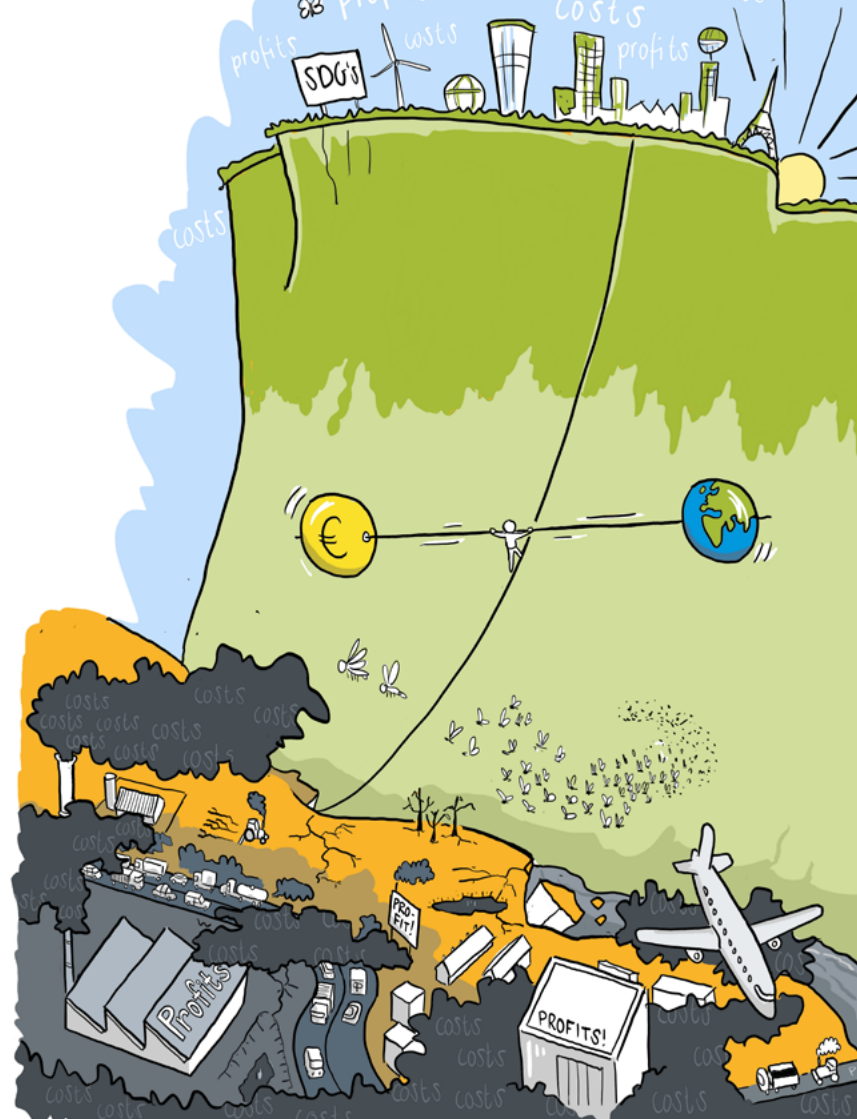




**Klimaat**verbond  
Nederland

# Accounting for the future

The price of climate





*Accounting for the future – the price of the climate is a synthesis of the results from the 'Climate envelope programme: Impulse for climate neutral and circular procurement, programme for internal CO<sub>2</sub> pricing by municipalities, provinces and water boards' of the Dutch government.*

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## Accounting for the future

Over the past year and a half, Klimaatverbond Nederland (a Dutch association of decentralised governments, focused on climate policy), together with the umbrella organisations of municipalities, provinces and water boards and the Ministry of Infrastructure and Water Management, has been working on the development of internal CO<sub>2</sub> pricing as an instrument to combat climate change. Research and experiments in this programme yielded a lot of understanding about the many possibilities of these instrument.

The joint effort has given us insight into the conceptual basis of CO<sub>2</sub> pricing, its potential and the development that is still needed to make optimal use of it.

We investigated - linked to practice - how a price on greenhouse gas emissions can reduce the carbon footprint of decentralised governments. These insights are written down in a number of documents: an essay that places CO<sub>2</sub> pricing in societal context; an overview of the results of over ten practical studies; and the scientific reports that underlie this. These documents have been collected on the 'www.co2-beprijzing.nl' website.

This booklet forms the synthesis of the joint work. In addition to the key insights, it gives a brief look into the future. How can we further develop CO<sub>2</sub> pricing into an even more powerful tool in the fight against the climate crisis?

## 1. Climate is *serious business*

When the world leaders signed the Paris Climate Agreement in 2015, they decided to take a new course. The question of whether climate change does exist and as to whether man is the cause is long behind us. The world has chosen to look for measures that actually slow down and eventually stop climate change. That immediately raised the question of who will have to foot the bill. For that last question, the other UN agreement from 2015 is especially important: *Transforming our world: the 2030 Agenda for Sustainable Development*. In a coherent set of 17 social, ecological and economic goals (Sustainable Development Goals or SDGs), the 2030 Agenda gets the solution of climate change and a large number of other global issues, including the distribution of wealth, moving in the right direction. The SDGs put balance between people, planet and prosperity.

In the Paris Agreement, agreements were made to stop the process of further warming and to limit the global temperature rise to a maximum of 2° Celsius - preferably to 1.5° Celsius. If that does not work, the

chances are that the temperature will exceed tipping points and that humanity will no longer be able to control the climate change itself (so-called runaway climate change).

Stopping climate change is impossible if we leave the economic system untouched. The ecological and social costs resulting from the current way of living and acting are simply too high. The effects of climate change have crept into the heart of society and the economy. Climate change affects the ability to continue to produce and consume in the same way, increases global inequality, drastically reduces biodiversity and threatens food production.

