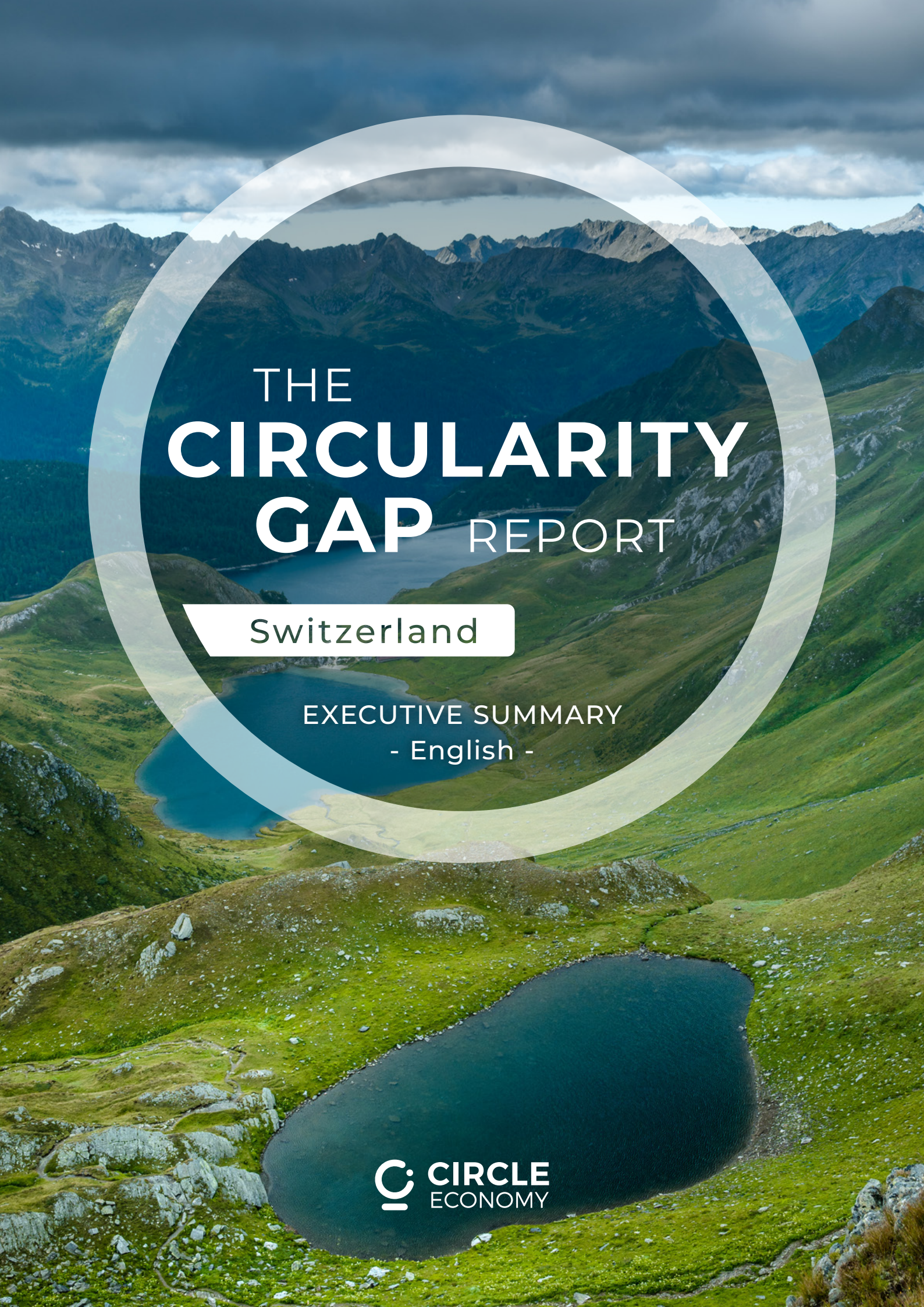

THE CIRCULARITY GAP REPORT

Switzerland

EXECUTIVE SUMMARY

- English -

CIRCLE ECONOMY

We are a global impact organisation with an international team of passionate experts based in Amsterdam.

