

Towards a Regenerative Economy



Triodos Bank's vision
on transformative
impact



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Foreword



We are living in a pivotal time in our history. Economic, social and political developments in the past three years have once again shown that our current societal system is unsustainable. Many of us feel the need for action to change the way we produce, live and

invest. There is a shared understanding among many individuals, businesses, policymakers and civil society at large that to create a liveable world within planetary boundaries, we need a transformation towards more sustainable production and use of energy, food and resources.

Triodos Bank's purpose is to contribute to change by financing this transformation. Positive social, environmental and cultural change have always been the drivers behind our activities as a financial institution. To reach our goal - a prosperous life for all

people on a thriving planet - a transformation of our economy and society is necessary. In this impact vision we describe how we want to create positive impact in a changing world.

Our vision charts the way forward to achieve deep, systemic transformation. We are not moving our sustainability beacons. Our core values remain the same as when Triodos Bank was founded more than 40 years ago. We have always envisioned a world in which all people have the necessary tools and resources to live fulfilling lives, and in which the economy operates in harmony with nature rather than against it.

Change is happening right now and presents us with great opportunities: from regenerative agriculture, empowering marginalised groups and smart energy solutions to circular economy businesses. Join us on our journey to create a prosperous life for all people on a thriving planet.

Jeroen Rijpkema
Chair of the Executive Board

Introduction

Our vision on transformative impact

Our mission - making money work for positive social, environmental and cultural change – is more relevant than ever. Current patterns of production and consumption are not sustainable. This is increasingly recognised by the wider public and national and international institutions. Different trends, especially on the ecological side, threaten all life on Earth. Democracy and societal cohesion are also under pressure in many countries. The challenge we have as society is to transform the way we operate and live together, transitioning from an endangered habitat to a safe and just operating space for humanity.¹

This is an enormous task but not an impossible one. More people now acknowledge the necessity of change and therefore support for it is increasing. In addition, we have collected an impressive amount of knowledge and developed astounding technology throughout our history. We have shown ourselves to be capable of handling profound change, moving away from established socio-economic paradigms to new ones, such as the industrial and digital revolutions. This time, however, rather than inventing something new and seeing where it leads us, we are threatened by a deteriorating environment. We don't have the luxury of waiting to see how this plays out as we did before. This time, we must firmly steer ourselves away from catastrophe.

This document is our vision on how to bring about a regenerative economy. Its purpose is to explain and guide our activities as a values-driven financial institution. It describes what the underlying principles and characteristics of a renewed economic and social paradigm should be, necessary to achieve our goal of creating a prosperous life for all people on a thriving planet. This is where Triodos Bank wants to lead through its activities. Using the different tools available as a banking group, from different financial instruments to our networks and advocacy instruments, we want to be one of the changemakers that accelerate this transformation. One additional purpose of this vision document is therefore to inspire and stimulate discussion on the role of the financial sector in shaping the economy.

Chapter 1 provides some context about the environment that we operate in. We take a closer look at the three big flaws of our current system that make transformation necessary.

Chapter 2 describes our desired destination in more detail: a world where the operations of the global economy provide all people with the resources they need to lead fulfilling lives, while keeping within the planetary boundaries.

In chapter 3, we focus on what needs to be changed, describing five transitions: a food transition, a resource transition, an energy transition, a societal transition and a wellbeing transition. These five transitions are interlinked and together drive the transformation to a new and better system.

Finance has a key role to play in contributing to these transitions, by financing groundbreaking initiatives as well as providing funding to shift practices from less to more sustainable.

In chapter 4, we look at the role of the financial sector, and Triodos Bank in particular.

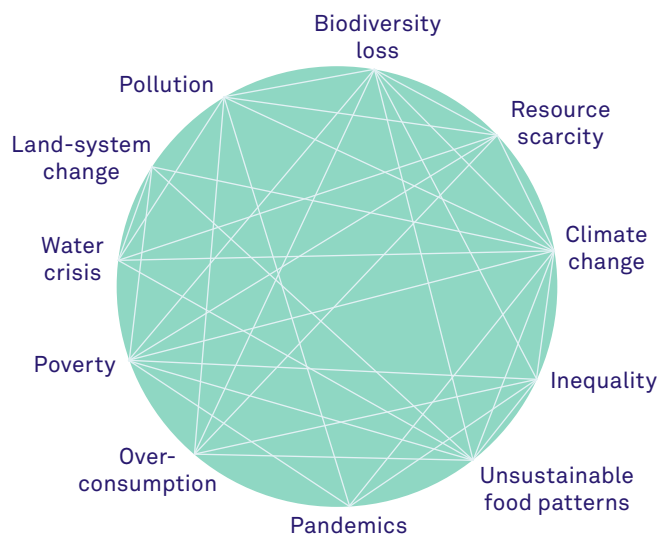
Our vision is inspired by many sources and thinkers, and it builds on existing visions and theories² and the history and values of Triodos Bank. It elaborates on the need for economic transformation (see [Turning the page – A radical agenda for economic transformation](#)) and for redefining what matters most and revaluing and redesigning our economies ([Reset the Economy](#)). In doing so, it defines areas of our economies and of our individual and collective living in which a transition towards a more sustainable paradigm is needed. These build on our existing visions [Towards ecologically and socially resilient food and agriculture systems](#), [Towards a low carbon economy](#) and on the recently published [Building open and resilient communities for an inclusive society](#).

1. State of the world

Over the past two centuries, economic progress and innovation have increased the wealth and wellbeing of many people in the world: many of us live longer and healthier lives in material prosperity. Yet, our global economy is still causing and relying on labour exploitation and environmental destruction.

Dramatic environmental, societal and political changes over the past century, driven by a range of accelerating global megatrends (e.g. globalisation, technological developments, demographics), have made it clear that many of the prevailing economic practices are incompatible with a sustainable world in which both people and nature can flourish. The complex interaction between these different developments makes the challenges multidimensional and interrelated (figure 1). This conclusion is strongly supported by thousands of increasingly sophisticated analyses and models and has become a near-consensus in scientific and political spheres.³

Figure 1 We live in a complex world with interrelated challenges



Source: Triodos Bank

Our current economic system has three big flaws: our problematic co-existence with the natural world, an uneven distribution of wealth and opportunities and a highly financialised economy, characterised by an extractive financial system. The consequences of these flaws are becoming increasingly clear: climate change, loss of biodiversity, rising inequality and increasing social tensions.

1.1 Relationship crisis with the ecosystem

While the topics of sustainability, circularity, and decarbonisation have been getting more attention in recent years, our problematic co-existence with the natural world has been apparent for decades. Even before, and certainly after, the 1972 milestone report *The Limits to Growth*⁴, conclusive research has demonstrated the detrimental impact of human activity on ecosystems. At the Earth Summit in Rio in 1992, most of the world's nations nominally committed themselves to pursue economic development in ways that would protect the Earth's environment and non-renewable resources. Notable outcomes of this landmark convention were the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change (UNFCCC), which included the intention to reduce greenhouse gas (GHG) emissions and protect global biodiversity. Since that summit, GHG emissions have more than doubled⁵ and biodiversity loss has continued relentlessly⁶.

Our dominant economic model based on the process of “taking, making and disposing” is one of the core challenges facing us today. Since the Industrial Revolution, our economy has become increasingly linear; we extract finite natural resources, including fossil fuels, from the planet at an unsustainable rate. And we create vast volumes of harmful waste, which also amounts to lost economic value. Currently, more than 100 billion tonnes of resources enter the economy every year, yet at the beginning of 2023 only 7.2% are estimated to be recycled and used again – a figure that is getting worse as the years go by (9.1% estimated in 2018 and 8.6% in 2020).⁷ The use of resources has tripled since 1970 and could double again by 2050 if business continues as usual.⁸

Continuing in this direction will lead us to a bleak future. A survey of scientists conducted by the United Nations a few years ago resulted in the following list of statements that researchers believed would describe the world in 2050 (a selection, in order of number of votes)⁹:

- global collapse of ocean fisheries before 2050
- accelerating climate change resulting in extreme weather and damage
- increasing inequality, tension and social strife
- persistent poverty and hunger
- humanity will avoid ‘collapse induced by nature’ and rather embark on a path of ‘managed decline’
- two thirds of the human population will be under water stress
- GHG emissions will increase by 70% worldwide

Most of these predictions are being confirmed. The most recent 2022 IPCC report¹⁰ has projected risks related to overshooting 1.5°C of global warming in the near term (2021-2040) and in the mid to long term (2041-2100). The picture it portrays is one of global biodiversity loss and extreme weather conditions (droughts, floods, extreme heat) threatening food and water security and the livelihoods of millions, including through an increase in the incidence of various diseases. The state of the world depicted by the report in many ways describes a best-case scenario if we follow the path that we're currently on: a grim picture of decreasing quality of life and environmental degradation that is about to materialise as we approach critical tipping points in planetary and societal systems.

Beyond scientists, our society at large is waking up to the risks that humanity is facing in the current era of turbulence. People are increasingly blaming current problems on the companies and governments that have presided over the global economy over the last century. Trust in institutions is rapidly eroding.

1.2 Unequal opportunities, income and wealth

By several measures, people are generally living a better life than ever before in history. We are living longer, we are healthier, and we have more opportunities to develop ourselves. Progress has been impressive, especially in the last two centuries. This is down to the success of science and progress in areas such as sanitation and combating diseases. Efficient markets have helped, but only when backed by robust social institutions that guarantee stability, freedom and democracy, and a reasonable standard of living for all.

The distribution of income and wealth, and hence opportunities are an outcome of economic processes. Over the past decades, inequality between countries may have decreased (although large differences remain), but inequality within countries has increased, especially in terms of wealth distribution.¹¹

Unequal societies are less stable, less inclusive and affluence leads to overconsumption and pollution. There is a clear connection between rich countries and rich people and their effects on ecosystems.¹² Both have the highest ecological footprint. There is no rich country that has an economy within planetary boundaries.¹³ The outcome of the current economic process in terms of wealth distribution is thus inextricably linked with ecosystem damage.

Societies with unequal access to education, labour markets, digital services and finance are unjust and exclusive. If large groups in society are hindered in their development and self-realisation, the whole society will ultimately suffer. A fairer and more inclusive economic

system will help to make our society more just and stable. Therefore any sustainability transition must be inclusive to succeed.

1.3 Flawed financial-economic thinking

The narrow-minded, short-term profit maximisation that is inherent in modern day business practices is responsible for many of the catastrophic impacts we see emerging around us, and which are now threatening our profit earning capacity itself. Society can only thrive if economic, social and ecological values are balanced. Instead, in the most influential areas of the world, profit maximisation is held in higher regard than social and ecological values. Profit and economic growth are good if they are used for broad value creation and to improve livelihoods. Having become goals in themselves, the negative effects on people, planet and the economy itself, have come to outweigh the positive effects.¹⁴ And ultimately, ongoing economic growth, even with less material use, is physically impossible.¹⁵

One of the side-effects of this concentration on profits and growth is a focus on efficiency and short-termism: only short-term effects count. Consequently, longer-term interests in stability or sustainability are of lesser concern. In addition, the resilience of the system – often meaning less efficiency in the short term – has reduced over the years. This lack of resilience makes systems more vulnerable to shocks (COVID-19 pandemic, war in Ukraine, energy crisis) and leaves no room to adapt to new circumstances.¹⁶

Extreme marketisation and financialisation have colonised our society. Values such as solidarity, honesty and fairness have been replaced by financial values such as monetary reward and measures of success, both for individuals and businesses. The very expression “value creation” is currently used predominantly to indicate profit making. Indeed, the financial economy has grown over 50% more than the real economy over the last 20 years alone.¹⁷ The consequence is that the financial world has become detached from the real economy while at the same time exerting a major influence on it by influencing business and economic thinking.