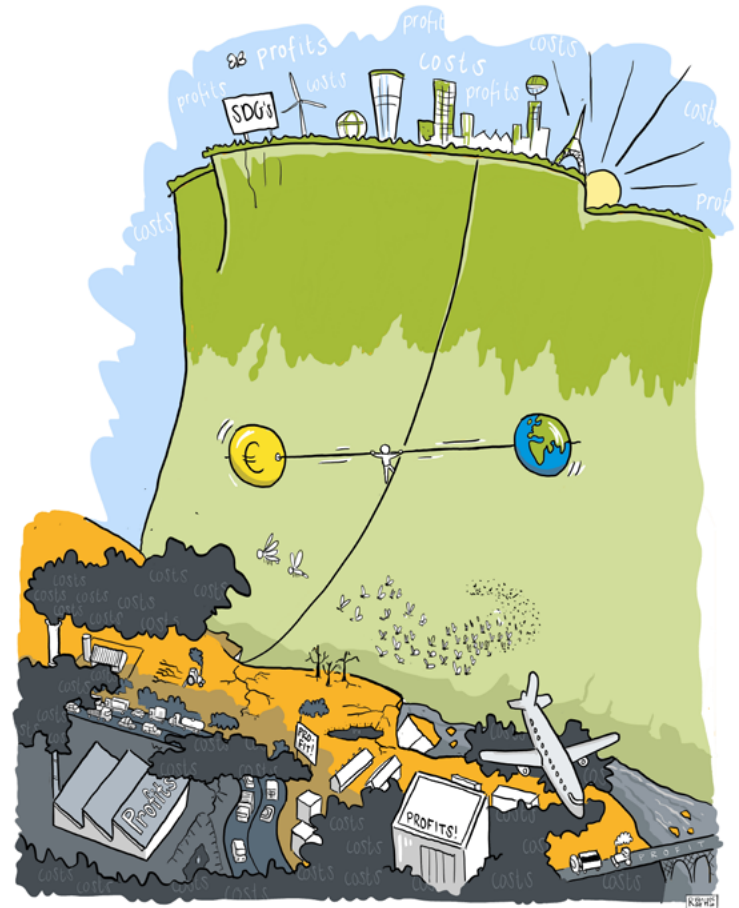
We are now experiencing first-hand that climate is a serious business. We cannot therefore escape from exchanging 'business as usual' for 'business as unusual', a new approach for preserving and creating prosperity and well-being for everyone. These are not findings by environmentalists, but by respected economic institutions. The OECD states in its *Environmental Outlook on 2030*: "Without new policies, we run the risk of causing irreversible damage to the environment and the supply of

natural resources needed for economic growth and well-being." In the World Economic Forum's *Top global risks report 2020*, an analysis of the trends that threaten prosperity, climate-related developments are in positions 1 through 5. In short, change is inevitable.

But how quickly should and can we go through the transition? If we act too slowly, we disrupt our physical environment. If we go too fast, we disrupt our lifestyle and our economy. The current global economy, our daily activities, production and consumption patterns are riddled with fossil raw materials - read carbon - that eventually end up in the atmosphere as greenhouse gases. In order to get rid of this carbon addiction and move towards a sustainable society, without completely stopping society along the way, we require a high-level balancing act.

### Market failure: nature does not negotiate

In *The Economics of Climate Change* report from 2007, one of today's most renowned climate economists, Richard Stern, states "Climate change is the biggest market failure the world has seen."





Last century, economists decided that part of the costs of producing and consuming remain outside the market economy, including most environmental costs and a large part of social costs. We call these 'external costs', which are not included on the bills we pay. We have been already putting off paying the costs of environmental damage (and other costs) that result from our production and our level of consumption to us for some time. It is the elephant in the room: we pretend that harmful emissions and climate change do not exist, because we also then have to face the consequences of this - very large droppings and broken china. That market failure has led to climate change and thus to a huge unpaid bill from the past. We are now passing on that unpaid bill to future generations and to poor people who are already experiencing its immediate damage.

Now that global leaders have decided to tackle the climate crisis, they can no longer ignore this market failure. If greenhouse gas emissions do not come at a price, we will continue to treat those emissions economically as if they were not there. The current market structure then remains dominant with the consequences of climate change being secondary

to financial results and consumer behaviour. The climate problem will then only grow. The rising costs of this will put pressure on poor countries, on poor people in rich countries and on future generations. The earth itself has been in a delicate balance owing to the existing market economy. Without measures, its carrying capacity will decrease further. If tipping points are exceeded, the costs of recovery - if recovery is even possible - increase exponentially, without man being able to apply the brakes.

## CO<sub>2</sub> and the market

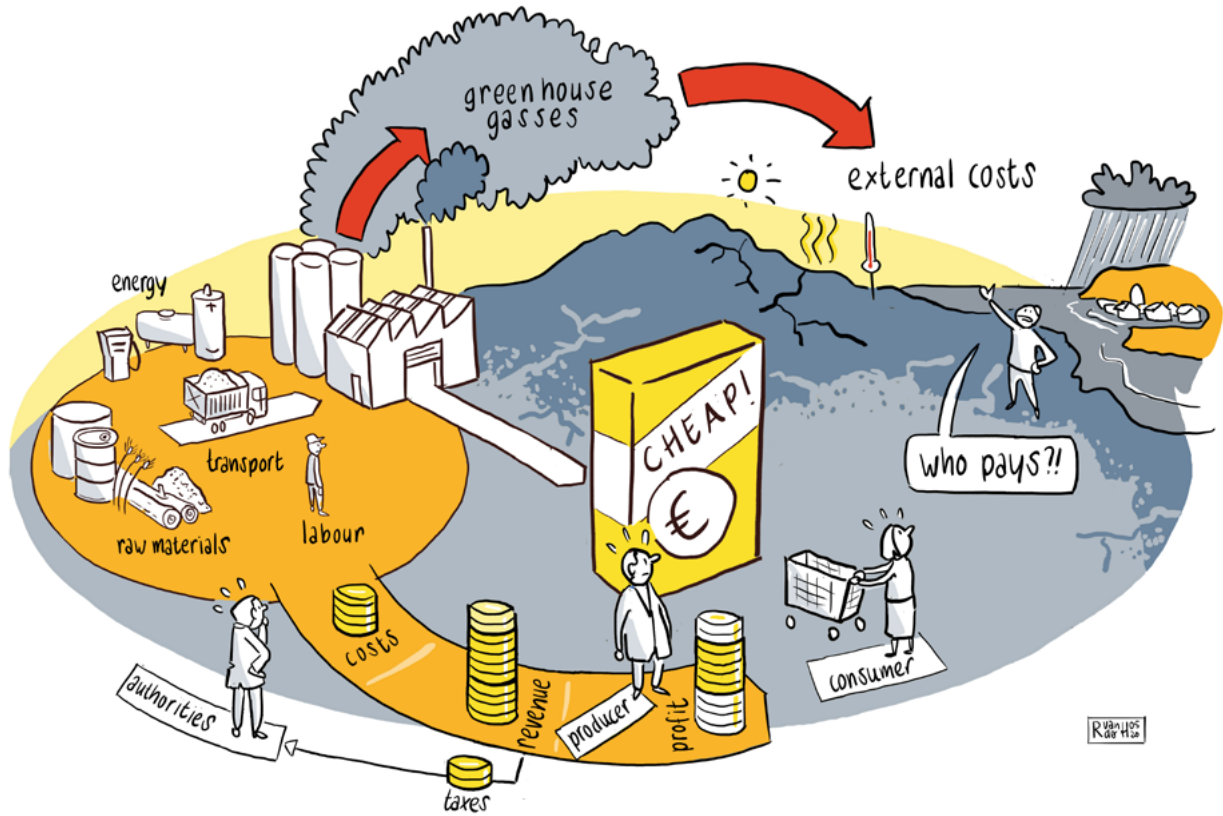
At this time, the market is very simple. A company produces a product or provides a service. In doing so, it incurs costs for labour, raw materials and energy and pays taxes. The sale price of its offering is slightly higher than the cost, which means the revenue for the company's owner or shareholders is also slightly higher than the cost. Count your profit.