We empower businesses, cities and nations with practical and scalable solutions to put the circular economy into action. Our vision is an economic system that ensures the planet and all people can thrive.

To avoid climate breakdown, our goal is to double global circularity by 2032.

BEHIND THE COVER

Switzerland's iconic Lake Ritom in Val Piora, with pools formed one after the other in a line, may remind us of the linear economy—but their circular shape also nods to the path forward. On this cover, the three circular lakes emphasise the urgency of the transition to a circular economy for the country, to both preserve nature and maintain a high quality of life for all.

Deloitte Switzerland is part of a global professional services network that provides integrated services including audit and assurance, consulting, financial advisory, risk advisory, tax and related services to our clients. With nearly 2,700 employees at six locations across Switzerland, including our headquarters in Zurich, Deloitte serves companies and organisations of all legal forms and sizes in all industries.

Driven by our purpose to make an impact that matters, we understand the necessity of bringing the public and private sectors, and civil society together to work on sustainable solutions that benefit businesses, society and the planet.

Circular Economy Switzerland pursues the vision of a Switzerland that has completed the transition from a linear economy to a circular economy. By connecting enthusiastic circular economy actors from the private sector, civil society, politics and administration and promoting cooperation and knowledge exchange across all sectors and areas, Circular Economy Switzerland acts as a catalyst for a broad and strong circular economy movement in Switzerland.

To achieve this goal, we are facilitating a national multi-stakeholder roadmap through a participatory process in conjunction with the *Circularity Gap Report Switzerland*, supported by the Minerva Foundation. Impact Hub Switzerland and Kickstart Innovation are our implementation partners.

IN SUPPORT OF THE CIRCULARITY GAP REPORT SWITZERLAND

DR STEFAN BRUPBACHER
DIrector at Swissmem

'Circular economy is both an imminent opportunity and challenge for the manufacturing industry. The world is increasingly consuming more: this requires more energy- and resource-efficient machines, new technologies and business models to mitigate. Herein lies an opportunity for the Swiss manufacturing industry, which thanks to its exports, can help contribute to circular solutions worldwide.'

DR SEBASTIAN FRIESS
President at the Bern Economic Development Agency

'The *Circularity Gap Report* shows us that we've reached a turning point in economic growth and development: linear value chains can no longer be the holy grail. Future-oriented growth must be based on circular economy principles and closed resource and energy loops. The Canton of Bern has embraced this through a clear government's vision and several support programmes for companies. More will follow.'

KATHRIN FUCHS
Co-Lead at Circular Economy Switzerland

'The *Circularity Gap Report Switzerland* shows the potential of a circular economy in Switzerland, highlighting how it can address the root causes of climate change while offering an economic and social opportunity to do better. To realise this potential, we need collaboration, a shared national roadmap and joint action between stakeholders.'

ADÈLE THORENS GOUMAZ
State Councillor and President of the Committee on the Environment, Regional Planning and Energy

'This *Circularity Gap Report* is a milestone for Switzerland. It gives us an overview of the current situation and shows us how far we still have to go. The time is right, as our country is about to finally include sustainable resource management in our Environmental Protection Act. Switzerland has been a pioneer in the field of recycling, but there is still a lot to do. We must begin with action from the product design stage, to effectively reduce material consumption and make our economy more efficient, resilient and sustainable. To do this, we need to mobilise our capacity for innovation and develop new business models. The circular economy must be understood as an opportunity, for our companies as well as for our environment.'

MARINA CAROBBIO GUSCETTI
State Councillor at the Canton of Ticino

'The circular economy is central to tackling climate change and can have a major impact on sustainability. The effects of climate change are evident in our region, from a lack of rainfall south of the Alps to the subsequent water shortage. Water, the cornerstone of life on our planet, must be used with care and waste must be minimised. A concerted transition towards a circular economy would allow us to better protect essential resources such as water, and reduce waste and pollution.'

