly related to production output. This is due to two principal features common to most production tools in manufacturing:

1. Production tools require a minimum, fixed level of energy threshold under which no production is possible. In other words, for a given time, whether the tool produces one part or one thousand parts, this minimum level of energy does not change. Machines with this
characteristic can be found in almost all of Luxembourg's manufacturing sectors, also in the small-and-medium-sized enterprise (SME) sector: in plastics processing and injection moulding, in the chemical industry, in the rubber and tire manufacturing, in the packaging industry and even in the nutritional industry.

2. Not all production tools can be switched-off efficiently. This is typically the case for high-temperature processes where switching the process tool off between two badges or shifts requires more energy for firing it up again that leaving it on a stand-by temperature during idle time. Some devices, such as high-temperature ovens risk to even disintegrate in part if a minimum temperature is undercut. Those ovens cannot be switch-off, also if no badges are scheduled for an extended period. Tools with this characteristic are used in Luxembourg’s energy-intensive industries such as the steel and aluminium industry, in cement production and glass production.

As the main indicator of the VA, the energy efficiency index is a fraction calculation, the two characteristics described above deteriorate the energy efficiency index severely when the production output sharply drops. A total standstill of the production output as experienced in many sectors during the corona crises is the worst case for companies running tools that cannot be switched off.

Furthermore, the EE index' balance is established by measuring the EE achieved in the single year of 2020. In other words, the agreement calculates EE improvements by measuring the difference in EE improvements between a reference and the “landing” year in 2020. Intermediate achievements or improvements reached during 2017, 2018 or 2019 are not considered. Due to the disruptions caused by the coronavirus in 2020, the very year determining the achievements of the VA’s whole period cannot be considered as representative.

2. The VA’s contribution to a fast recovery of the industry

With now several weeks into one of the worst economic crises, and with no fast recovery in sight, most companies’ EE indices of the current VA 2017-2020 have significantly deteriorated. The pace of deterioration seems to be so fast that the crisis period risks annihilating much of the EE efforts companies have made within the context and according to the methodology of the Voluntary Agreement in the last three years. Stakes are high, because if adhering companies do not achieve the target index, they may see their renewable energy contribution in the electricity bill increase more than 11-fold overnight. Such a scenario would hit many manufacturing companies in their essence as they have already today a complicated cash flow situation due to the corona crises.

FEDIL estimates that if Luxembourg's top 10 industrial electricity consumers would drop-out from category C into category B in the renewable energy compensation scheme, they would have together additional unforeseen costs of at least 19 million Euros each year for the period 2017-2020. Luxembourg’s SME sector would be impacted by average additional annual costs per company of at least 150 k€ for each year of the current agreement.

In the current context of the corona crisis, the additional energy costs for companies, as assessed in the previous section are going to hit companies hard. Most of those companies are already encountering a reduced cash flow due to the corona crisis. Some are obliged to postpone or cancel scheduled investments. FEDIL thus urges the stakeholders of the Voluntary Agreement to amend the current agreement's contract. This would represent the VA’s contribution to a fast recovery of the industry.