However, that's not the whole story, because there is another cost that the company does not pay for: the external costs, those for example caused by greenhouse gases. Not all costs are settled in the

market. But those costs do come back, for example in the form of climate change. The seller and buyer do not have to settle these costs now. They are either born by society or left for future generations. Now count your 'profit'.

The solution: give emissions a price connected to the market. If the value of a healthy climate becomes more important because the CO<sub>2</sub> emissions are priced, the market economy will become unbalanced. The company will then bear the costs of the greenhouse gases and will see its profit go down. The classic answer is to charge those extra costs to the customer, who sees prices going up. But that success formula no longer works. The company has to choose between two evils: either the shareholder becomes angry or the customer does. Probably both. A company that doesn't want to lose its customers and wants to maintain its profit invests in products and production methods with lower CO<sub>2</sub> emissions, which means that it can ask a lower price in the market. Whoever manages to achieve the lowest carbon footprint becomes market leader with the highest profit and satisfied customers. This creates a new formula for market success: sustainable innovation.





## CO<sub>2</sub> price, market and authorities

Market players will not automatically include the external costs in the market price. Whoever does that first, prices themselves, literally, out of the market. Consumers then switch to cheaper providers. Only when every market trader pushes the price up, will consumers (have to) accept it and choose again based on the best quality/price ratio. To keep the playing field on the CO<sub>2</sub> inclusive market fair - a level playing field - every provider on the market must pay the same price per tonne of CO<sub>2</sub> emitted.

Hardly anyone doubts the power of CO<sub>2</sub> pricing, which internalises climate costs. In doing so, everyone looks to the authorities. Multinational companies ask governments to introduce a (fair) financial incentive to make products and companies less climate-damaging. Only the government, after all, can compel companies to reduce their carbon footprint. They should even do that, says the Dutch court. In the Urgenda Climate Case, the Dutch Supreme Court has explicitly placed the responsibility for reducing emissions with the Dutch state. The government also has the power and the instruments to do this,

according to the ruling. A price for CO<sub>2</sub> emissions is a powerful addition to that set of instruments. At the moment, the Dutch government is reluctant to intervene in the market and still has doubts about how it should design a CO<sub>2</sub> tax.

## Dilemmas in CO<sub>2</sub> pricing

The government's scientific advisers in the Netherlands - the Netherlands Bureau for Economic Policy Analysis and the Netherlands Environmental Assessment Agency - have indicated that the goals of climate policy cannot be achieved without there being a serious price for CO<sub>2</sub> emissions. Only a switch from production and consumption to non-fossil raw materials can ultimately curb and halt CO<sub>2</sub> emissions. According to the planning agencies, CO<sub>2</sub> pricing is indispensable for this.

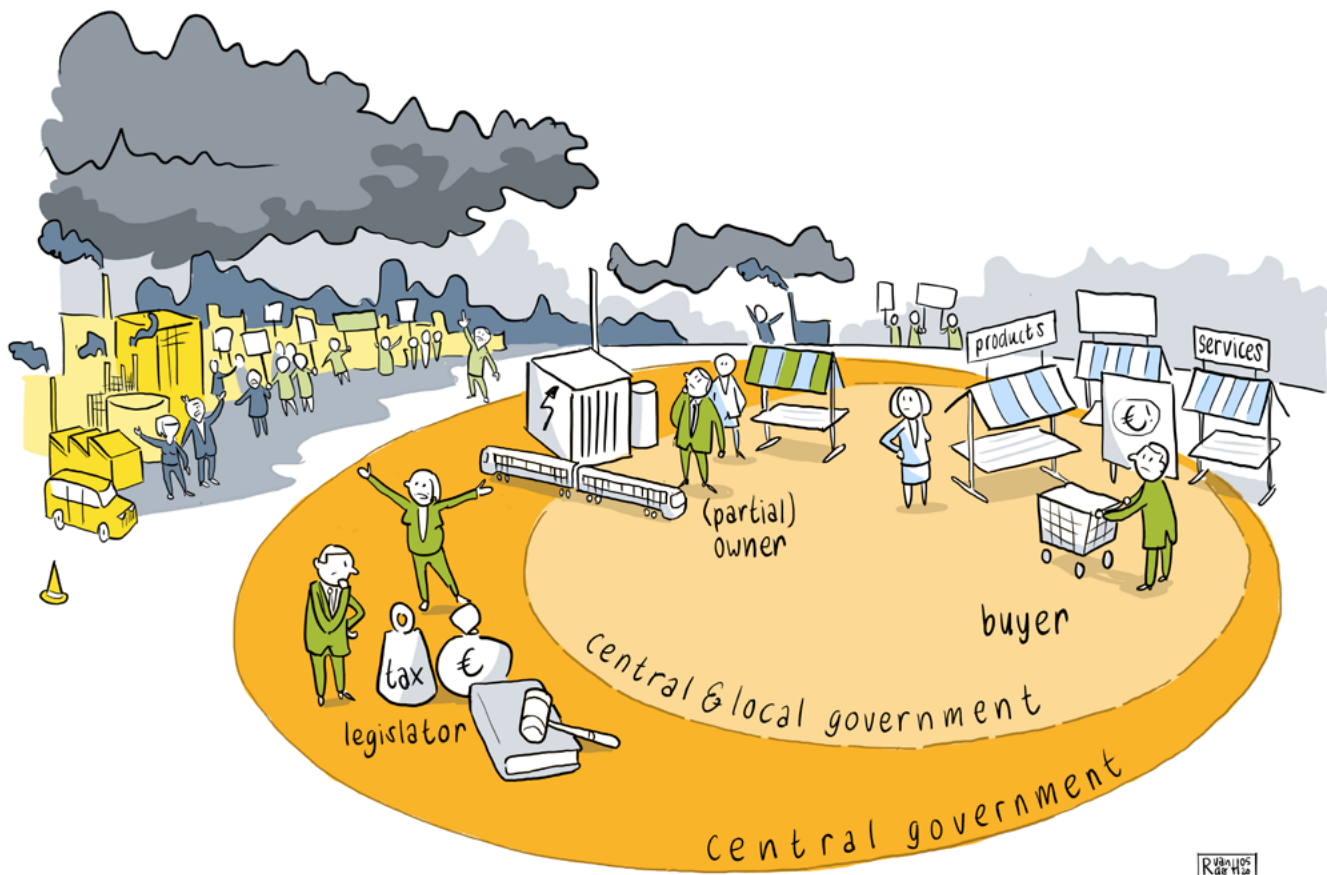
Internationally, the first steps towards a CO<sub>2</sub> price have already been taken. In several countries and also in the European Union, the issue of emission rights has led to a market price for CO<sub>2</sub> emissions (the emission trading system or EU ETS). Given the urgency of the climate issue, new, more powerful