We must therefore proactively realign profit-generating activities with positive outcomes for both people and nature and change the underlying incentives of financial flows. ‘Impact-risk-return’ should be the guiding principle for the financial sector, instead of risk-return.

2. Roadmap to a sustainable future

This economic system did not happen to us: it is a social construct that we built ourselves. This means we can rethink it and reshape it to address its wrongs and make it serve our collective and individual needs better. The most critical task facing humanity today is to navigate a socio-economic transition to a just, sustainable and desirable society; one that can provide continuous prosperity well within the biophysical constraints of our planet. At a high level, we envision a world where the operations of the global economy provide all people with the resources they need to lead fulfilling, prosperous lives, while keeping within the planetary boundaries.

But what constitutes a 'prosperous life' for people and what does 'keeping within planetary boundaries' mean? And importantly, how can these essential prerequisites be met in a mutually reinforcing way? Answering these fundamental questions gives us a mutual understanding of what we are trying to achieve and enables us to measure progress in a meaningful way. In this chapter, we provide answers to these questions by focusing on the ultimate outcomes of the system that we want to create.

2.1 A prosperous life for people

In our vision, living a prosperous life means that every individual's dignity and rights are respected, that everyone's basic needs are met, and that everyone has equal opportunities and enjoys a good quality of life.

Just and cohesive societies

A just society is built on the core premise of protecting and upholding human rights as laid out in the UN Universal Declaration of Human Rights (i.e. civil, political and social rights). In such a society, both the public and the private sector fully recognise and take responsibility for embedding human rights principles in their activities, creating transparency and accountability for all stakeholders. This is done in a cohesive way, a spirit of working together effectively. We must recognise that all people are part of humanity, and we must activate mutual support and solidarity.

In a just and cohesive society:

- slavery, human trafficking, child labour and maltreatment of workers is completely eradicated globally, and labour rights are protected.
- cultural and religious diversity and special needs of vulnerable and disadvantaged groups in society are recognised and protected, and discrimination is structurally eradicated.
- people are equally able and empowered to participate and have a voice in social, economic, cultural and political life.

- the advantages of economic activity are attained and distributed in a fairer way, allowing income growth for the bottom segments of the global population to catch up with wealthier segments.
- people enjoy a fair distribution of and equal access to basic services, products, property, mobility and natural resources.
- universal access to digital and communication technologies connects individuals across geographic, cultural and socio-economic boundaries – thereby contributing to the development of fair, informed, prosperous, inclusive and cohesive societies.

Individual and collective wellbeing

A thriving society can only exist if the basic needs of all individuals are met, allowing all to live healthy, happy and self-determined lives. Individual and collective wellbeing means:

- human health is valued in an equitable way and healthcare is accessible universally. Preventable reproductive, maternal and child mortality and communicable diseases are eradicated completely, while non-communicable diseases are reduced substantially. Vaccines, medication and other medical knowledge are distributed equally around the globe, leaving nobody behind. Every human being has access to nutritious and safe food, putting an end to hunger and all forms of malnutrition. Food systems produce and operate sustainably, food waste is eliminated, and resources and knowledge are disseminated fairly and equally.
- universal access to safe and affordable water, including adequate access to sanitation and hygiene, putting an end to open defecation.
- universal access to an affordable, reliable and clean energy supply. Energy is shared fairly and efficiently, creating safe, warm and resilient habitats for populations worldwide while minimising impact on our natural world.
- extreme poverty is eradicated, supported by strong social safety nets for the global poor and vulnerable, e.g. social assistance, social insurance benefits, social services, social work and counselling services.
- inequality is drastically reduced, brought to a degree in which the extremes become less extreme, and activating mechanisms to correct the tendency to increase disparities.

Opportunities, aspirations and self-expression

Societal wellbeing is largely guided by individuals' aspirations and freedom to express themselves, and these are strongly correlated to socio-economic development.¹⁸ Therefore, it is imperative that all people have access to decent work that sustains them and their families and allows them to fulfil their aspirations where:

- workplaces are safe spaces that protect and nurture people's physical and mental wellbeing and foster meaningful connection, built around the core of empathy and mutual respect.
- access to employment gives everyone the chance for sustainable financial security, a sense of self-worth and the opportunity for future self-advancement, family time and leisure pursuits. It also provides a means of contributing to society and reaching individual aspirational goals.
- all people, regardless of gender or identity, age, ability, geography or socio-economic status have access to affordable and high quality technical, vocational and tertiary education, putting an end to global illiteracy and innumeracy.
- marginalised communities are on par with the educational and professional opportunities accessible to their mainstream counterparts.
- all individuals are empowered to develop the skills they need for work, life, and future fulfilment and employability, with learning opportunities are promoted lifelong.
- communities are interconnected and live together harmoniously.
- there is a fair distribution and equitable access for all segments of society to basic services, products, property, mobility and natural resources.
- societies protect the access to land and the livelihood it supports and ensure that the rights of all people (including indigenous people) are respected.
- **Healthy oceans** - The health of our oceans is fundamentally restored, ensuring that marine species can recover and regenerate, and coastal ecosystems thrive. Marine pollution of all kinds is significantly reduced and prevented wherever possible. Ocean acidification is minimised to safe levels, largely by drastically reducing nitrogen and phosphorus run-offs. Ocean temperature increases, as well as sea level rise, are contained within manageable limits.
- **Balanced freshwater use** - Water resources are extracted and cycled sustainably, while safeguarding water quality. The value of water is maintained as the water cycle facilitates its indefinite reuse. Water systems and technologies minimise freshwater usage and maximise energy and nutrient recovery from wastewater. At the same time, water use efficiency is substantially increased across all sectors, and local water storage capacity is optimised. Freshwater ecosystems, from wetlands to rivers and lakes, are protected and restored.
- **Healthy land and soils** - At least half of the land surface of the planet is returned to wilderness, in accordance with latest scientific consensus¹⁹, and the conversion of forests, grasslands and wetlands is halted. Degraded land and soil are largely restored, driven by widely adopted land-resource stewardship approaches and sustainable land management strategies. Terrestrial ecosystems are protected through conservation.
- **Protected and restored biodiversity** - All human activity safeguards the biosphere's integrity, including all living organisms on land and below water. Threatened species and habitats are not only protected but structurally enhanced to restore and preserve the health and resilience of ecosystems.
- **Sustainable use of resources** - Resource extraction is minimised whenever possible and materials are used only when necessary, as there is an inherent preference for dematerialisation of products and services. Used materials are cycled while preserving their value (designed for reuse, refurbishment, recycling and composting), structurally minimising the generation of waste. Reliance on scarce resources is reduced whenever possible. Materials are not mixed in ways that preclude separation and recovery unless they can continue to cycle infinitely at high value in their mixed form.

2.2 Living within planetary boundaries

Living within planetary boundaries means that we are able to ensure that global climate change is stabilised in line with global climate targets, and at the same time, nature is regenerated, used sustainably and restored. The urgency of the ecosystem crisis requires us to collectively rethink our relationship with nature, draw conclusions on how this should shape our economic system in the coming years and decades, and act accordingly.

Living within planetary boundaries means:

- **Halted climate change** - Global anthropogenic GHG emissions stemming from the global economic system are halted, allowing global warming to stabilise at 1.5°C compared to pre-industrial levels. At the same time, the adaptive capacity and resilience to climate-related hazards and natural disasters in all countries is significantly strengthened.
- **Clean air** - Clean air is available for everyone as a result of reduced use of pollutants and toxic, long-lasting substances entering the atmosphere, such as synthetic pollutants or heavy metals. At the same time, anthropogenic aerosol emissions to the atmosphere are minimised, and their impact on Earth's climate system is ceased.

2.3 Shifting mindset

A sustainable economy can be achieved by using technologies, strategies and knowledge that are already available. However, we can only succeed in achieving this transformation if our economic and social systems are redesigned and reshaped to measure and prioritise sustainable outcomes. This will require adopting radically different mindsets, financial systems, and governance models.

To achieve this, we have defined the core attributes that our envisioned economy should have, and why. These overarching principles are the foundation for the environmental and social objectives of our vision.

1. From extractive to regenerative

Our current economic system is highly based on an extractive approach to resource use, both physical and social. It is vital that we embrace a mindset of regeneration, which strives to restore ecosystems to a level where the threat of collapse is avoided. From thereon, they can evolve and thrive, and human life can use resources in a sustainable way in harmony with the natural world. In recent years, we have seen the advancement of regenerative approaches applied in agriculture. This has moved from highly industrialised, extractive and destructive systems to the adoption of practices that focus on building functional biodiversity and soil health to produce consistent yields without relying on synthetic inputs, such as herbicides or fertilisers. To ensure that we create the conditions and the capabilities for both present and future generations to thrive, we need to broaden the application of regenerative practices beyond agriculture, towards operating regeneratively across all sectors in the global economy.

2. From efficient to resilient and adaptive

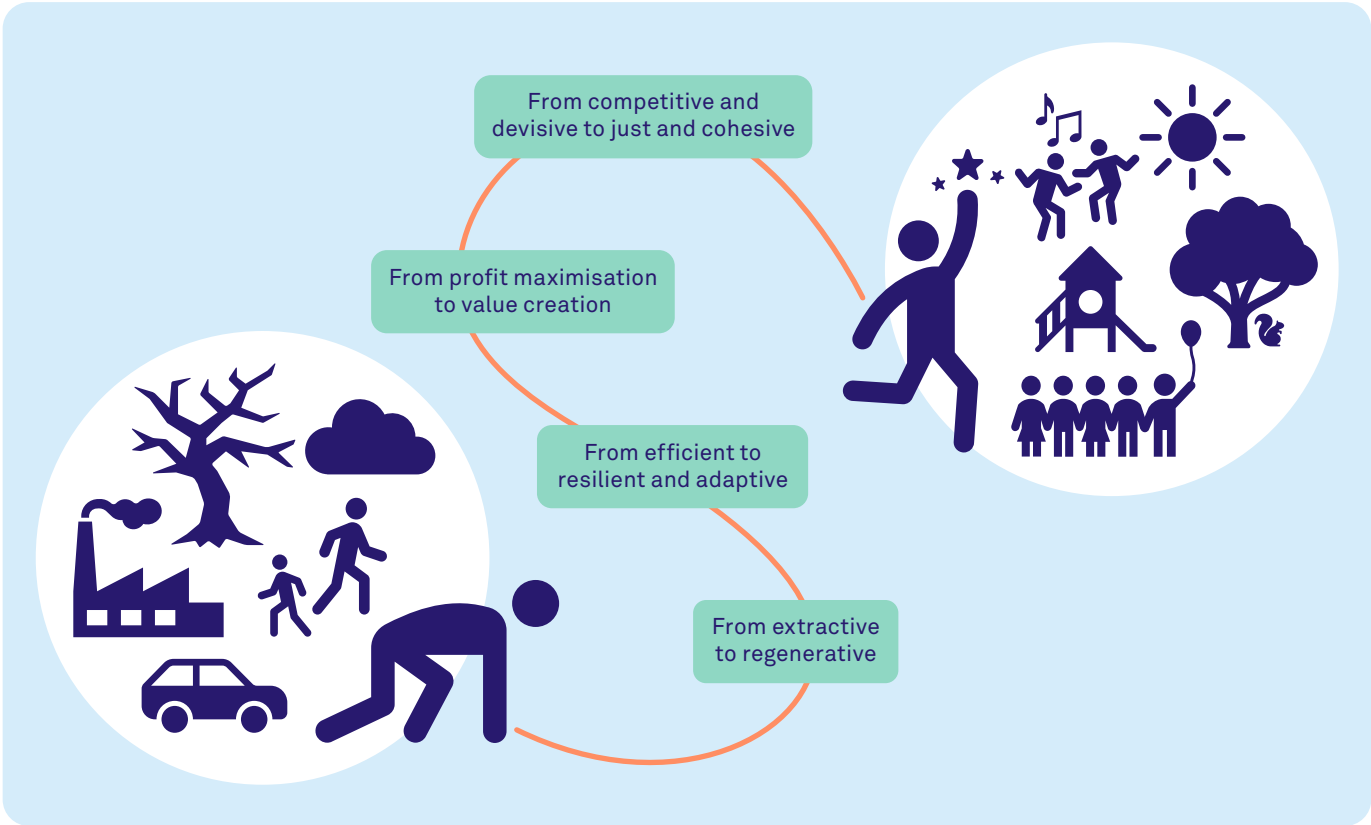
We also need to build a system that is inherently resilient - one that can anticipate, adapt and reorganise itself to keep functioning under conditions

