



Annexes of the Evaluation of the CO₂ Performance Ladder

Background information on the case studies, control group survey and the workshop



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This report was prepared by:

Ellen Schep, Amanda Bachaus, Martha Deen, Marijn Bijleveld, and Ward van Santen

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Further information on this study can be obtained from the contact person Ellen Schep (CE Delft)

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A Case studies

A.1 Introduction

This Annex gives an overview and description of the case studies done in the Evaluation of the CO₂ Performance Ladder.

Table 1 - Overview of the case studies

#	Topic	Company using CO ₂ PL	Reference
1	Effect in supply chain construction sector	Large company	None
2	Effect in supply chain construction sector	Small company	None
3	Effect in supply chain other sector than construction (e.g. ICT, service sector)	Aveco de Bondt + client	None
4	Effect for tenders	HHNK, participating water authority	HDSR, non-participating company
5	Effect of participation	BESIX NV, activities in NL	BESIX NV, activities outside NL

A.2 Case study 1: Effect in supply chain in construction sector (interview with a large company)

Introduction

The goal of this case study is to gain insight into the additional effect of the CO₂ PL in the supply chain of the construction sector. In order to answer this question we are looking at the drivers for reducing CO₂ emissions when submitting tenders. Moreover, we study the effect on the CO₂ performance of tendered projects and on supply chain cooperation. More specifically, we ask to what extent does this cooperation lead to a reduction in CO₂ emissions within these companies? Finally, we investigate whether there are other initiatives that influence the behaviour of supply chain partners.

For this case study we conducted an interview with a large construction company in the Netherlands and studied their public documents related to their sustainability policy and the CO₂ PL. This infrastructure engineering company has several hundred employees and is part of a larger Dutch holding. The company has been committed to the CO₂ PL since the early 2010s, and certified directly on Level 5. The construction company hires most construction equipment. The greenhouse gas emissions emission of this equipment therefore fall under Scope 3, making this company an interesting candidate for this case study's interview.

Performance of the companies

According to the company there is a wide awareness with respect to sustainability within their organisation and they try to be progressive in their climate policy. The targets with respect to Scope 1, 2 and 3 emissions are part of the CO₂ reduction plan that the company uses for the CO₂ PL.

During the interview we held with the company it became clear that they have more sustainability goals than they are currently using for the CO₂ PL. These goals are not used for their CO₂ PL certification since this is seen as a potential risk for losing their certificate. Besides that, not all the company's measures are translated into concrete targets. For example, when hiring material the company tries to ask for HVO fuel, but this is not expressed in a strict target.

Textbox 1 - Targets related to Scope 1, 2 and 3

Targets related to Scope 1 and 2:

Scope 1: A 49% CO₂ reduction in 2030, compared to 2015.

Scope 2: Maintaining the sustainability of purchased electricity by buying 100% GVOs.

Targets related to Scope 3:

In line with the Climate Agreement: reduction of CO₂ emissions in the supply chains of steel and concrete, for 2030, compared to 2021.

Effects in the supply chain

As mentioned before, the company has little construction equipment like machines and trucks. Therefore it works a lot with subcontractors, which makes its Scope 3 emissions relatively high. The company sets sustainability requirements and occasionally even refuses to work with subcontractors that do not meet these requirements, but is also largely dependent on the type of project and the commissioning party. These requirements are often decisive, leaving the company with no other choice than to follow.

In contrast to the CO₂ PL, commissioning parties often set the Environmental Cost Indicator (ECI/MKI) as a contract requirement. According to the company this measure makes more impact than the CO₂ PL, because it requires them to monitor the CO₂ reduction whereas the CO₂ PL is merely seen as a 'piece of paper' that needs to be shown. Another measure, mentioned by the company as not related to the CO₂ PL, that the company sees as impactful is the 'Betonakkoord' (or concrete agreement) that was signed in 2018 by approximately 50 large construction companies. The agreement sets a 30% CO₂ reduction target on concrete production and use by 2030. However, the Betonakkoord and its frontrunner was initiated as part of the requirement 4D1 in the CO₂ PL.

According to the company, the effect of the CO₂ PL was especially significant when it was just launched. This is because it created a lot of awareness around sustainability, stimulated companies to gain insight into their emissions, and take measures as a consequence. However, now that most larger construction companies are certified and have met these initial goals the added value of the CO₂ PL has decreased in recent years. Having the CO₂ PL is still important when signing up for tenders since companies without CO₂ PL Level 5 are often not even considered in the process. On the other hand, the company also does a lot of projects that do not have this as a strict requirement, for example for municipalities.