instruments are needed. Introducing the true CO<sub>2</sub> price brings the social costs of climate change to the budget of an organisation and thus has a major influence on the decisions. The Dutch government is currently preparing to introduce a CO<sub>2</sub> tax, a tax on all products and services that directly or indirectly emit greenhouse gases. It's doing that with utmost caution.

That caution is understandable. If a country were the only one to introduce a national CO<sub>2</sub> tax, it is not inconceivable that a 'waterbed effect' will occur: its own CO<sub>2</sub> emissions will decrease, but production will move to countries without a price on CO<sub>2</sub>, so that total emissions will not decrease. The second dilemma is about the short and long term. We don't exactly know how damage from climate change and the technical solutions to it are going to develop in the future. The consequence of these dilemmas is that everyone is

waiting for better technology and for each other, while we know that collective waiting increases the risk of exceeding tipping points. We will then be faced with significantly higher costs than if we tackle the situation now.

It poses the question to governments: are we willing to lead the way and invest now in a better working economy, so that future generations will experience less damage and costs and reap the benefits of our investments? In answering this question, governments run up against resistance in society. Not everyone accepts the hardships that nature's limits impose on humans. The effects of the change will hit unsustainable companies harder than sustainable ones. The need to increase the speed of the transition here conflicts with the need to include everyone in this. Decisiveness competes with sustaining support for the decisions.



Rian 1995  
Rian 1995

## The right price for CO<sub>2</sub> emissions

Introducing a CO<sub>2</sub> price poses a difficult question for us. What is the actual CO<sub>2</sub> price? Even with a step-by-step introduction of a CO<sub>2</sub> price, we need to know where this will lead to. In this project, the Dutch Climate Alliance has calculated the social costs that are caused by climate change (Social cost of climate change or SCC). These costs reflect the socio-economic impact that will occur on the basis of expected climate change. In model calculations, scientists translate the expected social damage into economic costs. For example, how much damage is caused by sea level rise and what does it cost to limit that damage? Or, how much does it cost to adapt cities and dwellings to a changing climate? What is the impact on people's health, their productivity and medical costs? What do these damages mean for our economy?

We are entering unknown territory. We don't exactly know the societal effects of climate change and in the meantime there may be developments that (positively or negatively) influence economic damage.

We have formulated starting points for an estimate:

- The maximum temperature rise may be 1.5° Celsius.
- We apply the precautionary principle. We must avoid (even temporarily) crossing this limit. The risks of tipping points and positive feedback mechanisms are too great for that.
- We have the earth on loan from future generations, who we must not confront with priceless burdens and damage.
- We approach investments to prevent climate damage differently from (commercial) investments. We therefore use a discount rate of zero (0).

Based on these principles and the models that many scientists use to determine the damage, we arrive at a price of at least € 700 per tonne of CO<sub>2</sub> emitted.

This price forms the reference for decisions. A lower price makes the risk of irreparable or unaffordable damage in the future too great.

## 2. Internal CO<sub>2</sub> pricing: accounting for the future

CO<sub>2</sub> pricing cannot happen overnight. Society would then come squeaking and creaking to a halt, because the economy is now still running entirely on carbonaceous raw materials that emit greenhouse gases. What is possible is a gradual introduction. Step by step, the government increases the CO<sub>2</sub> price to eventually equal the total social costs of climate change (SCC). At the same time, governments and companies can use full social costs 'behind the scenes' in order to make activities and products with a high climate impact unattractive and to rightly promote activities and products that cause low climate emissions.