of adversity and disruptions, in order to safeguard its long-term success. One of the fundamental threats to the resilience of our economic system is its primary calibration towards efficiency. As noted²⁰ by management professor Roger L. Martin, “resilient systems are typically characterised by the very features – diversity and redundancy, or slack – that efficiency seeks to destroy.” Today’s large-scale, specialised and centralised supply chains are highly efficient and cost-effective according to the primary purpose they are measured against, i.e. market position and profit maximisation. However, their corresponding lack of diversity and distributed interconnectivity leads to a few single points of failure. If the system fails, it is so highly optimised and rid of redundancy that very limited buffers exist to keep it functioning during recovery. This fine-tuning towards efficiency is driven by a global economic system focused on short-term profit maximisation. When the sole purpose of corporations is to maximise shareholder returns, a dangerous feedback loop is created where short-term financial successes come at the expense of long-term resilience. Thus, we need to build a system that is inherently resilient - one that can anticipate, adapt and reorganise itself to keep functioning in adverse conditions and disruptions, to safeguard its long-term success.

3. From profit maximising to value-creating

It is imperative to fundamentally rethink the purpose of business and the global economy as a whole - from pursuing financial profit, maximising growth and

Figure 2 Shifts in mindset



shareholder returns, to focusing on the generation of broad (non-financial) value, holistically defined. Different forms of value beyond financial value exist, such as social, aesthetic, emotional, educational or ecological. These cannot be compared without making gross approximations or imposing subjective value judgements; they must be recognised as value categories in their own right. A new economic model should reward activities that generate value across these different categories, rather than focusing on maximising financial returns only. A shift from rewarding value extraction to rewarding true value creation requires a fundamental change to the rules of the game. Companies must acknowledge that the system they are part of is undermining the very social and environmental systems that underpin economic prosperity and work to ensure that markets as well as their own activities do not reward further decline.

4. From divisive to just and cohesive

Successful transitions driven by ecological needs can only succeed if they are just and if they create opportunities for people who would naturally lose from these transitions. They can only be successful if they show a pathway towards a thriving future that does not perpetrate old social imbalances or create new ones. We need to move away from a mindset of rivalrous dynamics and stop representing economic interactions as zero-sum games with winners and losers. Instead, we must truly embrace a perspective of inclusion and cooperation, strengthening societal cohesion.

These four principles can serve as a compass to check that we are heading in the right direction, and consciously steer the transitions.

2.4 A systems approach on the right leverage points

As stated, achieving our goal requires nothing short of a complete transformation of our mindset and our economic model at large. Yet the oversimplified view of our world that has dominated our decision-making has long stood in our way of understanding the long-term consequences of our actions and policies. The reductionist approach, thinking that ongoing economic growth and ever more profit will automatically lead to greater wellbeing for all, has proven to be the wrong solution for our problems, if not the cause itself. Instead, it aggravates them. We must acknowledge that our socio-economic system is complex, multi-layered and deeply intertwined with the natural world we depend on for our livelihoods. We need to take the time – especially now – to look at our world through the lens of systems thinking.²¹

Conditions for successful transitions

Transitions are a source of both challenges and opportunities. While they may cause material losses for some people or even for generations, positive deep transitions should ensure substantial societal gains from an ecological and societal perspective. Where the losses materialise, it is essential that those most heavily hit are compensated or given new perspectives that mitigate the effects of such losses. Importantly, we should strive to view transitions as an opportunity to rethink everyone's role – individuals as well as economic actors – in the new reality. But we should also consider fairness of compensation in value terms: if the losers have gained their wealth in an unsustainable way (for instance through highly polluting activities), compensation should not be fully monetary. Part of their 'loss' was already a tax on societal wealth.

In a new system, we need to ensure that there is a space and contributing role for everyone.

Concrete examples may soon emerge in the context of highly polluting sectors. For instance, if the fossil fuel industry ultimately becomes stranded, this will bear consequences for all company stakeholders, including the companies themselves and workers in the sector. When individuals' skills are worth less on the labour market than in the fossil fuel industry, all those people lose in terms of their income and wellbeing. Successful transitions have answers to these problems: government policies, dynamic economies that create jobs and dynamic companies that transition themselves, leaving no one behind. A transition is only successful if nobody is left behind and everybody has a new role to play in the newly created system. Indeed, inclusivity in itself is the basis for change to be solid and long-lasting. If everyone is included in the new system, and has a positive, satisfactory role in it, this creates the conditions for system stability.

All in all, a transformation can only emerge if the social foundations, either in the form of material wellbeing or in the form of future opportunities, are robust and convincing for most participants. The condition that transitions need to be just and lead to inclusiveness is both an ethical requirement and a condition that is instrumental to the success of the transition itself.

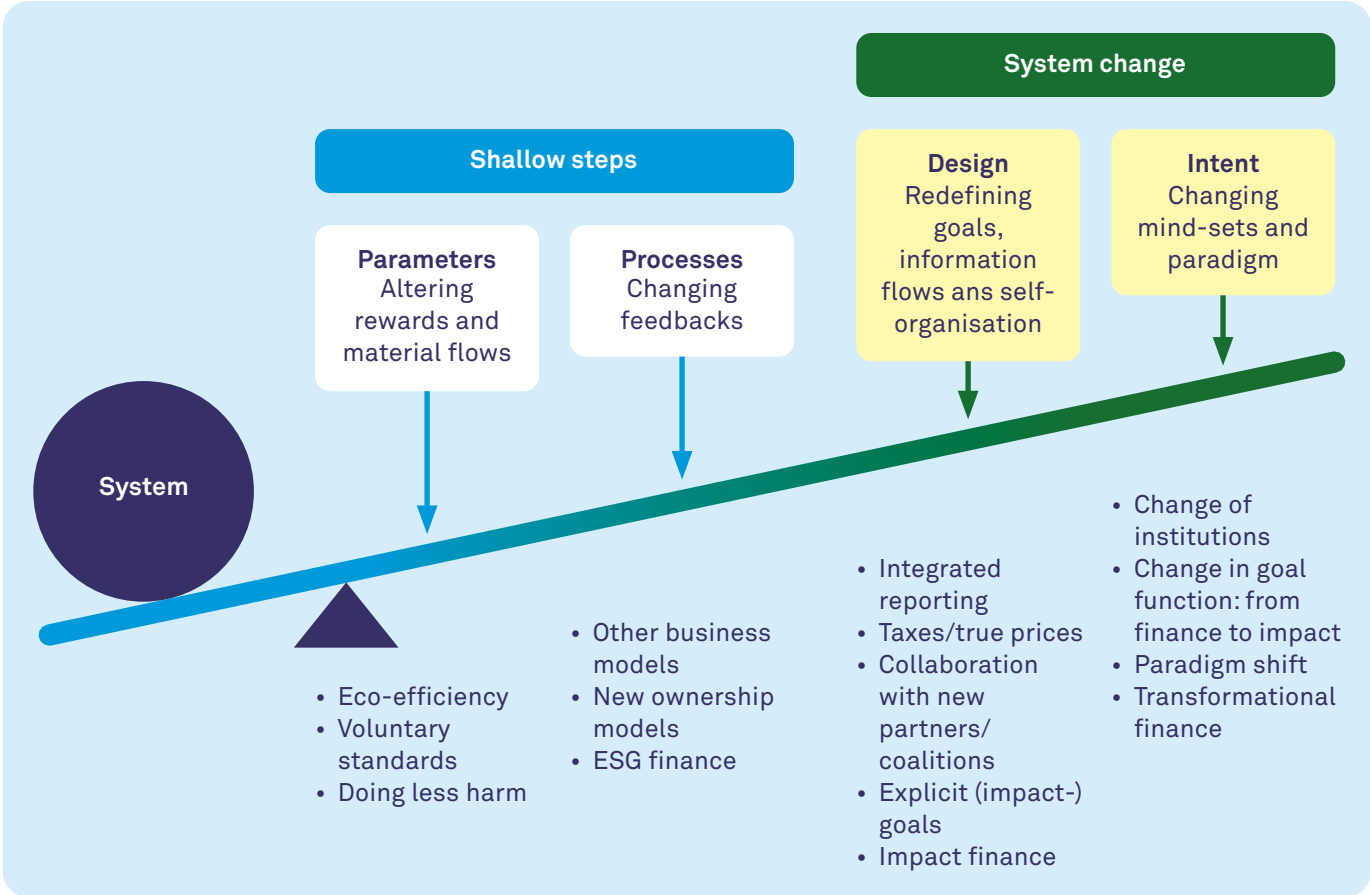
Only by understanding the deep interconnections between institutions, people and the environment will we be able to navigate towards a genuinely sustainable and resilient economy; one that remains within the social and environmental boundaries of our planet.

In this document, we solely focus on formulating high level outcomes of the world that we wish to achieve. It is important to note that while these are idealised features of a world we want to build, they provide a clear direction towards the future we aim for. We cannot look at these vision elements in isolation but need to evaluate all potential action areas by looking at them holistically. We need to ensure that any proposed solutions for one area of impact will not lead to burden shifting by solving one problem while creating negative, unintended consequences elsewhere. This is especially true when concentrating only on the ecological side of the challenges and not the social consequences – or the other way around.

Hence, while formulating actions directed at system change, we must not be deterred by the complexity and the multiple levels of intervention that can be activated. Instead, we must embrace it and be aware of the potential it also brings.

Systemic change can be seen as exercising pressure on leverage points.²² We know well that exercising the same amount of pressure on different points of a lever results in shifts of different magnitude. There are areas of the system where a small shift can produce much bigger, deeper change. For us, rethinking the elements related to the purpose and goals of economic activity and directing financial flows to finance those activities that have the largest impact on societal change is a key action to trigger deep changes. To this end, we identified five interlinked transitions that will drive and direct the necessary systemic transformation. In the next chapter, we dive deeper into these transitions.