Conclusion

The CO₂ PL has helped the company create awareness about sustainability and get insights into their emissions in the early years of being CO₂ PL certified. However, according to this case study, over the years the CO₂ PL has lost its effectiveness in the supply chain. Not having the CO₂ PL would definitely lead to a significant disadvantage with respect to competitors, but its added value has decreased compared to other measures such as the ECI/MKI, that are often required by the commissioning party. Commissioning parties usually determine the sustainability requirements. So the interviewed company can impose its sustainability requirements on the subcontractor, but they will not do so if it is not in line with the commissioning party's requirements.

Looking to the future, the interviewed company supports the fact that the CO₂ PL is undergoing a revision. With new (EU) regulations in place some parts of the CO₂ PL seem to have become obsolete. Besides that, guidelines and requirements of the CO₂ PL might not be strict enough and may leave room for interpretation. Lastly, the current setup does not stimulate companies to use ambitious targets for the CO₂ PL because of the risk of losing the certification.

A.3 Case study 2: Effect in supply chain in construction sector (interview with a small company)

Introduction

Like Case study 1, the goal of this case study is to gain insight into the additional effect of the CO₂ PL in the supply chain of the construction sector. This case study however focuses on a small construction company. In order to answer the research question, we are looking at the drivers for reducing CO₂ emissions when submitting tenders. Moreover, we study the effect on the CO₂ performance of tendered projects and on supply chain cooperation. More specifically, we ask to what extent does this cooperation lead to a reduction in CO₂ emissions within these companies? Finally, we investigate whether there are other initiatives that influence the behaviour of supply chain partners.

For this case study we conducted an interview with a small construction company in the Netherlands, De Vries Stolwijk B.V. (DVS), and studied their public documents related to their sustainability policy and the CO₂ PL. DVS has about 19 FTE employees and has a focus on earthworks and civil engineering. They have been part of the CO₂ PL since 2016 and are Level 5 certified.

Performance of the companies

Especially in the first few years, the CO₂ PL has been important for DVS. It gave insight into their Scope 1 and 2 emissions and showed where reduction was relevant. Basic measures like solar panels probably would have also been taken without the CO₂ PL, but their emissions clearly showed that fuel usage was dominant, which caused them to focus on that. Besides that, the CO₂ PL contributed to spreading awareness on sustainability within the organisation.

The main targets of DVS are shown in the following text box. DVS states that they are doing more on sustainability than is shown in their (conservative) CO₂ PL targets. The 1.5% target for Scope 3 emissions, which DVS considers to be easy to meet, is an example of that. DVS is cautious in setting more ambitious goals because once they set a CO₂ PL target, they are obliged to meet that target. So only risk-free targets are set, that can be met with certainty. Hence, the CO₂ PL itself does not motivate them to reduce CO₂ emissions.

Besides the targets that are set for the CO₂ PL, DVS claims to be doing a lot more. They have implemented a new way of running their machines and vehicles to make more efficient use of fuel and they try to use HVO fuel where possible. Their ambition is to buy electrical machines, but this is financially not feasible at the moment. Thus, DVS has not set actual targets for those actions for the CO₂ PL, because of practical reasons that might interfere with meeting ambitious targets, such as costs, and lack of availability of skilled personnel and low-emission equipment.

Textbox 2 - Main targets De Vries Stolwijk B.V.

Scope 1 and 2: A 3% CO₂ reduction in 2024, compared to 2021.
Scope 3: A 1.5% CO₂ reduction in 2024, compared to 2020, by hiring Tier 3b of higher ranked excavators.

Effects in the supply chain

In DVS' experience the fulfilment of their ambitions with respect to sustainability are highly dependent on the commissioning party. DVS would find it valuable to have a discussion about CO₂ reduction at the start of a tender. However, in reality this rarely happens since tenders often are characterised by a highly detailed specification. For instance, the tender already prescribes the materials to use for construction.

According to DVS, this decreases the influence of their Level 5 certification on the CO₂ PL on the behaviour of subcontractors. Besides that, DVS thinks that there are measures that are more effective in reducing CO₂ emissions than the CO₂ PL. An example of this is the use of the ECI/MKI result for a project. Requesting a zero-emission construction site or best-case material use are other ways of reducing CO₂ emissions.