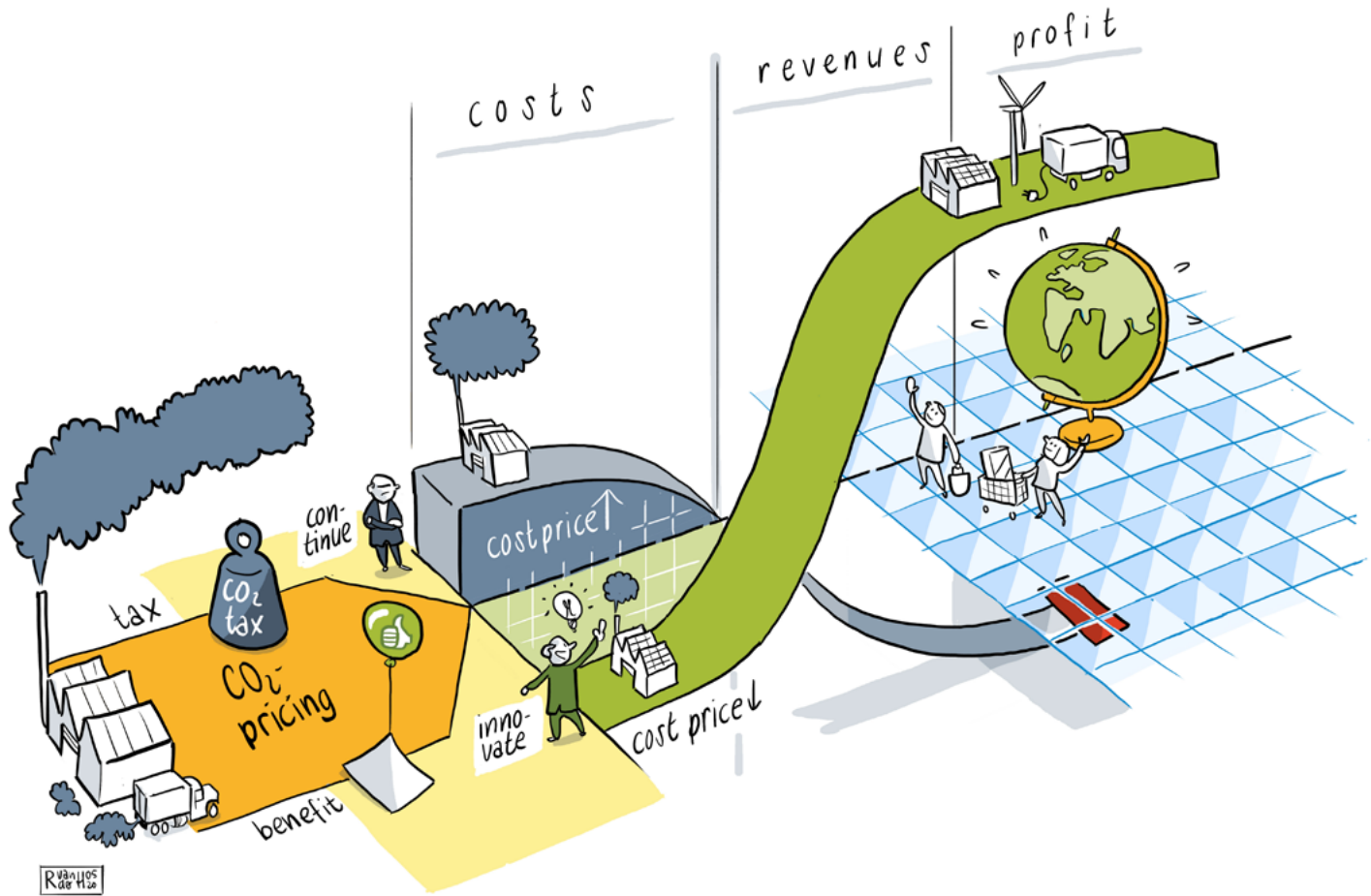
The organisation, for example a municipality or company, uses internal CO<sub>2</sub> pricing in its policy, its own activities and budgets. By already calculating internally with the 'real' CO<sub>2</sub> price - the CO<sub>2</sub> price of the future - it is making the choices with which it will reduce greenhouse gas emissions and pass on lower costs to future generations. These choices

sometimes have a slightly higher price than without a strong climate policy. On the other hand, the costs, both social costs and operating costs, will be much lower in the future. By paying a higher bill here and now, the government will slow down climate change and thus create major cost savings elsewhere in the world or in the future, with the bonus of accelerating innovation.

A number of sustainable frontrunners in the business world already uses internal CO<sub>2</sub> pricing. They do that in order to make their business resilient and future-proof. By making emissions valuable for financial decision-makers and helping decision-makers to make the long-term costs of CO<sub>2</sub> emissions a key factor, they are explicitly committed to the future-proofing of their company. They are also preparing for the inevitable CO<sub>2</sub> tax imposed by governments.

### ■ Purchasing innovative climate solutions

Internal CO<sub>2</sub> pricing is not limited to the internal policies of the government. As we know, policy is the prelude to implementation. One of the areas where CO<sub>2</sub> pricing leads to an effective climate policy



Ranjos  
K&M

is the procurement of products and services and the tendering of works. When assessing offers, the government can use CO<sub>2</sub> pricing to include both the quality requirements and the level of CO<sub>2</sub> emissions in decision-making. It buys a product or service and it buys emission reduction. The total costs - cost price minus saved climate costs - then determine the choice for the 'best' product and the 'best' provider. For example, a product or service with a higher cost price in the tender can still be cheaper because it causes fewer CO<sub>2</sub> emissions.

Using this way of purchasing and tendering, the government encourages offering companies to develop and deploy innovative products and services. Companies then compete with each other to emit as little greenhouse gas as possible. Indeed, the government rewards companies for their low CO<sub>2</sub> products and services. Thus it buys both a product *and* emission reduction *and* innovation.

Innovative purchasing and tendering is best done in intensive interaction between the purchasing government and the offering businesses.

Offerors must show the exact carbon footprint and governments must provide insight into how they include the emission reduction in their choice. Experiments show that the greatest climate gains can be achieved if companies are able to participate in the planning and designing process from the start. This earliest design phase ultimately determines the options for limiting CO<sub>2</sub> emissions.

### ■ Fund creation for climate solutions

To reduce CO<sub>2</sub> emissions to zero all in one go is impossible. A gradual reduction in emissions means that every municipality and every company will still be producing CO<sub>2</sub> in the coming years. You can calculate the impact of these emissions using the actual CO<sub>2</sub> price. The costs of these emissions that are not avoided, or part thereof, can be set aside into a fund to pay sustainable expenditure or to support organisations and companies. For example, the municipality can replace outdated public lighting with LED luminaires. The fund can also (financially) support pioneering entrepreneurs, local citizen cooperatives and partners in developing countries in





the Global South with the development of innovative solutions to climate problems that they are already facing now. Such a fund helps to accelerate the transition.