Figure 3 Sustainability transitions: Leverage points



Source: Triodos IM based on Meadows (1999), Fischer and Riechers (2019)

3. Transition to transform

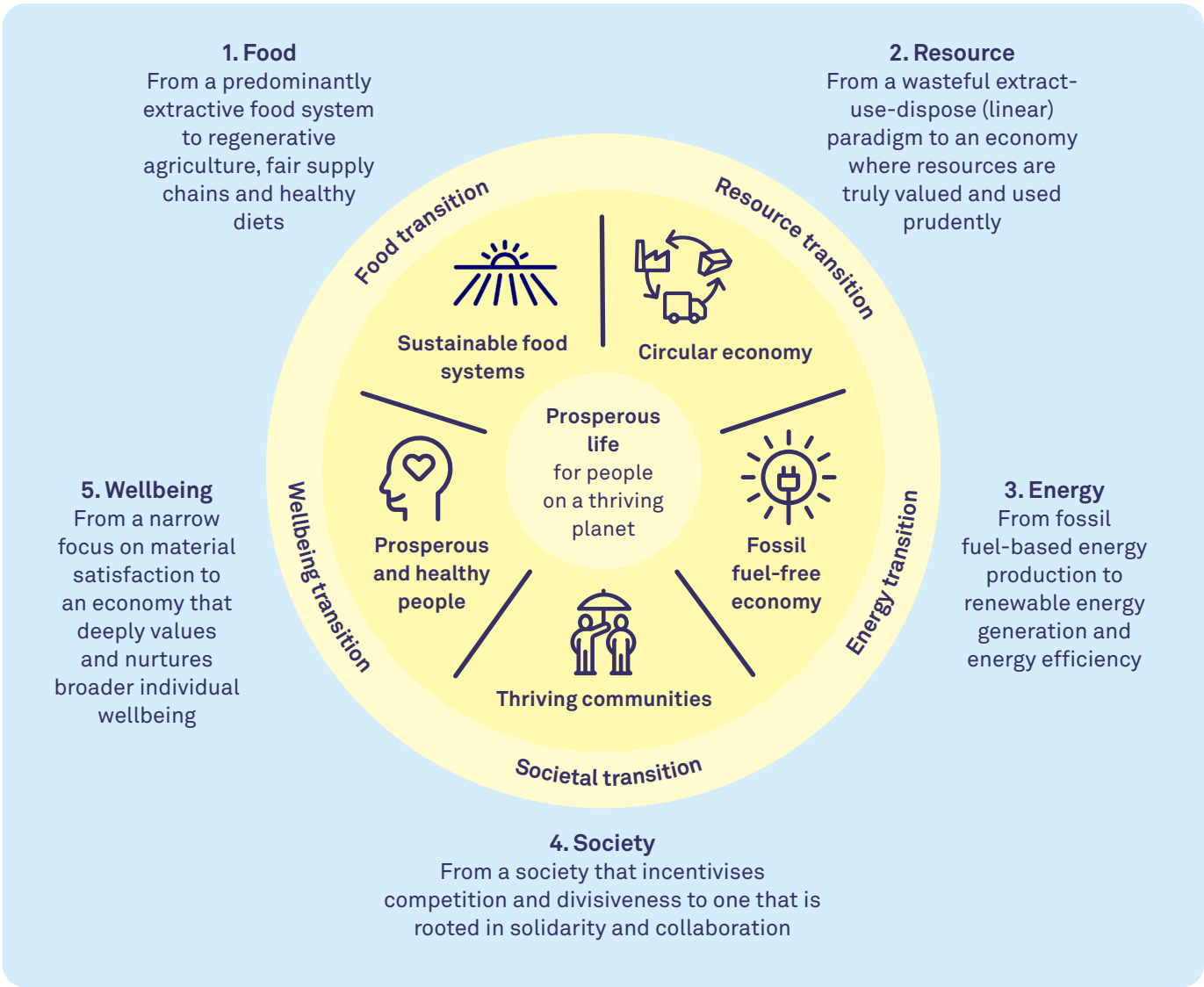
Triodos Bank has defined five deeply interlinked transitions that need to take place in human systems and institutions to achieve the overarching vision we have outlined (figure 4). There is no perfect way to subdivide the broader system that we are working to transform; overlaps and interdependencies are inevitable. However, these five areas require relatively distinct approaches and in part relate to different groups of stakeholders, which makes it practical to define them separately.

The food, resource and energy transitions address a large part of the negative environmental and social impacts that we wish to eliminate, not least by tackling our current, hugely problematic resource use patterns. The social and wellbeing transitions further ensure that systemic change is robust and rooted in behavioural shifts, strengthening the foundations of our society.

All ecological transitions must be fair and inclusive: transitions are doomed to fail if not everyone is onboard, and if we fail to activate individual and collective mindset shifts. The holistic approach we advocate matches this reality perfectly: living together while respecting ecological boundaries requires a strong social foundation, and without respect for ecological boundaries even a strong social foundation will eventually be eroded.

The following section describes the five core transition areas that together form Triodos Bank's impact themes.

Figure 4 Interlinked transitions



Source: Triodos Bank

3.1 Sustainable food systems (Food transition)



The food system is the largest sectoral contributor to negative environmental impact, largely due to destructive conventional agricultural practices. Agriculture now occupies roughly half of the Earth's habitable surface, uses 69% of all extracted

fresh water and together with the rest of the food system, is responsible for 25-30% of global GHG emissions. The expansion of industrial fishing fleets and a higher demand for seafood globally have led to the collapse or total exploitation of over 90% of the world's marine fisheries. Growing demand for land-based animal products is the primary driver of tropical deforestation. Through its direct and intermediate impacts, the food system is the largest contributor to the depletion of biodiversity.

The agrifood sector is also the world's largest economic sector and is therefore deeply entwined with poverty and other adverse social impacts. Half of the global workforce is employed in agriculture. Most of the world's poorest people are subsistence farmers and fishers, often caught in cycles of poverty, without access to education, fair employment conditions, economic and social infrastructure, and political representation. Poverty is the largest threat to food producers globally and is deeply connected to food insecurity. On the other end of the wealth spectrum, food is abundant and very affordable, regardless of one's location in the world or the time of year. In developed countries, consumer-stage food waste reaches staggering heights. However, simply ensuring a sufficient level of food production will not address the more entrenched impacts and imbalances within the food system. We currently produce more than enough food for the global population, yet over 795 million people remain undernourished.

Triodos Bank has always been an advocate for a more sustainable food system and has already detailed its vision. In short, we firmly believe that environmental and social conditions in the food value chain are deeply intertwined. Agricultural workers are highly vulnerable to the effects of climate change due to the strong dependence of the sector on climate. Reversely, poor working and living conditions of people working in agriculture directly impact the way we can collectively aspire to take care of soil and nature, as subsistence will and should remain people's priority. This clearly calls for an approach to the food transition that takes both dimensions into account.

The current structure of the food system both contributes to and is affected by a large set of global problems. The preservation of ecosystems and the future wellbeing of the human population are both dependent on a structural transformation of the

food system. This transition focuses on building a sustainable, resilient and equitable food system, producing healthy, safe and nutritious food for all.

Underlying principles of the food transition

1. *Everyone has access to healthy and affordable diets*

The most basic and fundamental challenge that the food system must address is to ensure the supply of adequate nutrition for the world's population. Every individual should always have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. Essential objectives for addressing this challenge should include:

- optimising overall food demand and production, largely by structurally reducing, preventing and eliminating food waste
- ensuring that scarce resources (land, water) are allocated to food production as a priority over non-food uses
- improving yields and farmer productivity for local use, mainly in the developing world
- empowering people to make sustainable purchasing decisions that support their health and a balanced food system
- drastically decreasing undernutrition, overnutrition and rates of obesity, and diet-related non-communicable diseases

2. *The food system operates within planetary boundaries and regional carrying capacity*

A sustainable food system should remain within planetary boundaries across the entire food value chain, including production, processing, packaging, distribution, consumption and disposal. Although we should continuously strive for full net zero impact on all planetary boundaries within the food system, there are some areas, such as preservation of biodiversity, which must be prioritised over others. In general, severe and irreversible impacts to complex ecological and cultural systems, and the depletion of non-renewable natural resources caused by the food system, should be addressed with the highest urgency.²³

This requires new approaches, some of which have direct crossovers with the other transitions. Decreasing the overall resource throughput of the system requires reducing food demand and shifting to lower impact sources of food.

Some essential enabling objectives include:

- shifting to lower impact, less resource-intensive food sources and production methods
- reducing the environmental impact of existing agricultural and extractive practices
- placing limits on system expansion and intensification, particularly when addressing the global yield gap between the developed and developing countries

3. Sustainable agricultural production restores and safeguards nature and drives an adaptive and resilient food system

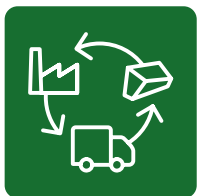
An adaptive and resilient food system is one that will be able to respond to changing circumstances and new challenges as they emerge. Adaptive capacity and resilience must be built into both the biophysical aspects of the system (through the preservation of biodiversity, restoration of degraded land, maintenance of healthy soil systems, maintenance of buffering capacity in water bodies, etc.) and the socio-economic aspects of the system (knowledge transfer, development of organisational capacity, elimination of poverty cycles, etc.). A resilient global food system requires enabling the global south to develop more resilient local farming cultures and practices.

4. The food system has prosperous and equitable value chains which structurally support livelihoods and wellbeing and are free from human rights abuses

The food value chain must ensure that financial and social value is distributed fairly and supports the livelihoods and wellbeing of people working within it. It ensures that rural economies are revitalised and thriving; farmers, fishers and workers throughout all food value chains are paid fairly for their contribution to the society and enjoy good and safe working conditions. Child labour, forced labour, modern slavery and human trafficking needs to be eradicated throughout the food system on a global scale.

A food system that supports livelihoods and wellbeing is also essential in tackling the other challenges. Addressing the systemic structures that perpetuate poverty is critical to the success of achieving a sustainable and resilient food system. Without secure livelihoods, smallholder farmers and fishers will continue to struggle to build the necessary capacity and resource base to transition to sustainable models of production. A resilient system cannot be built upon an unstable foundation.

3.2 Circular economy (Resource transition)



Resources and materials are the essential building blocks of our global economy and core components of all the goods and manufactured structures that people use to fulfil their needs, desires and aspirations. Currently,

more than 100 billion tonnes of resources enter the economy every year, yet only 7.2% get recycled and used again.²⁴ Our choice of materials also directly impacts a variety of environmental, social and economic risks associated with producing goods, from labour conditions and trade flows to pollution, climate change and land use. Raw material extraction also puts heavy pressure on natural systems that support

livelihoods, from inducing loss of biodiversity and soil erosion, to contributing to air and water pollution. It is also associated with numerous cases of human rights violations. Our cities, despite only occupying 3% of global land area, house more than half of the world's population and consume over 75% of the global resources. Most of this is either converted into building and infrastructure stock or rapidly used and converted into waste. The use of resources has tripled since 1970 and if the global population reaches 9.6 billion by 2050, we will require the equivalent of three Earths to provide the natural resources needed to support our current consumption patterns.

At the core of this transition is the transformation of our current model of linear resource use, which has been deeply entrenched in the economic model of value delivery over the last 50 to 100 years. This model largely defines the way that current products and materials are produced, used and disposed of. Circular management of all resources and materials must be established to ensure that they can all be cycled indefinitely, fundamentally halting the environmental degradation caused by our production system. And we must push for a change in the way we extract, produce, use and dispose of raw materials and goods. Importantly, this also influences the way we shape our habitat as a species, reinventing cities and other inhabited areas into healthy, sustainable, circular and self-sustaining environments.

Underlying principles of the resource transition

1. Resource extraction is minimised whenever possible

Materials are recognised as valuable resources and are only used when necessary, as there is an inherent preference for reducing the amount of material use in both products and services. Reliance on scarce resources is reduced whenever possible. All renewable resources are used at a speed slower than the replacement speed, allowing for regeneration.

2. Materials are cycled at a continuously high value

When used, materials are cycled at continuous high value (designed for reuse, refurbishment, recycling and composting), structurally minimising the generation of waste. At the same time, material complexity is conserved by cascading materials in their most complex form for as long as possible, until they are returned safely to biological and technical cycles. When the use of scarce resources is unavoidable, they are preferentially cycled at shorter intervals so they can be recovered sooner for reuse. Materials are not mixed in ways which preclude separation and recovery unless they can continue to cycle infinitely at high value in their mixed form.