According to DVS the monitoring of sustainable measures by commissioning parties lacks quality. It happens that the required CO₂ PL compliance is not checked, or that suggested measures are not monitored at all, for instance because the knowledge of the commissioning party is too limited to do so properly.

Conclusion

According to this case study, the CO₂ PL has mostly helped DVS to create awareness about sustainability and get insights in their Scope 1 and 2 emissions in the early years of being certified. The additional effect of the CO₂ PL in the supply chain appears to be limited. The main reason for this is the dominant position of commissioning party for the field of work DVS operates in, who specify details beforehand and leave no room for more sustainable solutions. Because of this the contractor is often not able to translate its ambitions to sustainability requirements for the subcontractor and to work on sustainable developments themselves. According to DVS, there might be measures, like the use of the ECI/MKI-score, that are more effective in reducing CO₂ emissions than the CO₂ PL.

According to DVS, the effort that it takes to be certified is often not paid back by an advantage in tenders; for a lot of smaller companies the financial advantage of the CO₂ PL might be missing. Besides this, companies are currently facing challenging market circumstances which makes it hard to invest in sustainable alternatives. This contributes to setting lower targets that are relatively easy to meet, so that the company does not lose its CO₂ PL certificate.

A.4 Case study 3: Effect in supply chain in a sector other than construction

Introduction

The goal of the case study is to gain insight into the additional effect of the CO₂ PL on CO₂ emission reduction in the supply chain in a company outside the construction sector. The company of this case study is Aveco de Bondt, an engineering firm with a broad portfolio in infrastructure and mobility, built environment, spatial planning, water, industry and energy transition and sustainability. We conducted an interview and analysed their public documents on emission reduction goals and actions taken in relation to the CO₂ PL. We include insight from an interview with RPS, a client of Aveco de Bondt.

Aveco de Bondt is part of VolkerWessels and uses the CO₂ PL in their own projects. They also advise around 30 companies and government organisations per year on the CO₂ PL. Aveco de Bondt currently is at Level 5 of the CO₂ PL.

Performance of the companies

Aveco de Bondt's CO₂ reduction goals follow from VolkerWessels' goals, so are not specifically for the CO₂ PL. The goals set by VolkerWessels are then given as input for the CO₂ PL. The advantage of the CO₂ PL is that the company can be held accountable by an external party. This means that the Plan Do Check Act cycle needs to be followed and that also happens in practice. This is further incentivised because you can also lose your certificate.

Textbox 3 - The current targets set by Aveco de Bondt

The current targets set by Aveco de Bondt:

- Achieve a CO₂ reduction of 50% by 2025 compared to 2019 per fte. The total reduction will mainly be in Scope 1.
- 2019-2025 -25% CO₂ emissions Scope 1 and 2 and -25% fleet emissions (in line with VolkerWessels).
- For Scope 3: Advising in five projects per year on vapor permeable building that, when applied, leads to an average 66% CO₂ reduction compared to traditional building.
- For Scope 3: advise on 10 GWW (GrondWegWaterbouw) tenders on Environmental Cost Indicator (ECI/MKI) reduction, which can be used to reduce a total of 27,880 tons of CO₂.

Most of Aveco de Bondt's emissions are in the car fleet (86% of total emissions). In 2021 emissions of the car fleet already decreased by 23% (Scope 1 and 2). However, a large part of this was due to working from home.



Goals with regard to Scope 3 follow from existing policy/existing activities. There is no obligation of result within the CO₂ PL Level 5, only an obligation of best efforts. This makes it hard to materialise. However, without a ladder there would be no Scope 3 objectives. Also, Scope 3 is very difficult, because this depends on external parties and factors. The management system of the CO₂ PL helps Aveco de Bondt in gaining insight into the contribution of emissions, and in the steering cycle for making sure emission reduction is realised and kept in place.

Effects in the supply chain

Drivers for reducing CO₂ emissions when submitting a tender

Commissioning parties describe in the tender their requirements for materials, equipment and process. This way, commissioning parties set standards for CO₂ emission reductions on their own accord, not necessary aligned with ambitions companies might set in the light of the CO₂ PL. In the end, it is the commissioning party that decides on a project and on the materials used. Companies applying for the project then have to adhere to these standards. The CO₂ PL does require a company to consider CO₂ emissions company-wide, not just within one project. That is a positive effect.