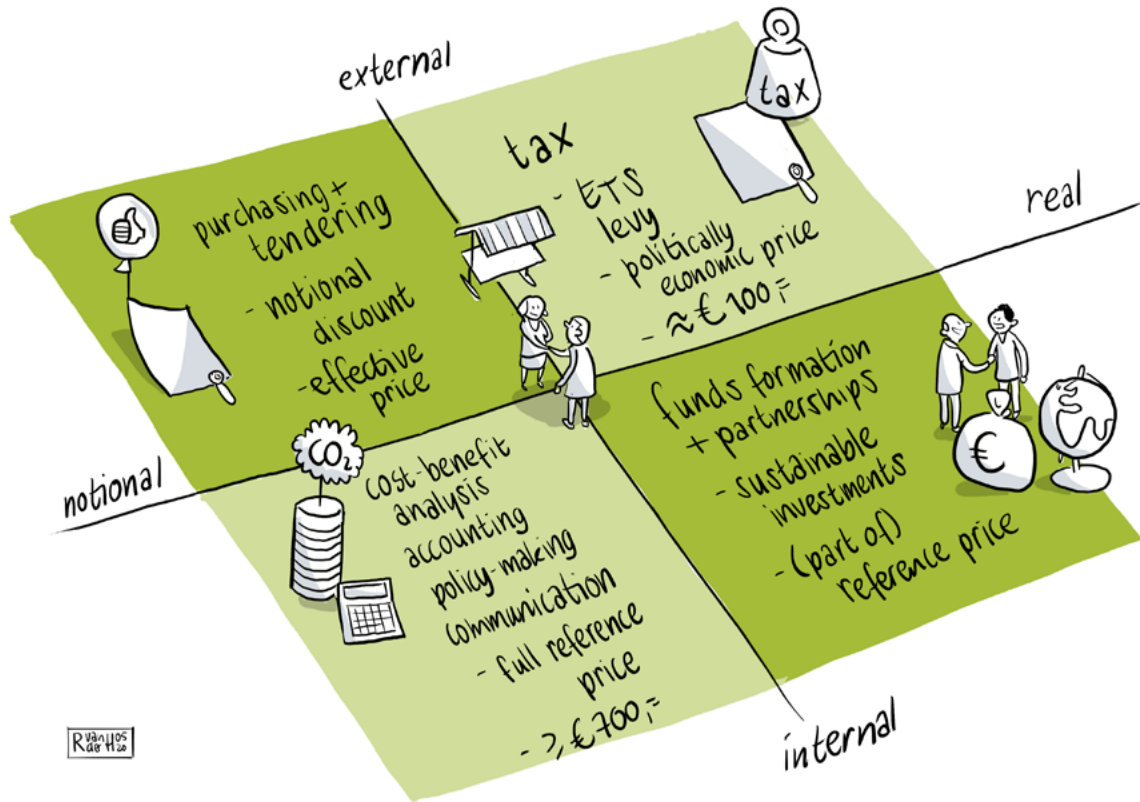
## CO<sub>2</sub> pricing as a versatile instrument

The discussion about CO<sub>2</sub> pricing once started as a way of taking the social costs of climate change into account (internalisation of climate costs) using a CO<sub>2</sub> tax. This corresponds to an untargeted cost increase for companies and consumers on products and services with high CO<sub>2</sub> emissions. Via the internal CO<sub>2</sub> pricing route, it has become an instrument that can also be used to focus on purchasing and tendering, and on accelerating innovative development.

Hence, internal CO<sub>2</sub> pricing is a rich and versatile working instrument. It starts with policy-making, cost-benefit analysis, budget and accounting, and communication to underpin the policy choices. This is purely internal and assumes a fictitious CO<sub>2</sub> price based on the total social costs of climate change. That price does not (yet) apply in the real economy.

Outside the organisation, this internal use leads to activities of other parties that affect the real economy, such as purchasing and tendering and the creation of funds for sustainable investments, awareness campaigns or innovative research.

This creates four types of CO<sub>2</sub> pricing. Internally, the government calculates with a reference price, which reflects the full social costs. When purchasing and tendering, it calculates - externally - using an effective price. The level of this is not fixed in advance, but is determined by the objective pursued: significant reduction of CO<sub>2</sub> emissions. The effective price is as high as necessary in order to achieve the lowest CO<sub>2</sub> emissions. The third form is an incentive fund, from which investments in social change are financed. The level of those investments is not fixed. It is linked to the unavoidable emissions. The fourth form of CO<sub>2</sub> pricing is the CO<sub>2</sub> tax, which lies outside the responsibility and scope of decentralised authorities. It is a politically determined price, with which the national government balances between the need to realise the climate ambition and the need to include the whole of society in this progress.



### 3. The practice of CO<sub>2</sub> pricing

Internal CO<sub>2</sub> pricing will ultimately have to prove itself in practice. In the past year, the provinces, water boards and municipalities in the Netherlands have tested the theory against that practice. Together with a number of research agencies, an analysis was conducted of how the internal application of a CO<sub>2</sub> price would change the implementation of existing projects. Obstacles to the application of internal CO<sub>2</sub> pricing in the current situation were also investigated.

The questions that were on the table in the studies were diverse. How large exactly is the CO<sub>2</sub> production of municipalities, water boards and provinces, both from their own operations and in their responsibility as a client or purchaser? Which sectors cause the largest carbon footprint? What can internal CO<sub>2</sub> pricing mean in tackling those emissions? Are we challenging the market sufficiently in sustainable tenders? And if we know how much CO<sub>2</sub> the authorities produce and have the tools to halve those emissions by 2030, are we even going to do that? What is needed to translate the great intentions, laid down in Green

Deals and covenants, into concrete results? These and lots of other questions were put to many officials and administrators in 2019 and have been explored in depth and widely.

#### What we emit - how to reduce the carbon footprint

What are we talking about? Addressing the climate issue with the help of (internal) CO<sub>2</sub> pricing requires knowledge about the current amount of greenhouse gases emitted, the so-called carbon footprint. How much CO<sub>2</sub> does one's own (government) organisation emit in total? How much of this is released in the different sectors? What is the emission of the products, services and works that the organisation buys and procures? And in addition, what are the factors that we as government can influence? In short, we must map the carbon footprint and from there zoom in on the carbon footprint of programmes, projects and products.

There is still a lot of work to be done here. The knowledge required is still insufficiently clear. For example, authorities use different methods to

map their footprint. The level of direct and indirect greenhouse gas emissions is still unknown for a large number of products and services. For some products, a basic calculation of all environmental effects over the lifespan, the so-called life cycle analysis (LCA), is not yet available. The same lack of knowledge exists about the use of the products, buildings, infrastructure, space, etc.