3. The built environment operates within the planetary boundaries and exists in harmony with nature and other species

The built environment and living spaces actively steward the natural ecosystem and operate within the planetary boundaries. The reliance on land beyond

city limits drastically declines. The built environment fundamentally integrates natural elements that allow other species to thrive. It seamlessly connects with biodiverse hinterlands, while mitigating the effects of climate change (e.g. because of urban soils holding water during floods). Urban sprawl is constrained, leaving space for local ecosystems to thrive undisturbed. Proximity to nature also helps to improve the happiness of residents and public health.

Circular economy principles and design-for-carbon-neutrality need to be incorporated in all new buildings and neighbourhoods, and climate resilience needs to become a core consideration in infrastructure planning. New approaches to operation, asset utilisation and maintenance should focus on minimising negative externalities, increasing longevity and integrating network systems and components to maximise circular resource and material flows.

4. The global economic system is driven by responsible production and consumption

Circularity principles become the core of product design; all products are designed to be reused, repaired and remanufactured. This reduces material use to a minimum to extend their functional lifetime and enable the cycling of materials at continuously high value. Products are also developed without the use of harmful substances. Generation of waste and pollution should be considered a design flaw, rather than the inevitable by-product of the things produced. As such, recycling is considered the 'end-of-pipe' solution.

Responsible production and consumption should be facilitated by fully circular value chains designed to keep the value of materials and natural resources in closed loops and to facilitate cascading material streams, where end of life value streams flow back into production of new products, at their highest possible value, for as long as possible.

Sharing, service and product life extension business models need to be used smartly to contribute to improved access to essential products and materials at affordable prices all around the world.

3.3 Fossil fuel-free economy (Energy transition)



Globally, the use of energy represents by far the largest source of GHG emissions from human activities. About two thirds are linked to burning fossil fuels as energy for heating, electricity, transport and industry. In Europe, energy processes were responsible for 78% of total EU emissions in 2015. The combustion of fossil fuels also releases air pollutants that harm the environment and human health. A clear, but not unique, example is the

case of many global cities today, which are congested, noisy and polluted, largely due to the impacts stemming from a hugely fossil-based transportation sector. Our use and production of energy have a massive impact on the climate, and the converse is also increasingly true. Climate change can alter our energy generation potential and energy needs. For example, warmer temperatures increase the energy demand for cooling in the summer, while decreasing the demand for heating in the winter.

Mitigating and adapting to climate change are key challenges of the 21st century, putting focus on our overall energy consumption and our dependence on fossil fuels. Triodos Bank has always been an advocate for a fossil fuel-free economy, as laid down in our vision paper 'Towards a low-carbon economy'. The world needs nothing short of a complete transformation of the energy system that is the foundation of our economies and future sustainable development. At the heart of this transition theme is the urgent need to embrace clean energy sources to make things move, heat up and cool down, reaching all corners of society and the economy.

Underlying principles of the energy transition

1. Clean energy system supports a thriving natural environment

Total global GHG emissions from the energy system are consistent with global efforts related to limiting global warming to a 1.5°C temperature increase above pre-industrial levels. At the core of global decarbonisation efforts, all energy needs to be based on renewable or otherwise sustainable energy sources. Innovations in the generation, conversion, transmission, distribution, storage and use of energy are required to support this sectoral transformation. We must ensure that the energy system is fully decarbonised, and that clean energy improves air quality and societal health and wellbeing.

2. Resilient, reliable, and affordable energy is accessible to all

All individuals, communities and organisations have access to the reliable and affordable clean energy sources that they need to live well. The energy transition needs to be fair and provide equal access to all. Concrete objectives for addressing this challenge include:

- resilient infrastructure that produces and delivers this energy worldwide, providing optimal performance regardless of location, while reducing the risk of disruption.
- innovations in grid integration and energy storage to ensure constant and reliable access to energy for communities around the world and allow for flexibility in energy distribution to reduce energy loss.
- renewable energy that is cost-competitive and affordable for all economically marginalised communities around the world.

- a centralised energy system, complemented by local, decentralised and distributed energy networks.
- an entire energy value chain that protects human rights throughout.

3. An efficient energy system minimises resource use and waste

The materials required for energy generation and storage technologies must be designed for recovery into the economic system. Energy is also intelligently utilised and cascaded when lower values of energy are available for use. Density of energy consumption needs to be matched to density of local energy availability to avoid structural energetic losses in transport. The system is designed for maximum energy efficiency and waste reduction, without compromising the performance and service output of the system. Alongside efficient use of energy and resources, awareness of economical energy use must be increased to offset increases in demand for energy services as the world economy evolves and access to energy is extended to all.

4. Transportation of people and goods safeguards planetary boundaries, people and communities

Transportation of people and goods respects the planetary boundaries and safeguards the regenerative capacities of our environment. Zero-emission transportation modes are developed, and adoption of less energy-intensive, intermodal solutions are facilitated. At the same time, the mobility sector is designed and operated in a way that protects the health and safety of all. It enhances quality of life in communities while protecting and respecting labour and human rights throughout the mobility value chains, as well as within its supporting infrastructure.

3.4 Thriving communities (Societal transition)



A sustainable economy is an economy that works for all, leaving no one behind at the margins of society. A sustainable economy values collaboration and fosters cohesion among groups and individuals. While the world

gradually mobilises to tackle climate change, huge differences in wealth and opportunities still exist across society, often exacerbated by environmental conditions. In turn, such social divergence can slow down the efforts to reach an economy within planetary boundaries. Inequality and social divides ultimately impact everyone, creating frictions between individuals, within communities and across national borders. The path towards an inclusive and cohesive society starts with respect for fundamental human rights, leads past access to resources, products and services, as well as markets to meet basic needs, and continues

beyond, through enhanced opportunities and ensuring that everyone's voice is heard. This is only possible by pursuing a true spirit of solidarity and collaboration. In this transition, we focus on activities, services and creation of social structures that contribute to this journey towards increasing cohesion and social empowerment.

Underlying principles of the societal transition

1. Everyone has access to key markets, services and social spaces

Upholding human rights includes granting access to key markets – such as the labour and housing market as well as capital markets – and essential services – such as electricity, transport and clean water. These are vital conditions for human beings, but also for the resilience of our social fabric.

While having clear repercussions on individuals' wellbeing, tackling the question of access brings about broader societal benefits and increased social cohesion. But it needs to be tackled from a systemic, collective perspective. Solidarity and mutual responsibility are preconditions for success in this domain.

2. Disadvantaged and marginalised groups and individuals are heard and granted a path for social inclusion and empowerment

Communities build and nurture structures, processes and initiatives that contribute to ever-increasing inclusion and empowerment of groups and individuals that are vulnerable, marginalised and discriminated against (for reasons linked to gender and identity, origin, religious beliefs, etc.). Access to such initiatives by the direct beneficiaries is only one side of the inclusion process. Individuals in the wider society also need to acquire the educational and cognitive tools to help reduce prejudice and value differences rather than disparaging or trying to erase them. In this context, knowledge and communication channels and platforms seek to contribute to building bridges across cultures and differences, rather than fuelling conflicts.

3. The built environment provides affordable housing and other fundamental services, strengthens communities and promotes human health and wellbeing

Living space is the foundation upon which individual and collective quality of life is built. The built environment needs to facilitate the health and wellbeing of individuals and communities alike, and it must be able to adapt to meet the needs of growing and increasingly urban populations. The built environment is the core foundation of human habitats and structurally fosters strong communities and the development of local, resilient, circular value chains. Interconnectedness and social cohesion should be stimulated by new approaches to urban design,

which promote walkable neighbourhoods supporting active lifestyles and ensuring access to services, as well as clean air, food, water and sanitation.

4. Inclusive and collaborative structures are supported and incentivised

Solutions that shift the norms towards more inclusive and collaborative mindsets and lifestyles must be encouraged. For society to conduct sustainable life on this planet, we need to leverage on our commonality of needs, values and aspirations, which helps to reduce waste of resources, both material and intangible. Co-housing and energy communities are a clear example, as well as businesses and activities based on cooperative models and shared ownership.

3.5 Prosperous and healthy people (Wellbeing transition)



The quest for wellbeing is central to the human experience. Our society can only thrive if all its members are physically and mentally healthy. A shift needs to be made to ensure that we deeply value and nurture individual wellbeing for all. This

means ensuring that the necessary solutions are in place to grant access to well-functioning and affordable healthcare, care services and facilities for individuals in all conditions and stages of life. It also means creating the conditions for healthy and fulfilling lifestyles, in which people can devote time and energy to their interests and hobbies, nurture their physical and spiritual selves through physical exercise, produce and enjoy arts and culture, and cultivate their philosophy of life. Finally, telecommunication and consumer technologies should be at the service of individuals and designed to improve human relations and development, having human dignity at their core.

This transition focuses on activities that foster individuals' physical and mental health, as well as self-development, self-expression and healthy relations with others. In short, it focuses on taking good care of our human capital.

Underlying principles of the wellbeing transition

1. Good quality care services ensure that all individuals are assisted in their health and wellbeing needs, with an emphasis on prevention

Physical and mental health are preconditions for wellbeing, and their materialisation also depends on quality and availability of care services. Quality care services are available to all people in a community to provide support for physical, psychological and material wellbeing throughout the different ages and phases of their lives, from infancy to elderly years. A holistic approach to human health and broader wellbeing should also facilitate the decrease of preventable conditions.

2. Education is varied and of high quality and accessible to all

Education-related inequalities and socio-economic differences continue to influence people's opportunities, abilities and dignity to participate in society. Access to quality education is a driver of individual and community wellbeing. Fostering skill development and educational opportunities and resources for professional and personal development is key to improving people's access to the labour market, but also to providing people with the tools to actively participate in society. Good quality general education, as well as technical, professional and theoretical education ensure that people develop both the competences and capabilities that give them confidence and access to opportunities in their private and social life.

3. Personal development is activated through the exercise and experience of culture, creativity, self-expression and philosophy of life

People are free to explore ways to self-express and exercise their creativity. Individuals experience higher levels of fulfilment and wellbeing when given the opportunity to explore their interests and inclinations and to pursue their aspirations. Exposure to cultural events or culture-related experiences further enhance individuals' capabilities, which can benefit individuals and society at large.

4. Technology has human dignity at its core, and supports physical and mental wellbeing

Technology pervades all areas of economic activity, as well as our daily lives as individuals. Technology can both improve and hinder individual wellbeing. Individuals have access to massive amounts of information and are continuously subjected to technology-driven stimuli. Besides some positive effects, this also affects our ability to pay attention and be intentional about the type of information and content we absorb and consume, and ultimately on how we use such a wealth of information. It is therefore essential that we put human dignity at the centre of technological development and create the conditions for a healthy use of technology.

4. Role of finance in transformation

Banks are increasingly expected to play a meaningful role by driving change in the ecological transition, highlighting how finance is expected to have a pivotal role in the transformation. However, it is evident that financial intermediation or impact is never neutral. It is positive and necessary for financial players to recognise this.

In this chapter we look at the role of the financial sector, including Triodos Bank, in driving these transitions.

Financial institutions are not just spectators of transitions and change in society, they are highly active participants. Because of the key role played by the banking and financial system in channelling funds, it is essential that the right mechanisms and incentives

Twisted finance

The financial system has played an increasingly important role in driving the economy, especially in the last century. Globalised financial markets steer capital, and hence jobs and economic activity all over the world. Its centrality and the incentives and rewards structures that govern it make it responsible for a large share of what is distorted and profoundly wrong with the current economic system. Short-termism, profit maximisation and a narrow definition of efficiency have resulted in a single-minded focus on short-term returns for shareholders and negligence of long-term value for all stakeholders. But beyond the frontiers of business and financial activity, it has also caused deforestation, monocultural agriculture, climate change, underpayment and exploitation, pollution as well as tax evasion and high indebtedness. This has been clearly recognised both scientifically in economic literature and more intuitively by public opinion (e.g. through the disruptive energy of the Occupy Wall Street movement). Criticism of the financial system comes in waves and with different levels of understanding.