Effect of the CO₂ PL on tendered projects

As a qualification requirement, the CO₂ PL ensures that companies are certified and are actively working on reduction. But it does not lead to a direct strong reduction of emissions in the supply chain. This is done through other requirements or demands. Aveco de Bondt sees a trend in rewarding for CO₂ reduction and a certificate, but that the reward for CO₂ reduction is higher. An example is a tender in Utrecht: 4 tons discount CO₂ PL, 8 tons discount at climate neutral. Climate neutral goes further than the ambitions set in the CO₂ PL. For some commissioning parties the CO₂ PL is a préqualification demand. Most parties hold a certificate, and so it is not a distinguishing element. After the prequalification, for example, the Environmental Cost Indicator (ECI/MKI) is used to distinguish between parties.

Effect of the CO₂ PL on supply chain cooperation

Collaborations were of added value at the start of the CO₂ PL's creation. Now everyone is already working together a lot and it is communicate existing connections for the CO₂ PL, rather than setting new ambitions for collaboration. It is good that people build a network and work together. Sharing a strategy, experiences and insights are very valuable. This would also happen without CO₂ PL.

Effect of cooperation on CO₂ emissions reduction within these companies

Aveco de Bondt does not set formal standards on sustainability for cooperation with companies. However, there is no interest to collaborate with companies that do not consider sustainability at all. Companies make their own decisions. These are either intrinsic or market driven: when competition decides on a sustainable product, process or other, companies will follow.

Conclusion

We spoke to Aveco de Bondt about the internal use of the CO₂ PL, and about the experiences with companies whom Aveco de Bondt advises on the use of the CO₂ PL.

Based on this case study the additional effect of the CO₂ PL on CO₂ emission reduction in the supply chain is likely to be very small.

Other driving forces for CO₂ emission reduction in the supply chain seem more important: The commissioning party plays an important role in setting the standards for CO₂ reduction, but this is in most cases done separately from the CO₂ PL. Applying parties, and downstream companies such as suppliers adhere to these standards. The CO₂ PL is not the driving force. Intrinsic motivation or a change in market: more companies make sustainability part of their business to keep up with competition.

Sources

Interview with Thomas Stegenga, Aveco de Bondt

[Current projects and documents](#)

[Energy Management Actionplan](#)

Conclusions from interview with RPS

RPS is a client of Aveco de Bondt. It helps companies in setting sustainability criteria for tenders: mainly for government agencies. This includes design and advice for, among other things, dredging, infrastructure, and asbestos inspections. RPS is also a CO₂ PL certified company and recently moved from certificate Level 3 to 5. The reason to move to Level 5 was because it was required by tenders.

According to RPS, advising on tenders appears to be successful to realise Scope 3 emission reduction. About 50% of the clients RPS talks to are willing to actually apply it. The advice RPS gives is mainly the MKI but also covers the CO₂ PL. The CO₂ PL is an easier-to-meet requirement than the MKI.

The main benefits RPS see in the CO₂ PL within their own company are the registration itself (and the benefits in tenders) and the insights on their emissions. From the material emissions analysis, RPS knew where it could reduce. Setting goals also helps in consciously choosing projects.

RPS is a supporter of specific requirements in tenders. Sometimes the CO₂ PL is not specific but rather a result requirement, and so does not contribute to CO₂ emission reduction in a project. This calls for additional requirements for the project.

RPS Group (international) has joined SBTi. The objectives of RPS NL (as reported to the CO₂ PL) will be adjusted accordingly. CO₂ PL is not relevant for other countries where RPS is active, at most it might be used as a management system.

A.5 Case study 4: Effect for tenders and performance of water authorities

Introduction

In this case study we analyse the effect of the CO₂ PL for water authorities. We focus on the performance of the water authorities themselves, the effects on tenders and the effects in the supply chain. For this case study we compare two water authorities. Water authorities

are independent regional governing bodies that manage the surface water in the environment. They are important tendering parties, but also have relatively high Scope 1 and 2 emissions. Energy intensive activities are drying sludge (use of natural gas) and sewage treatment (use of electricity).

Hoogheemraadschap de Stichtse Rijnlanden (HDSR) has no CO₂ PL Certificate yet, but uses the CO₂ PL as an award benefit in tenders. They just started the certification phase. Their main reason to start certification is the need for more insight into their emissions and a tool for more awareness and sustainability within the organisation.

Hoogheemraadschap Hollands Noorderkwartier (HHNK) has a Level 3 certification and also uses the ladder as an award benefit (fictive discount). Neither water authority uses the CO₂ PL as a selection criteria. HDSR has the ambition to change this, but HHNK does not want to use it in that way.