Dutch municipalities, provinces and water boards recently have taken steps in to fill this knowledge gap. The CO<sub>2</sub> Performance Ladder is a good tool for this. It contains a methodology for mapping out the CO<sub>2</sub> footprint and for initiating actions to reduce that footprint. The Performance Ladder is a management system that does more than just create a footprint and provide insight. It is a certified system that ensures that a certified organisation continuously monitors progress and adjusts its ambitions, searches for improvements and takes real measures.

## **Make a good start**

Various themes showed that in current practice a number of crucial decisions have already been made

before the question of CO<sub>2</sub> reduction is discussed. For example, in area development and the development of infrastructure in civil engineering, the greatest CO<sub>2</sub> reduction can be achieved when governments make conceptual choices in planning studies, sketch designs and the determination of the route. If CO<sub>2</sub> does not play a role in these decisions, this limits the reduction options at a later stage, such as tendering based on a final design. CO<sub>2</sub> pricing (and also pricing of other themes, such as NO<sub>x</sub>) can make the difference especially in that initial phase, and ensure that the options with the lowest CO<sub>2</sub> emissions also become the cheapest. By involving the market much earlier (for example in the design phase) and applying CO<sub>2</sub> pricing precisely there, innovation and redesign towards sustainable concepts are stimulated.

Awareness of the value of early control based on CO<sub>2</sub> targets is increasing. For example, the High Water Protection Programme (HWPP), on the initiative of the Association of Regional Water Authorities, includes the calculation of the CO<sub>2</sub> footprint in these early study phases.

## Composition of the carbon footprint: Scopes 1, 2 and 3

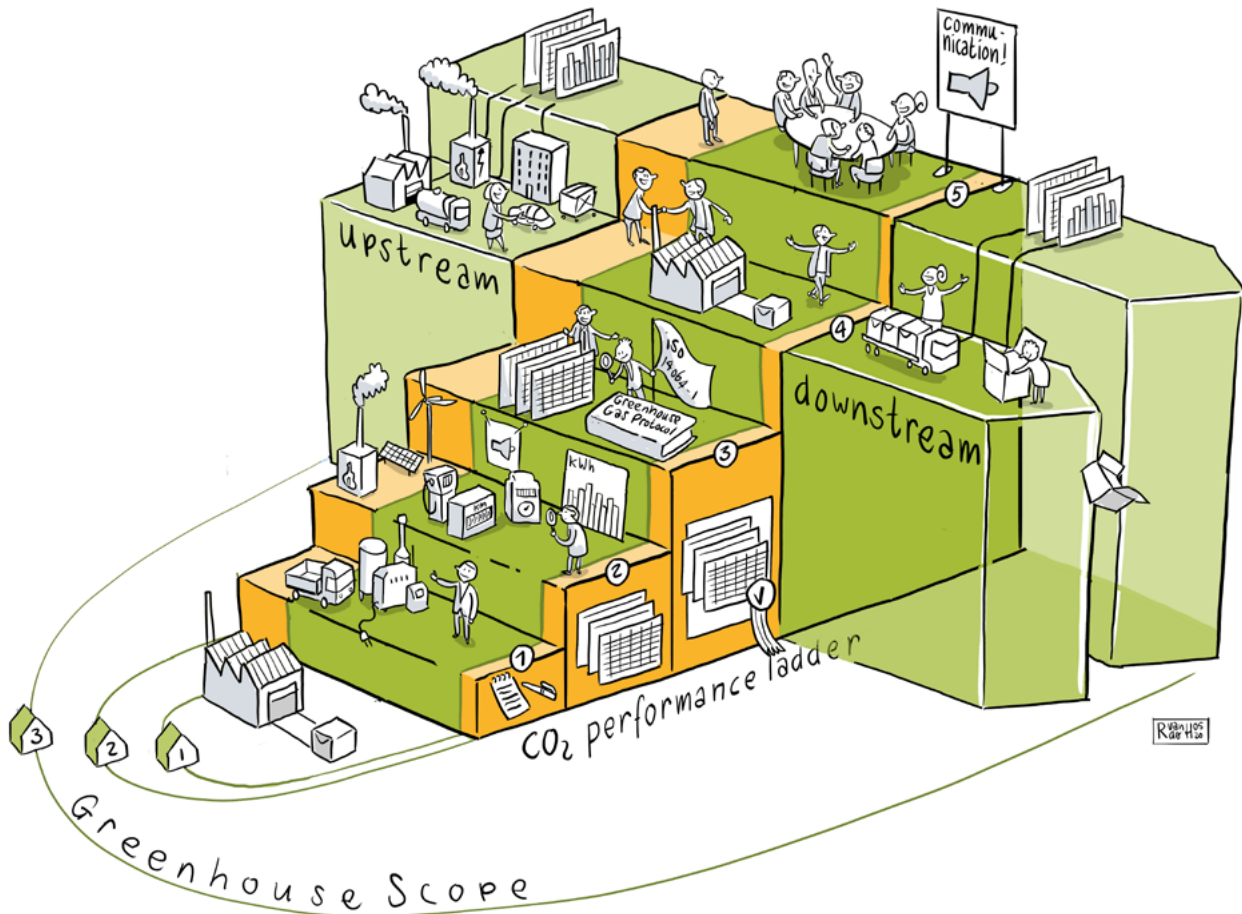
To map out the carbon footprint, it helps to start with emissions that can be directly influenced. These are the own sources within the organization or the emissions associated with own buildings, transport and production. Think of your own vehicles, heating installations, own generators and other machines. We call those **Scope 1** emissions.

**Scope 2** emissions include CO<sub>2</sub> emissions from the generation of self-purchased and self-consumed electricity and heat. These indirect emissions are a little further away - they are physically emitted elsewhere - but these emissions can also be directly influenced.

The majority of the emissions are **Scope 3** emissions. These are also CO<sub>2</sub> emissions caused by the organisation, but they cannot be directly

influenced. They are caused by the business activities of another organisation and the responsibility for those activities lies with that organization. This concerns emissions caused by the production of raw materials, materials or products purchased, by business traffic with private vehicles and by the execution of activities, such as the use of goods transport and investments in roads or buildings.

**Scope 3** emissions partly include emissions arising from the use of the product or service by third parties (consumers and other organizations). These so-called downstream emissions are even further outside the sphere of influence of the organization. Across from *downstream* emissions are *upstream* emissions, that arise from (scope 2 and 3) activities that take place on behalf of the organization itself.