ANDRÉ HOFFMANN
Vice-Chairman at Roche Holding Ltd.

'This report makes a strong case for us to rethink how we stay within our planetary boundaries. It provides valuable insights on the crucial role the circular economy must play in the systems change we urgently need. The *Circularity Gap Report Switzerland* may serve as a blueprint for those driving circularity in their fields of work.'

ALEXANDER KEBERLE
Head of Infrastructure, Energy & Environment and Member of the Executive Board at economiesuisse

'The circular economy is both a responsibility and an opportunity for Switzerland. As a high-income country, Switzerland uses a great deal of resources—but it also has a strong, innovative and sustainable economy that can leverage the potential of the circular economy. Swiss businesses must play an important role, pioneering cutting-edge technology and thus contributing to the global implementation of the Sustainable Development Goals. To fully tap into the potential of the circular economy, however, businesses need a conducive ecosystem and enabling framework conditions.'

KATKA LETZING
Co-Founder & CEO at Kickstart Innovation, Spinoff of Impact Hub Zurich

'The *Circularity Gap Report* shines a light on the industries in Switzerland where current systems must be rethought. We still have the potential to pivot, to shape a thriving climate and economy. The report gives recommendations and inspires stakeholders to collaborate and embrace the change that needs to come.'

IN SUPPORT OF THE CIRCULARITY GAP REPORT SWITZERLAND

IRENE MARTINETTI
Manager of Circular Economy at the World Business Council for Sustainable Development (WBCSD)

'Moving to a circular economy is about generating value for both people and planet. Along with economic value, well-managed circular solutions preserve resources, reduce environmental impacts, and increase health and wellbeing. Switzerland is only 6.9% circular: there is ample room for improvement. Its track record for innovation and a population increasingly conscious of ecological footprints and social issues mean that the country is well placed to transform consumption patterns to meet its needs, and bolster competitiveness and long-term resilience.'

DAVID QUASS
Senior Director of Sustainability at VF Corporation

'Doing less harm will certainly not resolve the climate and societal crises we face—our decision-making processes need to shift. The principles of circularity fundamentally challenge how we're operating as businesses and individuals. The *Circularity Gap Report* helps connect global challenges to our local context here in Switzerland. The report shows how we're doing as a country, gives pragmatic recommendations for innovation and collaboration, and suggests essential changes to our business and daily lives. Let's get to work!'

DR REGINE SAUTER
DIrector at the Zurich Chamber of Commerce

'Our natural resources are finite: we must take care of them. The production of goods and the construction of buildings and infrastructure are energy-intensive and may have detrimental effects on the environment. It's imperative that we succeed in using materials a second, third or multiple times. Due to their innovative strength, Swiss companies already make important contributions in this area, developing technologies that enable the recycling of valuable materials, textiles and building materials. This is environmentally beneficial and economically attractive. Switzerland must rely on its innovative strength and our companies can make an important contribution worldwide to achieving sustainability goals.'

RETO SAVOIA
CEO at Deloitte Switzerland

'The first Swiss *Circularity Gap Report* underscores the challenges and highlights the opportunities we have as a country to transition to more circular methods, materials and mindsets. Our prosperity and stability provide a strong foundation for change, yet also means we run the risk of complacency. Change will require us to rethink business models, value chains and our own behaviours. We all have a role to play in this transition, and we will only succeed by working together. Harnessing technology and accelerating innovation will also be crucial to implement the strategies highlighted in this report, to help Switzerland build a more resilient, and circular, future.'

CHRISTIAN VITTA
Director of the Department of Finance and the Economy at the Canton of Ticino

'Circular economy is an important topic for the Canton of Ticino and is of particular interest to the Department of Finance and Economy. Circular business models offer companies considerable economic advantages, and can strengthen competitiveness and open up new commercial opportunities. This transformation also stimulates innovation and the search for optimal solutions for sustainable consumption and production. The principles and benefits of the circular economy are perfectly aligned with the economic development strategy implemented by our Canton. The latter aims to stimulate innovation, entrepreneurship and corporate social responsibility, while creating attractive jobs and continuing sustainable economic growth.'