Performance of the companies

Textbox 4 - Goals of HDSR

- 1990-2030: 49% GHG-reduction;
- 1990-2050: 95% GHG-reduction;
- 2030: energy neutral;
- 100% circular in 2050, 50% less primary resources in 2030.

Goals of HHNK

2020: 40% sustainable energy;
2025: 100% carbon and energy neutral;
no goals for Scope 3 yet.

HDSR has a vision on sustainability (HDSR, 2020), in which they describe their goals. These goals are in line with the Dutch climate agreement. HHNK's goals were formulated in the Climate and Energy programme 2017-2022, so before joining the CO₂ PL. In the Climate and Energy programme, HHNK formulated three ambition levels per goal. The current 2025 goal is the most ambitious goal formulated in this programme. The goals of HDSR and HHNK are also related to the Climate Agreement between Union of Water Authorities and the Dutch Government.

Water authorities use the "[Klimaatmonitor waterschappen](#)" to monitor their annual progress in emission reduction and sustainability. This means that the additional administrative efforts for water authorities to measure emissions for the CO₂ PL are relatively low, because they are already monitoring them.

Effects in the supply chain

Both water authorities use the CO₂ PL as an award benefit in tenders. HDSR uses the CO₂ PL for projects with a contract value of over € 100,000 and they make a distinction between the levels, so a higher level gives a higher fictive discount. According to the HDSR it stimulates contracting parties to start with sustainability. Next the CO₂ PL they also use ECI/MKI and DuboCalc. Sometimes they ask for specific requirements on a project base. They are now developing a form where contractors can fill out their emissions per project. The CO₂ PL also gives an opportunity to ask contractors about their reduction measures on a project level.

HHNK also uses the CO₂ PL as award criteria for projects with a duration of more than one year. They argue that the CO₂ PL forces contractors to think about their emissions. Ten years ago they started using the CO₂ PL as an award advantage, with Level 3 as the highest level for a discount to encourage small companies to join. HHNK also paid half of the cost of certification, so this would not be a barrier to getting certified. They still use the CO₂ PL, because they want to reward companies that make an effort to reduce CO₂ emissions. Now they also give higher discounts for Level 5.

For years, the CO₂ PL was the only award criteria for sustainability. It was an easy tool for contract management and easy to enforce. Over time challenges and requirements with respect to CO₂ reduction have grown and therefore the water authority uses other instruments, for example ECI/MKI.

HSDR recognises that the tendering party has an important role in determining the sustainability level of the project. This has to be incorporated in the budget. There should be more communication about sustainability between tendering party and contracting party.

Conclusion

In this case study we interviewed two water authorities (one only using the CO₂ PL as an award advantage in tenders, the other one also certified on Level 3) about their efforts and the effect for tenders.

We conclude that both water authorities have ambitious goals regarding CO₂ reduction (Scope 1 and 2), influenced by the Climate Agreement and the Union of Water Bodies. The participating authority state that joining the CO₂ PL has led to additional ambition and efforts, and that it strengthens efforts from other commitments like the Climate Agreement.

As tendering parties both use the CO₂ PL as an award criterion for bigger projects. The main added value of the CO₂ PL, according to the interviewees, is that it forces tendering parties to start thinking about CO₂ reduction. It's mainly smaller companies are incentivised to join, as most bigger companies have already joined. On a project level other initiatives are also used (e.g. ECI/MKI). The tendering party also has an important role in reducing emissions on a project level also by giving sufficient budget, and communication is important.

Sources

Documents from website: www.hhnk.nl

Documents from website: www.hdsr.nl

Interview Karin Koster, HSDR, ddd

Interview Johan Arends, HHNK, ddd



A.6 Case study 5: Effect of participation for multinational companies

Introduction

In this case study we interviewed a company with a certificate for activities in the Netherlands which also has comparable activities operating abroad. The main question of this case study is: To what extent is the CO₂ PL an effective instrument for reducing CO₂ emissions?

We spoke with BESIX NV. BESIX NV is an international construction company with three business units (Europe, International and Middle East). BESIX NV started with a Level 3 certificate for their activities in the Netherlands in 2010. In 2011 they had Level 5 certificate.