In this document, we refrain from analysing the rights and wrongs of the current financial system, and we focus on the positive role finance can and should play in the face of the current challenges. It is therefore of the utmost importance to recognise the centrality of the financial problem for our society, as this is one of those leverage points in the system where a shift in design and intention is most needed. Triodos Bank, with its presence and activities, does just that by exerting pressure on the financial system for change.

are in place to ensure that the way the financial sector operates and directs funds is aligned with the goals of society at large. We know through experience that while this may be an obvious premise, things do not automatically work this way, and we need to make some considerations explicit.

National and supranational policies and regulations are essential to create a level playing field for financial institutions to work in this direction, and a lot of initiatives are emerging that aim to direct the role of finance towards positive sustainability outcomes. Supervisory authorities (such as the European Central Bank) are taking up their role to look at material sustainability risks and have begun scrutinising those financial institutions that do not take them properly into account. European legislators are actively pursuing transparency regarding where financial flows are going and what their (transformational) power is, by introducing laws such as the Sustainable Finance Disclosure Regulation (SFDR), the Corporate Sustainability Reporting Directive (CSRD) and the EU Taxonomy.

Alongside regulatory pressure, financial institutions can also take their own responsibility to deal with money intentionally and consciously by being aware that money use is never neutral, but always has environmental, social and cultural impacts. In doing so, they enable companies and individuals to do the same.

4.1 Intentionality

Sustainable finance considers how its financial activities (investing and lending) interact with and impact economic, social and environmental issues.²⁵ Conventional banks and financial institutions are increasingly introducing sustainability-related principles and practices in their activities, but overall approaches differ substantially.

For financial institutions to truly contribute to a positive transformation of the economy, intentionality is key. Financial institutions make decisions in terms of the products and services they offer, both to retail and business clients, as well as how to build their credit and investment portfolios. In other words, who they lend to and what investments they make.

There is no unique definition of sustainable finance, and we can distinguish between different approaches to sustainability in finance, or else different ways of being intentional in selecting which projects and activities to finance, particularly in relation to positive impact and transitions.

Table 1 Sustainable finance variants

	Trans- formative impact	Impact- first	ESG and best-in- class	Negative and ethical exclusions
Targets companies offering viable solutions for the transition to a sustainable economy	✓	✗	✗	✗
Screens destructive and exploitative industries (e.g., fossil fuels, arms)	✓	✓	✗	✓
Assesses company ESG practices and sustainability policies	✓	✓	✓	✗
Encourages company transparency and public disclosure	✓	✓	✓	✓

ESG approach: One option for financial institutions is to incorporate environmental, social and governance (ESG) criteria into financing and investment decisions. This is currently the prevailing approach to sustainability, adopted by financial institutions of all sizes, albeit more in asset management than in banking. The approach shows different shades of green: it consists of integrating ESG risks in investment decisions (translating it to the financial valuation of the company), selecting the best performing entities according to standard ESG criteria and benchmarking to peers (best-in-class), and/or excluding the worst performing firms. Risk mitigation is the key driver of this approach, as it is intended that good performance on ESG criteria is likely to shield companies (and investors) from ESG risks. In ESG-driven finance, (financial) material ESG criteria are considered alongside financial criteria. The latter remain dominant in decision-making. Moreover, the extra non-financial information on sustainability is often estimated to lead to higher (risk-adjusted) returns, although proof for that is mixed.

It will be clear that the ESG approach is not intentional in directing funding towards real economic activities that contribute to positive change. The approach relies on broadly shared (and generally not ambitious) definitions of sustainability that reflect the status quo. It focuses on shielding portfolios from sustainability-related risks (being related to stranded assets, but also reputational).

Exclusionary criteria: Other financial institutions embrace an ethical approach to their activities. This approach was initially introduced by faith organisations,

and it represents the first example of incorporating intentionality into finance. By outlining activities and practices that should not receive funding, this approach implicitly defines an idea of what society should look like. It does not, however, proactively try to reach that goal. It results in positive impact financing without tackling systemic issues in a strategic way.

Impact-first approach: As the name indicates, the impact-first approach to finance is intentionally directed at fostering positive impact through money intermediation. The UN Sustainable Development Goals (SDGs) are a common reference point to define what positive impact is. Projects and activities that are thought to contribute positively to social or environmental change are financed. To find a satisfactory balance between impact-risk and return, financing decisions are taken based on integrated financial and sustainability, or impact, criteria. Compared to the ESG approach, the focus lies primarily on positive impact instead of ESG risks. However, the time horizon on which the impact is measured is limited.

Transformative approach: The transformative approach aims to move beyond considerations on past impact and practices, encouraging a long-term system change approach to banking and investment activities. This is not an established approach in the financial world, but rather a proposed way forward to further deepen the power of intentionality in impact finance. It explicitly adopts a forward-looking lens to the object of financing and investment, seeking to foster a deep transition which is defined as “a series of interconnected system

changes that transform society in a fundamental way”.²⁶ The idea is that it is possible to actively steer in the direction of socio-technical change, by making conscious financing and investment decisions and by identifying and supporting solutions that drive change in the desired direction. Importantly, transformative finance explicitly recognises social and environmental impact as non-financial returns to lending and investment, and as such is open to prioritise long-term impact over financial returns.

Triodos Bank's approach

These different approaches are not mutually exclusive. They are often combined by financial institutions to offer financial products that satisfy multiple risk and impact appetites, and that guarantee respect for the organisation's stated values. Triodos Bank takes a transformative approach by consciously channelling funds with the intention of driving a sustainable transformation of our economy. Values play a fundamental role in this effort, as a clear value foundation ensures that clear boundaries are set, and that overall progress does not undermine fundamental rights and principles of social living. Strict minimum standards are therefore continuously applied and revised based on updated knowledge and reflection, to ensure that this is the case. Importantly, investing, financing and other activities are coordinated to actively promote a certain idea of the future, consciously fostering change in that direction.

4.2 Financing transitions

Sustainable finance can take different forms, and each financial institution adopts its own approach to sustainability. When talking about financing transitions however, theory and practice are currently quite standard for all financial players that consciously embrace the challenge. Academic literature offers helpful frameworks to understand how financial instruments can foster transitions along two dimensions:

- **Phase:** how advanced or established the transition and, more concretely, the solutions (products, services and social structures) are that help move from a current paradigm to the new one. A transition can generally be divided into three phases: a preparation/pre-development phase, an acceleration phase and a stabilisation/consolidation phase.
- **Level:** how deeply the transition is embedded in economic structures and dynamics. Literature generally refers to these as micro, meso and macro levels.

Each transition or aspect of a transition could theoretically be classified according to these two dimensions. This matters for financial institutions seeking to finance transitions, as there is a choice to be

made as to what are the right financial instruments that can contribute to advancing (phase) or deepening (level) the transition.

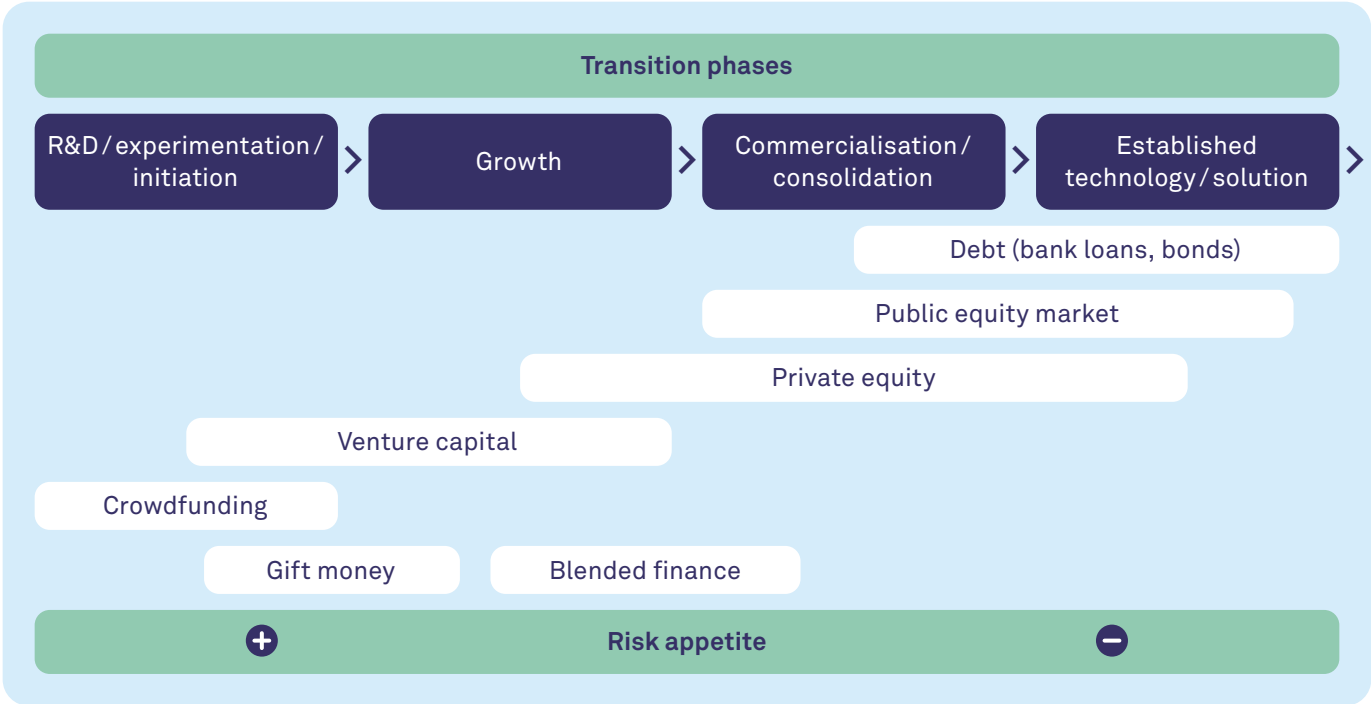
Phase: What we finance, through what instruments

When acting in the real economy, the role of a financial institute is to finance projects and businesses. Identifying the stage and scope of the solutions proposed by the project or business can help to estimate the risk level and the appropriate financing instrument:

- **Experimental / R&D:** innovative projects, businesses and solutions, or simply new initiatives are generally high risk. This is often where public institutions (government) come into play, but they are increasingly complemented by venture capital. In sustainable finance, gift money is also an established source of capital for niche-type and experimental solutions. Moreover, in recent years crowdfunding has come to represent a democratic alternative to venture capital.
- **Growth:** venture capital and private equity are both financial instruments suitable to finance the growth phase of businesses and projects. In sustainable finance, blended finance is also becoming a way to channel funds to development projects.
- **Commercialisation:** advanced solutions and projects that need funding for commercialisation and consolidation find investors and financing opportunities in public equity markets as well as debt markets (being public, through bonds, or in the form of loans). Private equity can also play a role in this phase.
- **Established technology/solution:** established technologies and solutions generally represent good opportunities for financial players with a lower risk appetite.

Figure 5 shows which financial instruments are best suited for the different phases of a transition. This depends on the prevailing approach to risk and return. As new considerations on impact and new opportunities to introduce impact-adjusted returns in decision-making emerge, different approaches to financing transitions are likely to develop.

Figure 5 Triodos Bank’s financial instruments in relation to the phases of transition solutions



Source: Triodos Bank’s elaboration based on DNB (2021), Financing the Transition: seizing opportunities for a green recovery.