CHRISTINE WIEDERKEHR-LUTHER
Head of Sustainability at Migros Group

'Circular economy allows us to indetify solutions to the challenges of climate change. It also allows us to gain more independence in raw material procurement and to build up resilience in an interconnected world. Even so, pioneering work is still needed, not only technically and in terms of processes, but also in terms of behavioural change. This will require heart and soul, perseverance and investing in good partnerships. The *Circularity Gap Report* encourages us to continue on our chosen path and clearly shows that there is still a lot of potential to close the loop in Switzerland.'

EXECUTIVE SUMMARY

Supporting the shift to a circular economy in Switzerland can help shape a more resilient, sustainable country. The circular economy is a system in which waste is minimised, products and materials are kept in use at the highest value possible, and natural systems are regenerated. By following fundamental tenets of circularity—using less, using longer, using again and making clean—Switzerland has the opportunity to rethink its status quo and progress towards its various environmental goals. This report acts as the first step in service of this goal: before we can manage, we must measure. To this end, this analysis examines the current state of the circular economy in Switzerland, examining how it uses materials and at which quantities. Doing so allows us to sketch a way forward: a vision for a Swiss economy that does more with less, tackles material and energy use and works towards its strategic environmental goals. To ensure our data is in line with the reality of Switzerland, we worked with Deloitte Switzerland and Circular Economy Switzerland, primarily using data from the Federal Statistics Office (FSO) and the Federal Office for the Environment (FOEN).

Switzerland's Circularity Metric is 6.9%—leaving a Circularity Gap of just over 93%. This means that the vast majority of material inputs to the Swiss economy—used to satisfy residents' needs and wants—come from virgin sources. This is slightly below the Circularity Metric for the global economy, measured at 7.2%.[1] The country consumes 163 million tonnes of virgin materials per year: 19 tonnes per capita—higher than the European average, at 17.8 tonnes per capita. While a high rate of consumption is common for a high-income nation such as Switzerland, its material footprint is more than double the estimated sustainable level, at 8 tonnes per capita.[2, 3] As a small nation with tight restrictions on forestry[4] and relatively little to mine or quarry, Switzerland boasts very low levels of extraction—around 7 tonnes per capita. However, this means that the country is fulfilling its demand for materials through extraction taking place abroad, contributing to waste and emissions elsewhere. In all, reducing material consumption is the imperative of our changing era: globally, the extraction and processing of materials is responsible for 70% of greenhouse gas emissions,[5] and more than 90% of biodiversity loss and water stress.[6] By tackling its consumption patterns, Switzerland can address the root causes of climate change and environmental degradation—both at home and abroad. To this end, this report analyses how materials—metal ores, non-metallic minerals, biomass and fossil fuels—are used to meet Switzerland's societal needs, from Housing and Nutrition to Transport and Manufacturing.

Switzerland has high material and carbon footprints—but much of its impact takes place abroad. Switzerland imports an abundance of materials and finished products from abroad, fulfilling only one-tenth of its material demand through domestic extraction. High-impact materials—such as fossil fuels and metal ores—are almost entirely imported, which can have substantial environmental impacts on other parts of the world: the mining of metals, for example, is a highly wasteful process that generates large volumes of by-products called tailings. Other imports, such as fertiliser (material-intensive and polluting) and electronics and textiles are similarly high-impact. Opportunities for change, however, are abundant: for example, halted imports of Russian gas following recent EU sanctions, as well as nuclear power accidents in recent decades, have further prompted Switzerland to rethink its energy supply. Numerous circular solutions, applied across sectors, could be employed to cut imports, bolster resilience and retain the value of resources in the economy for longer.