Initially the certification was a commercial necessity; without the certificate companies were excluded from the market. Therefore, the certificate was an incentive to start reducing CO₂. Over the years the CO₂ PL gained more importance. Several Dutch clients (such as Rijkswaterstaat and municipalities) include the CO₂ PL as an award benefit or requirement in tender.

Last August, the boundary of the existing certificate was extended to the Europe business unit (Netherlands, Belgium, France, Luxembourg and Italy). This certificate also covers a number of sister companies. A total of about ten companies fall under one certificate.

Performance of the companies

Until 2021, BESIX NV had set specific targets only for the Netherlands. With the extension of the existing organisational boundary (BESIX Netherlands) to the Europe business unit, new targets have been set. These new targets are set for the CO₂ PL and are also in line with the Science-Based Targets initiative (SBTi). These targets will now also apply to the Netherlands. Therefore, a top-down approach is used as of 2022.

The Dutch branch is leading in deploying emission-reducing measures. For example, the electrification of leased cars is encouraged by the Dutch Government. The Netherlands is a forerunner on this topic, and this was later adopted in Belgium. Also, the Netherlands works with Guarantees of Origin for renewable energy. In Belgium, green electricity is also used. However, until the end of 2021 it was allowed to use GoOs of foreign electricity. As of 2022, both Belgium and the offices will only use GoOs of local wind, water and solar energy.

Table 2 - Goals of BESIX Netherlands branch

Year	Reference Year	Scope 1	Scope 2	Scope 3
2015	2014	-2%	-2%	
2016	2014	-4%	-4%	
2017	2014	-6%	-6%	-2%
2018	2014	-8%	-8%	-4%
2019	2014	-10%	-10%	-6%
2020	2014	-12%	-12%	-8%
2021	2014	-14%	-14%	-10%



Textbox 5 - Goals of BESIX NV Business Unit Europe.

- By the end of 2025 all electricity used for offices, production facilities and projects will come 100% from renewable sources.
- 2030: Reduce Scope 1, 2 and 3 emissions (per million euro turnover) with 40% by 2030 related to the baseline year (2019):
 - minimal 60% reduction of the emissions related to lease cars;
 - minimal 57% reduction for the emissions related to utility vehicles;
 - minimal 15% reduction for the emissions related to on-road equipment and transport;
 - minimal 26% reduction for the emissions related to heavy site equipment.
- 2050 Climate neutral in Scope 1 and 2.
- Each company of the Organisational Boundary has defined its own reduction targets in order to achieve the overall ambition.

Effects in the supply chain

The Scope 3 emissions of BESIX NV consist mainly of concrete, steel, asphalt and façade. For concrete, BESIX NV signed the Dutch concrete agreement and is the pioneer of a similar initiative in Flanders. For concrete and steel a reduction target of 30% has been set.

The procurement department of BESIX NV do an analysis of the possibilities (both CO₂ savings and costs savings) of making concrete and steel more sustainable. They also look into the possibilities for façades. The results are presented to the clients (public and private). This informs the clients of other possibilities and give the opportunity to choose options that will lead to emission reduction. The analysis of the possibilities focuses on different topics, such as procurement, design optimisation and choices of implementation options. However, the actual reduction depends on the project and client choices.

Nevertheless, the construction sector is mostly driven by clients and their requirements. In Belgium there is relatively little commitment to CO₂ reduction compared to the Netherlands. The CO₂ PL in the Netherlands is mainly supported by large clients, such as ProRail, Rijkswaterstaat and municipalities.

In Belgium the CO₂ PL is now only used in a pilot. The idea of the pilot is that the CO₂ PL will be used as a requirement/criterion in 25 projects. Currently a Level 3 certificate is required. However, the CO₂ PL is not yet carried in all tenders in Belgium. In the past three years, this was only the case 10-12 times.

This pilot period continues until mid-2023. Belgium is dealing with four governments (one federal and three regional). Next year all governments have to consider if the CO₂ PL is effective. BESIX NV stated that it is important that the Belgian governments also make funds available (as in the Netherlands) to enable and accelerate the transition - particularly for the transition to zero-emission equipment. However, it is possible that both public and private clients have other requirements than the CO₂ PL that are CO₂ related. This can be non-committal, but sometimes it is a hard requirement. BESIX NV tries to avoid having four different requirements from the four different governments.

The Belgian Association of Belgian Contractors (VBA) formed recently a Belgian Alliance For Sustainable Construction. BESIX is part of this alliance. The aim of this coalition is to influence all stakeholders (concrete sector, engineering firms, clients, etc.). However, this initiative would also have been started without the CO₂ PL. Furthermore, the choice to participate in specific collaborations are not determined as a result of the CO₂ PL.