Reinhold Röhrlitz

## The CO<sub>2</sub> Performance Ladder

### Reduce emissions in five steps

Reducing emissions starts with knowing your own CO<sub>2</sub> footprint. This is followed by the difficult implementation of measures. However, more is needed to successfully complete that process. In the Netherlands, the 'Stichting Klimaatvriendelijk Aanbesteden en Ondernemen (SKAO)' or 'Climate Friendly Procurement and Entrepreneurship Foundation' has set up a CO<sub>2</sub> management system that consists of five levels. The higher the organization climbs on the CO<sub>2</sub> Performance Ladder, the greater its clout and the chance of success.

The first three levels of the CO<sub>2</sub> Performance Ladder concern actions within your own organization to reduce the emissions of all activities (scope 1 and 2 emissions). From level 4, the organization enters into collaboration with other parties to also reduce CO<sub>2</sub> emissions in the chain (scope 3).

An organization can obtain certification at various levels via the CO<sub>2</sub> Performance Ladder. The requirements for certification arise from four perspectives:

**Insight:** determining the energy flows and the carbon footprint.

**Reduction:** developing ambitious objectives for CO<sub>2</sub> reduction.

**Transparency:** structural communication about the CO<sub>2</sub> policy.

**Participation:** participation in initiatives in the sector in the field of CO<sub>2</sub> reduction.

Every type of organization - government or company - can obtain a certificate on the CO<sub>2</sub> Performance Ladder. With a certificate, the organization shows that it has insight into its emissions, that it has ambitious objectives and measures to reduce these emissions and that it continuously improves in this. The certificate can be obtained at 5 different levels. Levels 1, 2 and 3 concern the CO<sub>2</sub> household and challenging reduction objectives in the own organization; level 4 also focuses on a contribution to CO<sub>2</sub> reduction in the chain and on innovation; at level 5, the company shows that it lives up to the chosen ambitious objectives, through cooperation within the sector and by autonomously adjusting its purchasing, products and/or processes.



## Adapting the procurement system

In the civil engineering sector, current procurement practice weighs only very little on CO<sub>2</sub> emissions when awarding a project. Steering towards limiting the climate impact works best if the CO<sub>2</sub> emissions are taken into account on the basis of a predetermined, effective valuation, and are translated into a notional discount on the contract price. By using a higher CO<sub>2</sub> price as the design achieves a greater reduction, the client actually rewards companies for their efforts. More stringent reduction requirements really challenge the market.

## Need for calculation tools

In three areas where potentially large reductions in CO<sub>2</sub> emissions can be achieved - use of LED in public lighting, greening of public transport and changes to inner-city transport flows - many factors play a role in the considerations. Calculation tools for these policy fields make it possible to 'play' with the most important factors. These tools show that the use of a CO<sub>2</sub> price as input influences the speed of introduction of the new technology. As the CO<sub>2</sub>

price used increases, the replacement speed of light fittings and vehicles increases and the CO<sub>2</sub> profit of another road system becomes clear.

## Choosing with limited knowledge

There are also subjects that, at least at the moment, seem less suitable for CO<sub>2</sub> pricing. For a wide range of products - for example, furniture and food - the detailed information that is necessary for targeted management is still lacking. Research shows that once this knowledge is available, CO<sub>2</sub> pricing *can* be used to guide procurement decisions. For the time being, only generic choices can be made within these product groups. For example, the choice for vegetable instead of animal protein in the canteen, and for refurbished instead of new office furniture is clearly better, even without a precise calculation of the CO<sub>2</sub> impact.

## Securing policy

In recent years, many agreements, Green Deals and covenants have been concluded in which directors combine ambitions. The words promise vigorous implementation, but in practice it's still disappointing.

An analysis by the umbrella organization of building companies (Bouwend Nederland) from 2018 shows that sustainable outcomes are leading in only 6.2% of the total number of tenders in the civil engineering sector. The agreements among governments, and between governments and social partners are mostly carefully formulated. There is a certain logic in this. In the absence of a quantitative basis, it is difficult to become specific and to endorse a quantitative and accountable goal.

In order to embed climate policy in the practice of the (local and regional) authorities, Klimaatverbond Nederland has conducted research into the system within which the ambitions are 'secured' and which should also ultimately lead to results. In this system there is great dependence between the administration, the substantive policy officers and the buyers. Climate policy benefits if officers in the circular economy and purchasing take on a much more active role, close to the board. At the same time, the administrators should give a much stronger mandate to achieve

results (including quantitative) in the area of circular economy and the reduction of CO<sub>2</sub> emissions. Obligations to the line organisation, support from circular economy officials and procurement and regular administrative feedback can speed up policy and implementation. It can also enhance the desired collaboration with the market to boost innovation and sustainability. Quantitative support, including through the application of CO<sub>2</sub> pricing, can strengthen the safeguarding and accelerated implementation of climate policy.

#### **Take the future into account now**

In recent years, many parties have worked hard to develop a way of accommodating the costs of climate change in the economy and in the decisions that governments and companies make to halt climate change. Internal CO<sub>2</sub> pricing is a promising tool in this regard. It now makes it possible to include the actual price of CO<sub>2</sub> in all decisions and thus to take the future into account.

In the research conducted so far, the emphasis on the value of CO<sub>2</sub> pricing for the reduction of CO<sub>2</sub> emissions has been through government procurement and tendering. However, it soon became clear that only part of the instrument's potential has been investigated and used. As the figure on page 17 shows, policy-making, social cost-benefit analyses, accounting, and communication can be aimed at reducing social costs of climate change with the help of internal CO<sub>2</sub> pricing. The instrument can also be used for fund formation. These funds can be used by governments to make sustainable investments and forge partnerships, both domestically and abroad.

The instrument of (internal) CO<sub>2</sub> pricing will be further strengthened and expanded in the coming years. The uniformity of the approach will be improved, for instance by using the same methodologies to measure and reduce the footprint. A group of pioneering decentralised governments will advance the use of CO<sub>2</sub> pricing in practice. We are working on strengthening cooperation with parties outside the government, such as consultancy agencies and semi-public organisations. Finally, we are introducing the methodology developed here in Europe, including via international networks such as the *Climate Alliance* and the *Covenant of Mayors*.



*Accounting for the future - the price of the climate is a synthesis of the results from the 'Climate envelope programme: Impulse for climate neutral and circular procurement, programme for internal CO<sub>2</sub> pricing by municipalities, provinces and water boards' of the Dutch government.*

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