The three biggest sectors contributing to Switzerland's material and carbon footprint are manufacturing, construction and agrifood. Combined, these top three sectors represent 73% of the material footprint, and 63% of the carbon footprint. Switzerland's manufacturing sector is one of the largest and most innovative in Europe.[7] It's also a sector of high impact: manufacturing industries, both those within Switzerland and those abroad that feed Swiss consumption, contribute 41% of the country's material footprint, and represent 36% of the carbon footprint. Switzerland's construction sector consumes vast quantities of materials, energy and water, comprising 18% of the total material footprint and 14% of the total carbon footprint—largely due to the high prevalence of inefficient older buildings. Lastly, Swiss residents' nutritional needs account for 14% of the total material footprint and 13% of the carbon footprint: the majority of this is made up of processed foods and crop cultivation for both animal and human consumption. While these three sectors are highly material- and carbon-intensive, Switzerland is well-positioned to make improvements. Innovation is strongly present within Swiss culture, with the country ranking third worldwide for both innovation and research and development (primarily funded privately).[8] Although these characteristics have long-served a largely linear way of working, they now have the potential to work in favour of a different goal: the circular transition. A behavioural change among consumers may also spark a shift in industrial practices: Swiss residents may demand more circular products whilst also minimising their consumption.

Examining the Circularity Gap helps paint a picture of the Swiss economy. While Switzerland is just 6.9% circular, this doesn't mean that the other 93.1% of the materials flowing through its economy go to waste. The Circularity Gap is made up of five different elements:

1. **10.7%** of Switzerland's material consumption is represented by **renewable, carbon-neutral biomass** with the *potential* for cycling: food crops, timber and wood products, for example.
2. **Non-renewable biomass** is biomass that is not carbon neutral. Switzerland, although uncommon, has negative land use and land cover change (LULCC) emissions:[9] it sequesters more carbon than it 'consumes' through its use of biomass. For this reason, the country has no Non-renewable biomass.
3. Inherently **Non-circular inputs**, such as fossil fuels used to power industry, heat homes and fuel transport, represent **9.2%** of material use.
4. **Non-renewable inputs**—such as metals, rocks, chemicals, glass and plastics—represent the largest share of material inputs, at **40%**. These materials *could* be cycled, but currently are not. 28% of this comes from net extraction abroad, revealing the significant contribution of international trade flows and supply chains to the Swiss material footprint.
5. More than **33%** of Switzerland's material use is locked into **stock** in the form of often-crucial buildings and infrastructure: plenty of materials are used to upgrade and expand the railway system, for example.[10] As these materials won't become available for reuse or recycling for many decades, it's crucial that circular elements like design for durability, adaptation, repairability and cyclability are considered now to enable positive outcomes further down the road.

Switzerland must focus on reducing Non-circular inputs and Non-renewable inputs, while ensuring that additions to stock are made as circular as possible and that biomass is cycled back into nature.

Circular strategies across five areas could nearly double the Circularity Metric and cut material use by one-third. To bridge the Circularity Gap, this report explores five 'what-if', non-time-specific scenarios, each applying multiple strategies that bolster circularity, cut material use and emissions, and provide a wealth of other co-benefits. These scenarios are: 1) Embrace a circular lifestyle, 2) Advance circular manufacturing, 3) Rethink transport and mobility, 4) Build a circular built environment and 5) Nurture a circular food system. Together, they have the power to increase the Metric from 6.9% to 12.1%, reduce the material footprint by 33% and cut the carbon footprint by 43%. This would equate to a material footprint of 12.8 tonnes per capita, bringing it almost on par with the global average, and closer to the estimated sustainable level. With a more circular economy, Switzerland could also enjoy many other benefits: improved health and wellbeing from more sustainable food and more resilient communities, protection of the country's natural landscapes and strengthened biodiversity, to name a few.