Conclusion

In this case we interviewed a company with activities in the Netherlands and similar activities abroad. Until 2021, BESIX NV had set specific targets only for the Netherlands, not for the other countries. With the extension of the existing organisational boundary (BESIX Netherlands) to the business unit Europe, new targets have been set. We can conclude that the activities in the Netherlands are leading in deploying emission-reducing measures. In most cases the Netherlands is a frontrunner and other countries (such as Belgium) follow later. Stimulating government (subsidies, requirements) policy is an important success factor for uptake of the CO₂ PL and to reach the targets set.

There are also some effects in the supply chain. However, these collaborations are not a result of the CO₂ PL.

Sources

Documents from website: www.besix.com
Interview Bart de Bruyckere, BESIX NV.



B Control group survey

Introduction

We developed a short questionnaire for non-participating companies (control group) to check the questions of the survey. We sent the survey to 97 companies that were in the process of certification for the CO₂ PL (further called ‘applicants’) and asked them questions about their behaviour regarding CO₂ emission reduction activities. This group is comparable to the current certificate holders, because both groups are interested in CO₂ reduction and the CO₂ Performance Ladder. We compare the results with the main survey.

The short survey resulted in 21 completions. This number is too low for detailed quantitative analysis, but is high enough to give some valuable insights. Two-thirds of the respondents were still in the process of certification whilst the other third had already received their first certificate. Most applicants (19/21) applied for a Level 3 certificate; the other two applied for Level 5.

Results

Reasons for participating in the CO₂ PL

The survey shows that for the applicants the main reason for certification is the requirement in some tenders (7/21). Other important reasons are the need of the organisation to reduce emissions (5/21) and the fictive discount in tenders (3/21). This is comparable to the participants.

Effect of CO₂ PL on using a management system and targets

The survey suggests that the CO₂ PL incentivises companies to start using a CO₂ management system. About two-thirds of the respondents did not use a management system. Especially among small companies this share is particularly high; 10 out of the 11 small companies did not use a CO₂ management system before.

The survey also suggests that companies tend to start using targets with regards to CO₂ reduction because of the CO₂ PL. Among the respondents, 11 out of 21 (52%) did not use targets before deciding to join the CO₂ PL. This share is slightly lower than in the survey with participants (59%). In the survey with participants we did not find a time effect (later participation leads to fewer targets before joining).

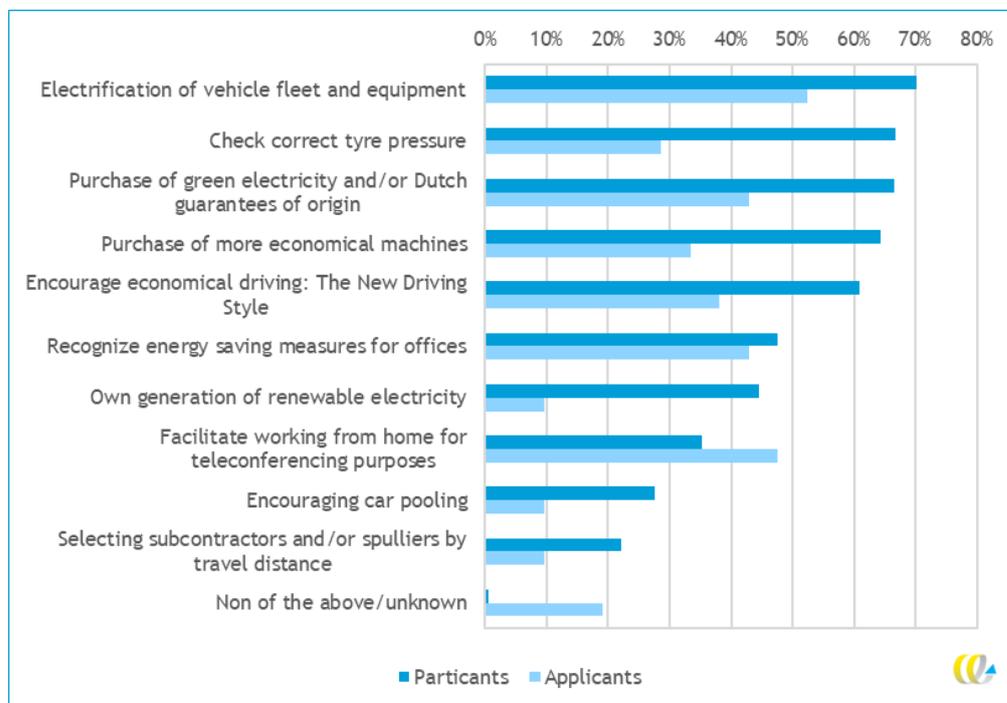
Effect on measures taken (Scope 1 and 2)