Level: Who is influenced, through which activities

A successful transition is embedded in multiple levels of our social and economic structures. In addition to having multiple financial instruments at their disposal to finance solutions at different stages of a transition, financial institutions also foster change by interacting with different economic actors, therefore influencing the economy at different levels.

Micro: At the micro level, individual behaviour is influenced by the availability of solutions and incentives that can affect decision-making. Government subsidies and favourable interest rates on mortgages for improving energy efficiency are classic examples of facilitating the adoption of such sustainable practices at the individual household level. Similarly, the availability of credit cards and incentives for credit card use (especially in North America) have contributed to consumers being more open to make use of debt for recurring purchases. More recently, we are witnessing a gradual shift in behaviour regarding personal investments: the availability of digital trading platforms has prompted a substantial rise in retail investing, both in stock and bonds markets as well as in commodities (particularly cryptocurrencies). Technology also enables more direct forms of financing. Crowdfunding, for example, allows individuals to contribute to certain purposes, products or projects without or with limited bank intermediation.

Meso: This is the level of business entities, including financial institutions and other collective entities such as cooperatives. Here, the adoption of practices – what principles are adopted in production, e.g. circularity, attention to labour and human rights, energy and

resource efficiency, etc. – as well as the dissemination of products and solutions – what is created, produced and sold, in substance, what is made available – play a role in the decision-making. Importantly, decision-making at the meso level is deeply entangled with finance. It often responds to pressures from investors and shareholders on the business side, as well as to the need to ensure financial viability on the not-for-profit side. This means that mechanisms and incentives related to funding as well as ownership and control mechanisms have a deep influence on what is produced and how. These are all tools available to financial institutions: from active ownership and shareholder activism (which can manifest itself both with a sustainability as well as a financial focus), to incentives provided through conditions in loan contracts and bonds with a specific focus (e.g. green and social bonds).

Macro: The macro level is the level of shared norms and national and supranational institutions. At this level, official rules and mechanisms are formalised (normalised), and as such gradually made prevalent. With respect to finance and sustainability, we are currently seeing a clear example of this with the attempts at EU level to establish a set of criteria to define sustainable investments (EU taxonomy), as well as standards of transparency and disclosure related to investing (EU SFDR and CSRD). Financial institutions are clearly affected by such norms in their operations. At the same time, they play an important role themselves in exemplifying the state of the industry, and the options and perspectives represented therein. As such, product offering, reporting and other operational practices, as well as public statements and

Table 2 Level of steering transitions

Level	Micro	Meso	Macro
Who	Individuals and households with multiple roles, e.g. consumers, workers, taxpayers, etc.	Entities: businesses, financial institutions, cooperatives, etc.	Norms and institutions: national and supranational bodies, markets, etc.
What	Adoption	Adoption and dissemination	Normalisation
How (products and activities)	• Payment methods and infrastructures • Personal loans and mortgages • Investment advice, crowdfunding and investment platforms • Financial literacy	• Equity ownership and board representation • Loans and bonds with conditionality • Direct and collective engagement	• Advocacy and participation in relevant fora

active advocacy efforts, also contribute to the definition of norms.

The three levels are interdependent and cannot be seen in isolation: actions, activities and behaviours are strictly interconnected, and economic and social actors influence each other across levels. It is also clear that on all levels, touching the right leverage points (see figure 3 on page 11) is paramount: taking only shallow action means less forward-looking impact and no system change.

Impact beyond economic activity

Money and finance are economic constructs. This is why we refer to the influence of finance on phases and levels of a transition from the perspective of economic actors, and the creation and dissemination of solutions from a business perspective. Importantly, the effects of financing economic activity go well beyond economic structures, to impact the environment and society at large – the ultimate stakeholders that transformative

finance is accountable to. Therefore, we should not forget the deeper values and cultures that can be addressed with financial actions. It matters what you finance (forward-looking, contributing to real economic change), but not only for its economic or financial value. Sometimes it can be more valuable to finance a symbolic initiative or company because the idea, artistic, cultural or ecological value represents something larger than its economic value. For instance, an exhibition showing new ways of life, an initiative to experiment with ownership or a start-up that has new mobility solutions.

It’s clear that the financial system is not yet fit for the purpose of putting impact first (both in relation to values and transitions) or making a collaborative, constructive contribution to positive transitions, but smaller ecosystems of entities and individual financial institutions such as Triodos Bank, accept the challenge. Together we seek to demonstrate that a different approach to finance is possible.

5. Case study: Triodos Bank's role in the energy transition in the Netherlands (and the UK)

The theories of transitions and finance come together when we look back at Triodos Bank's activities in the past. We have a long history of financing activities with a positive impact and promoting more sustainable practices, both in business and in society. Renewable energy has long been a special focus of our activities, which makes Triodos Bank one of the accelerators of the energy transition. To testify our past commitment and contribution to the energy transition, we focus here on a few milestones from Triodos Bank's activities in the Netherlands, where the we have been active the longest.²⁹

Triodos Bank financed the first wind turbine in the Netherlands in 1986. At that time, only 1.37% of Dutch primary energy came from non-fossil energy – all of which was nuclear. Climate change was not an issue in the daily news or in the collective mind as it is today. The Rio Earth Summit that led to the foundation of the UNFCCC only took place in 1992, and the Kyoto Protocol followed in 1997. Since then, we have broadened the scope of our investments to other energy technologies such as solar, heat pumps and storage, while at the same time trying to change policy and societal norms. This exemplifies well how transitions cannot be achieved with a single solution but should instead be tackled from multiple angles and at different societal levels to achieve system-wide impact.

With hindsight, we can see how Triodos Bank has had an important role in the energy transition on all three levels (micro, meso and macro). Partly enabled by us, the share of renewable energy in the Dutch energy mix has since grown to about 12% in 2021. We are committed to making this 100%.



Extract from 1988 Annual Report, Triodos Bank

The meso level – pioneering investments in wind energy
Following the financing of the first Dutch wind turbine in 1986, we pioneered other forms of financing wind energy. In 1987, Triodos Bank financed Zeeuwind, our first cooperative wind energy project. In 1993, Triodos Windfonds was launched, a private investment fund with Dutch wind energy projects (later merged into Triodos Groenfondsen). We paved the way for sustainable investments in wind energy projects which was soon followed by other banks in the Netherlands.

In the UK, Triodos Bank played a similar role as pioneer in renewable energy investments. Triodos Bank provided its first renewable energy loan to a UK commercial wind farm in 1992 and in 2010 financed its first solar project. Other technologies quickly followed: heat investments started in 2016, electric vehicle infrastructure investments in 2020 and battery storage in 2021.

Figure 6 Timeline of energy policy supporting the energy transition in the Netherlands and the UK

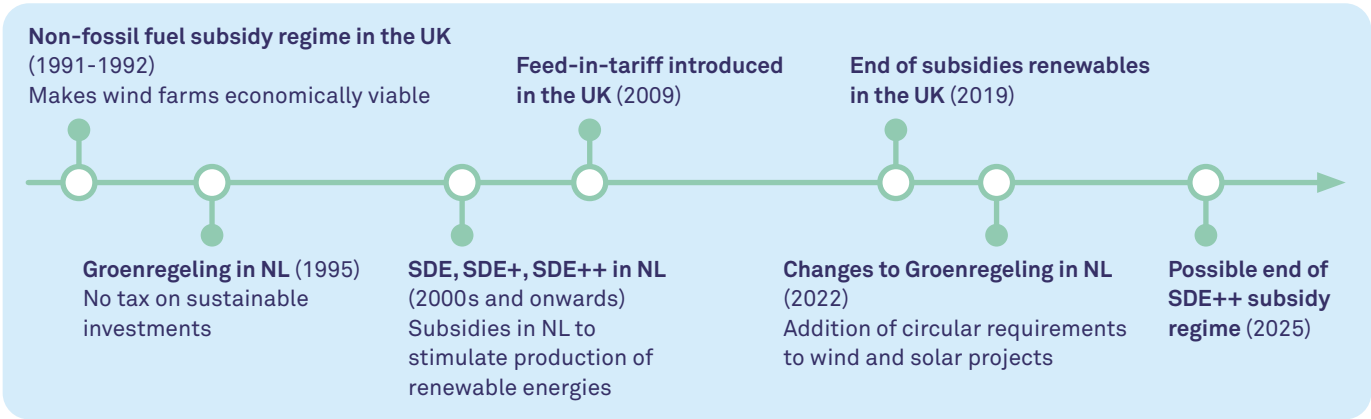
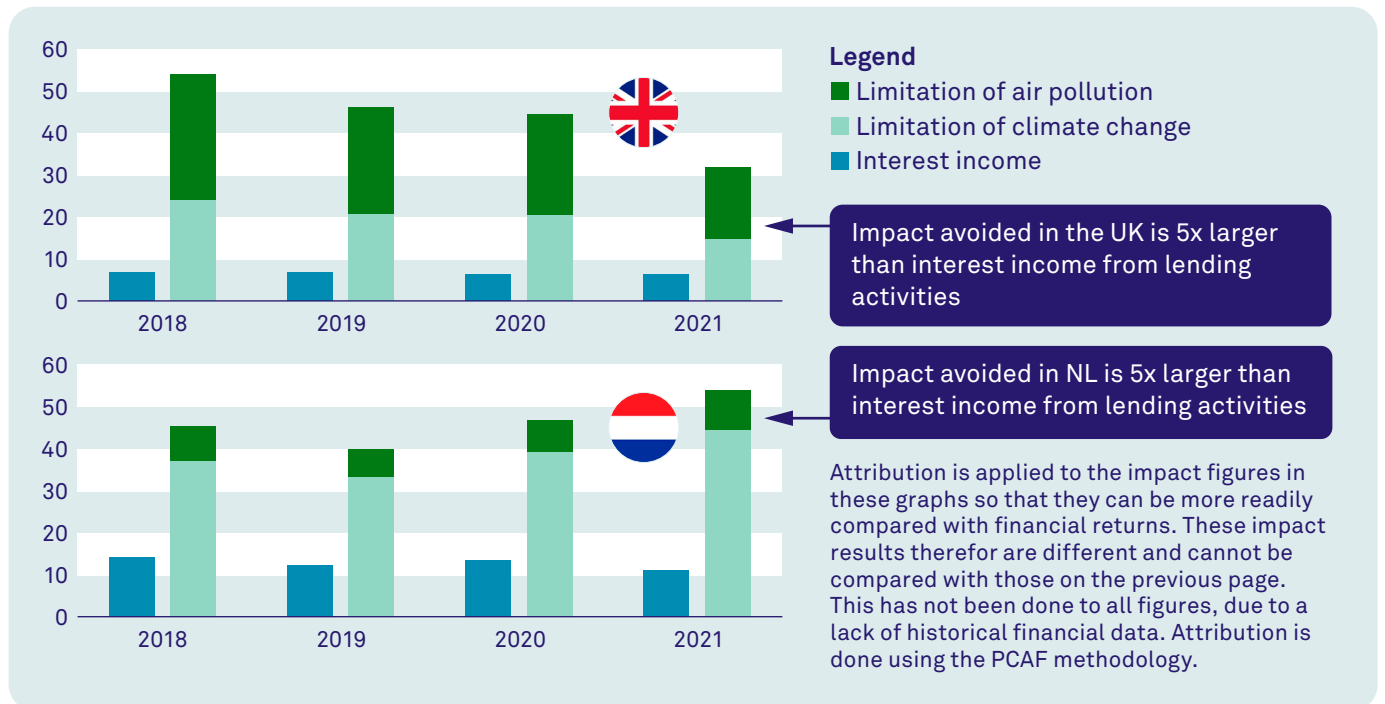


Figure 7 Limitation of climate change and air pollution compared to income from UK and NL lending to the wind energy sector (in million euros)



The macro level – Triodos as a proponent of green investments

In addition to pioneering investing in wind energy, we advocated a suitable fiscal environment for green investments in the Netherlands, which resulted in the Dutch Groenregeling in the 1990s. The fiscal incentive of the Groenregeling has greatly stimulated green investments in the Netherlands. Macro level developments such as government subsidies and consumer preferences are crucial components in any transformative strategy.