Figure 1 compares the share of companies that took a certain measure between participants and applicants. The figure shows that there was a higher uptake in the group of participants for all but one measure (teleconferencing). This is surprising since it appeared from self-reported behaviour by participants that the additionality of some measures was rather low.

This difference can be explained by at least three factors. Firstly, the number of participants in the short survey is too low. Secondly, there could be a selection bias. The reason behind this is that it could be that earlier participants are more engaged than new

participants. Although, as discussed above, the reasons for participation seem to be comparable. Thirdly, an unconscious change in mindset by participants could make it difficult to answer questions about hypothetical situations. This leads to underreporting of measures taken without the CO₂ PL and underestimates the additionality of the instrument.

Figure 1 - Measures (Scope 1 and 2) taken by participants and applicants



Participants: N=488; Applicants: N=21.

About half of the respondents say that consciousness with respect to sustainability is limited within their company. Although this particular question was not asked in the main survey, this share seems rather low compared with the impression that was left behind in the case studies.

Only one applicant applied for Level 5 certification. In the survey only applicants that applied for Level 5 were asked about which Scope 3 measures they had taken in the previous years. Therefore, we had insufficient data for an analysis of the Scope 3 measures taken.

Conclusion

The short survey among applicants for the CO₂ PL suggests that it has more impact than was expected from the results of the main survey. Firstly, it seems that the amount of (Scope 1 and 2) measures taken by applicants is particularly low compared to participants. Despite the fact that this could indicate the added value of the CO₂ PL, we have to be careful with our conclusions because of the low number of the participants (21). Secondly, the results show that only half of the applicants are using targets for CO₂ reduction and that only one-third of the applicants have a CO₂ management system. This could be another indicator for the additionality of the CO₂ PL.



C Workshop

In this annex we provide a brief summary of the results of the workshop. We present the most important findings (in bullets). In the main report we elaborate specific topics.

- The certificate is an instrument that ensures that everyone is on the same page. Every participant can demonstrate what has been done in the field of CO₂ and the instrument ensures uniformity and prevents fragmentation among clients.
- The impact of the CO₂ PL on organisational culture is perceived differently for each attendee. Some mentioned that there is an effect of the CO₂ PL in raising awareness. Others mentioned that the motivation for CO₂ reduction is completely intrinsic. Part of this difference was explained as a lack in communication about CO₂ reduction on the construction site compared to the office.
- The CO₂ PL is seen more as a CO₂ management system rather than a system of awareness and cultural change. The CO₂ PL is especially important for understanding and giving insights into emissions.
- The smaller the company, the more difficult it is for them to manage the administration of the CO₂ PL. It is a balancing act between insight, sustainability and administrative burden.
- Sustainability often comes from intrinsic motivation. The commitment varies from person to person. The companies fulfil the requirement to communicate, but to what extent this is picked up varies per person/department.
- The most important thing in a tender is the tender guide. This sets a certain level of ambition in accordance with the certificate. The certificate alone does not create incentive within the internal organisation. The requirements and regulations of the client in a tender is the most important thing to reduce carbon emissions.
- There are many more issues than just CO₂. In some cases, these aspects work against each other.
- All companies communicate company-wide about the CO₂ PL. The reason for this is that this is a requirement. However, the communication ensures that people talk about it within the company. Nevertheless, there is a difference between the office and field staff. The first group asks questions more often and the second group is more implementation-oriented.
 - a The participants have possibilities to influence the environmental impact of materials/products which are lower in the materiality analysis (e.g. clothing or coffee). For raw materials like steel and concrete, demand and supply depend on other factors and this is more difficult to influence.
- When a company has a CO₂ PL they do not have to do an EED-audit for all locations. This is seen as a nice bonus of the CO₂ PL. In addition, Rabobank offers financial benefits to a company that has CO₂ PL certification.
- The Safety Culture Ladder was mentioned a few times as a good practice of an instrument that leads to a cultural change within an organisation.