In the UK, the non-fossil fuel subsidies introduced in 1991 and 1992 made wind farms viable for investment, although Triodos Bank did not play an active role in this. In recent years, the climate commitments of governments, regulation and innovation have led to a more favourable climate to step up green investments.

The micro level – rewarding energy savings for households

An energy-inefficient built environment is a drain both on the financial resources of the inhabitants and on natural resources. In a financial institution's portfolio, it is both financial and environmental risks. Triodos Bank started to offer green mortgages in the Netherlands in 2012 and currently also offers them in Spain and Belgium. This is a relatively low-risk debt instrument aimed at households and small collectives, to finance the transition bottom-up. Tying the mortgage rate to the energy label of their house, we encourage homeowners to make their homes more energy efficient: the higher the energy efficiency, the lower the mortgage rate. These mortgages meet the requirements of the European Energy Efficient Mortgage Label.

The results

Triodos Bank has a positive marginal impact (impact compared to the situation without our contribution) through its loans and investments in wind energy. This positive marginal impact results from the fact that we invest a larger percentage of our portfolio in wind energy than other banks. Therefore, the reference scenario considered here is the other banks' investments in the energy mix.

In the UK, we contribute mostly to limiting air pollution, while in the Netherlands, our contribution to the limitation of climate change is higher. The reason for this is that the energy mix in the UK is significantly worse when it comes to air pollution. This is largely due to oil flaring on offshore oil rigs. The marginal benefit that can be achieved here is thus higher. As the total size of our energy portfolio has increased so too has its marginal impact in the Netherlands.

While Triodos Bank has demonstrated and helped to ensure that wind energy is investable and profitable, the impact returns of investing in wind still significantly outweigh financial returns, as shown by the figures on the right. Both in the UK and in the Netherlands, limitation of climate change and air pollution are roughly five times larger than the interest income from lending activities. Note that in this analysis, impact is described in a marginal way, while an absolute measure of interest income is used for financial returns.

What's next?

Triodos cannot accelerate the energy transition by itself. Collectively, we need to create favourable socio-economic conditions to leverage systemic change.

Consumer preferences, policies and technologies must be aligned for a system change to be more successful. We will continue to call for important policies like carbon pricing, public investment in e-grids, and government support in R&D for important technologies like batteries. Wind energy projects in the Netherlands do not need a green frontrunner like Triodos Bank anymore to be financially viable.

However, investing in wind energy can still have impact in both the Netherlands and the UK, since it replaces GHG-intensive fossil fuels like coal and gas. But other key leverage points for systemic change need to be triggered to accelerate the transitions towards a low-carbon and sustainable future. The challenge of the energy transition therefore demands a broader strategy.

For the last couple of years, we have focused on removing key bottlenecks and financing more innovative

renewable energy projects in the development phase. One key bottleneck in the energy transition is grid congestion. In 2020, 6% of the UK's wind output could not be used because of network congestion. Improving technologies like energy storage and smart grids play a key role in removing this bottleneck and delivering reliable and sustainable energy to the public.

Another important prerequisite for the success of the energy transition is a holistic focus on just and equitable outcomes: making sure that energy is accessible and affordable for lower income groups. And finally, the success of the energy transition also depends on whether we succeed in improving energy efficiency and reducing energy demand in the future.

These aspects are all reflected in our strategy to accelerate the energy transition, combining all financial instruments at our disposal, and operating at multiple levels to ensure that we move forward together as one.



6. Time to act

The challenges humanity faces are immense and the time we have left to tackle them is limited. They are real, immediate and threatening. We must act now. At Triodos Bank we are convinced that only a deep transformation of our society, along with the combined and effective execution of different transitions, can bring us a brighter future.

Finance can be an accelerator, or it can hinder that transformation. We clearly choose to be at the forefront and contribute to accelerating the necessary transitions to the best of our capacity. We do so through the conscious use of money and with all the tools we have as a financial institution. The way we do this evolves, as do our instruments and our insights. From financing the first windmill and seeing the market for renewable energy generation mature, our activities have evolved over the years into transformative finance, driving a social and ecological transformation through our financial and non-financial activities to a just, sustainable and prosperous society.

Our mission is two-fold. First, we want to finance those initiatives, companies and individuals that contribute to the transitions and to positive change. Second, we want to raise the bar and voice that change is needed and that it is possible, but that it requires a profound intention to fundamentally shift the status quo.

Regulation plays a big role in the transition agenda. Policymakers are in a position to change the rules of the game. However, transitions can never be a one-way street. Ideas for change, new perspectives and opportunities also start bottom-up, and successes feed the idea that change is possible.

This is where the financial sector comes into play, having an essential role in these transitions. If and how the financial world chooses to pick up this challenge can vary tremendously and is not without risk of failure. At its core, however, it is about the conscious use of money.

Triodos Bank is a financial institution that is completely and solely dedicated to making money work for positive social, environmental and cultural change. We use different qualities of money (transaction money, loan money, gift money) to deliver on our mission. We do this with the different entities we have and based on the themes we defined in the previous section. We also try to leverage our impact in all our activities, ranging from finance to amplifying our public voice and working together with our clients and colleagues in the financial sector.

Triodos Bank has more than 40 years of experience in designing and implementing a model of finance that can fulfil the duty of money intermediation in the best way, considering the broadest group of stakeholders by weighing up the positive and negative impacts of financing and investing activity. We are now seeking to pave the way for further change, advocating for a truly forward-looking financial system.

This vision paper guides us on our ongoing journey to make a difference. And although it is impossible to set an exact end point, we know where we want to go, and we have a good idea how to get there. It's not an easy journey, but it's one we must make for the future of our planet and all that live on it. Challenging, yes, but also very exciting. So let us act now to make change happen. Join us!



Sources

- 1 Raworth, K. (2012). *A safe and just operating space for humanity: can we live within the doughnut?* Oxfam. Retrieved from: [A Safe and Just Space for Humanity: Can we live within the doughnut? \(oxfam.org\)](https://oxfam.org/publications/a-safe-and-just-space-for-humanity)
- 2 Ranging from Kate Raworth's doughnut framework, The Club of Rome, United Nations' Sustainable Development Goals, and Stockholm Resilience Centre's Planetary Boundaries, to Metabolic's 7 Pillars of the Circular Economy, WBCSD's 2050 Vision, Triodos Vision papers: Energy and climate vision, Food and agri vision, Reset the economy, Radical change, Investing in radical change and Long term investment outlook 2021
- 3 References to IPBES and IPCC reports, world inequality report etc.
- 4 Meadows, D. D. (1972). *The Limits to Growth: A report for The Club of Rome's Project on the predicament of Mankind*. New York: Universe Books.
- 5 Ritchie, H., Roser, M., Rosado, P. (2020), *CO₂ and Greenhouse Gas Emissions*. Published online at OurWorldInData.org. Retrieved from: <https://ourworldindata.org/co2-and-greenhouse-gas-emissions>
- 6 Global Assessment Report on Biodiversity and Ecosystem Services | IPBES secretariat
- 7 Circle Economy (2023), *The Circularity Gap Report 2023*, Amsterdam: Circle Economy. Retrieved from: CGRI website
- 8 IRP (2019). *Global Resources Outlook 2019: Natural Resources for the Future We Want*, A Report of the International Resource Panel, United Nations Environment Programme, Nairobi, Kenya. Retrieved from: <https://www.resourcepanel.org/reports/global-resources-outlook>
- 9 UN (2014). *Prototype Global Sustainable Development Report*, United Nations Department of Economic and Social Affairs, Division for Sustainable Development, New York, US. Retrieved from: <https://sdgs.un.org/sites/default/files/publications/1454Prototype%20Global%20SD%20Report2.pdf>
- 10 IPCC (2022), *Climate Change 2022: Impacts, Adaptation and Vulnerability*, Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge, UK and New York, USA. Retrieved from: <https://www.ipcc.ch/report/ar6/wg2/>
- 11 WIR (2022), *World Inequality Report 2022*, World Inequality Lab. Retrieved from: <https://wir2022.wid.world/>
- 12 Wiedmann, T., Steinberger, J. K., Lenzen, M., & Keyßer, L. T. (2020). Scientists' warning on affluence. *Nature Communications*, 11(3107), 1–10. <https://doi.org/10.1038/s41467-020-16941-y>
- 13 O'Neill, D. W., Fanning, A. L., Lamb, W. F., & Steinberger, J. K. (2018). A good life for all within planetary boundaries. *Nature Sustainability*, 1(2), 88–95. <https://doi.org/10.1038/s41893-018-0021-4>
- 14 Hickel, J. (2021), *Less Is More*, Windmill Books, London, England.
- 15 Murphy, Thomas, W. (2022). Limits to Economic Growth. *Nature Physics*, 78. <https://doi.org/10.5304/jafscd.2014.043.006>
- 16 <https://www.triodos-im.com/investment-strategy/outlook-2023>
- 17 McKinsey (2021), *The rise and rise of the global balance sheet: How productively are we using our wealth?*, McKinsey Global Institute. Retrieved from: <https://www.mckinsey.com/industries/financial-services/our-insights/the-rise-and-rise-of-the-global-balance-sheet-how-productively-are-we-using-our-wealth#/>
- 18 ILO (2020), *Youth Aspirations and the Future of Work: A Review of the Literature and Evidence*, ILO Working Paper 8, Geneva, Switzerland. Retrieved from: https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_755248.pdf
- 19 Dinerstein et al. (2019), *A Global Deal For Nature: Guiding principles, milestones, and targets*, Science Advances vol.5, No.4. Retrieved from: <https://www.science.org/doi/10.1126/sciadv.aaw2869>
- 20 Roger L. Martin (2019). *The High Price of Efficiency*. Harvard Business Review, January-February issue, available at <https://hbr.org/2019/01/the-high-price-of-efficiency>
- 21 Sterman, J. D. (2000). *Business Dynamics: Systems Thinking and Modeling for a Complex World*. Journal of the Operational Research Society. <https://doi.org/10.1057/palgrave.jors.2601336>
- 22 Meadows, D. (1999). *Leverage Points Places to Intervene in a System*. Can be found at <https://donellameadows.org/archives/leverage-points-places-to-intervene-in-a-system/>
- 23 Metabolic (2017), *The Global Food System: An Analysis*, commissioned by WWF Netherlands, Amsterdam, the Netherlands. Retrieved from: <https://www.metabolic.nl/publication/global-food-system-an-analysis/#>
- 24 Circle Economy (2023), *The Circularity Gap Report 2023*, Amsterdam: Circle Economy. Retrieved from: CGRI website
- 25 Schoenmaker and Schramade (2019), *Principles of Sustainable Finance*, pp. 31.
- 26 J. Schot and L. Kanger (2018), *Deep transitions: Emergence, acceleration, stabilization and directionality*, Research Policy, Volume 47, Issue 6, Pages 1045–1059. <https://www.sciencedirect.com/science/article/pii/S0048733318300593#bib0635>. A useful glossary on deep transitions and transformative finance can also be found at www.transformativeinvestment.net/transformative-investment

Address

Hoofdstraat 10, Driebergen-Rijsenburg
PO Box 55
3700 AB Zeist, The Netherlands
Telephone +31 (0)30 693 65 00
www.triodos.com
www.triodos-im.com
www.triodos.com/regenerative-money-ce

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