There are limitations as to how much the Circularity Metric can grow—but this doesn't downplay the Swiss economy's potential for improvement. The five scenarios presented could deliver transformative results. But why, then, does the Metric 'only' rise to 12.1%? Firstly, it's not technically feasible to achieve 100% circularity: materials cannot be cycled infinitely due to quality degradation. Secondly, circularity can be difficult to control within a single country. As we've seen, Switzerland is particularly involved in world trade: it's a massive importer of materials, driving extraction and waste abroad, and manufactures a wide range of products for export. Measures to control the circularity of imports that are consumed domestically—or to reduce the need for them—shouldn't be overlooked. Ensuring that Swiss industry designs for circularity, benefitting both domestic consumers and export markets, will also be crucial. Thirdly, large amounts of materials will always be needed to a degree to sustain Swiss residents—in terms of housing and infrastructure, for example, although these needs can be provided for in a far more efficient way. Despite these limitations, even a small improvement in the Metric can have a big impact: so Switzerland's potential to boost its Metric to 12.1% is an opportunity to seize. And while it's important to ensure closed loops, engaging in higher value strategies—using less, using longer and using cleaner resources—will be crucial. As such, potential big wins for Switzerland are exemplified by the possible reductions in the material and carbon footprints, which represent a true metamorphosis for the Swiss economy.

The foundation for transformational change has been built. In many areas of sustainability, Switzerland is ahead of the curve: it's among the world's best recyclers of municipal solid waste,[11] and has succeeded in decarbonising its electricity sector.[12] It also boasts a number of plans and initiatives to meet its ambitious climate targets. The foundation for change already exists: it's widely recognised that action has already begun from all stakeholders, from policymakers and businesses to members of civil society.[13] Circular economy strategies can meet needs with fewer materials and less environmental impact, and therefore offer a toolbox for Switzerland to achieve its goals. While the country still has a way to go in cutting its material footprint and reducing its reliance on imports, it is well poised to take on the challenge. In the scenarios, our analysis identifies the key levers to tackle the crucial challenges of how (i) residents can embrace a less materialistic lifestyle, (ii) the lifespans of industrial equipment and consumer goods can be prolonged and (iii) the expansion of housing stock can be regulated.

This report lays the path forward for a more circular Switzerland. Achieving a more circular economy requires more than technical solutions and will require action on four recommendations:

1. **Increased coordination and collaboration among stakeholders.** For Switzerland to deliver on its environmental goals it must take the cross-cutting, holistic approach whilst considering its decentralised governance structure. Stakeholders from the private and public sectors, civil society organisations and academia alike must join forces to drive meaningful change. To this end, a **multi-stakeholder roadmap** will be developed and launched in conjunction with this report to develop a vision for a circular economy, rounded out by concrete activities and targets.
2. **Policies that promote and accelerate the circular economy—while disincentivising the linear economy.** A fit-for-purpose policy framework would encourage circular initiatives, such as tax breaks for repair services, whilst simultaneously discouraging linear practices, such as a ban on single-use products with the more sustainable alternatives that are available. Some cantons are already taking action—Zürich, for example, has enshrined the circular economy in its constitution.[14]
3. **Business models and investment strategies with circularity at their core.** There must be a shift from business models and investment strategies based solely on economic growth to models that centre on additional factors: the preservation of materials and their value, reduced environmental impacts and the creation of innovative, future-orientated jobs, for example. Understanding of the necessity of a broader range of considerations has been growing in Switzerland for decades but is yet to truly become the norm.
4. **A circular economy vision backed by a comprehensive measurement framework.** To effectively track progress, material-related indicators could be aligned with broader environmental goals such as climate neutrality, biodiversity protection and pollution reduction. These indicators can also be coupled with targets to lower material use, extend resource lifetimes and increase the share of secondary material consumption. The monitoring and evaluation of progress will also require more extensive data gathering at both the sectoral and business level.

Switzerland must focus on reducing Non-circular inputs and Non-renewable inputs, while that ensuring additions to stock are made as circular as possible and that biomass is cycled back into nature.

If approached holistically and designed well, the circular economy can provide far-reaching environmental, social and economic benefits. This report envisions a new economic system, with wellbeing and a high quality of life for all Swiss residents at its core.

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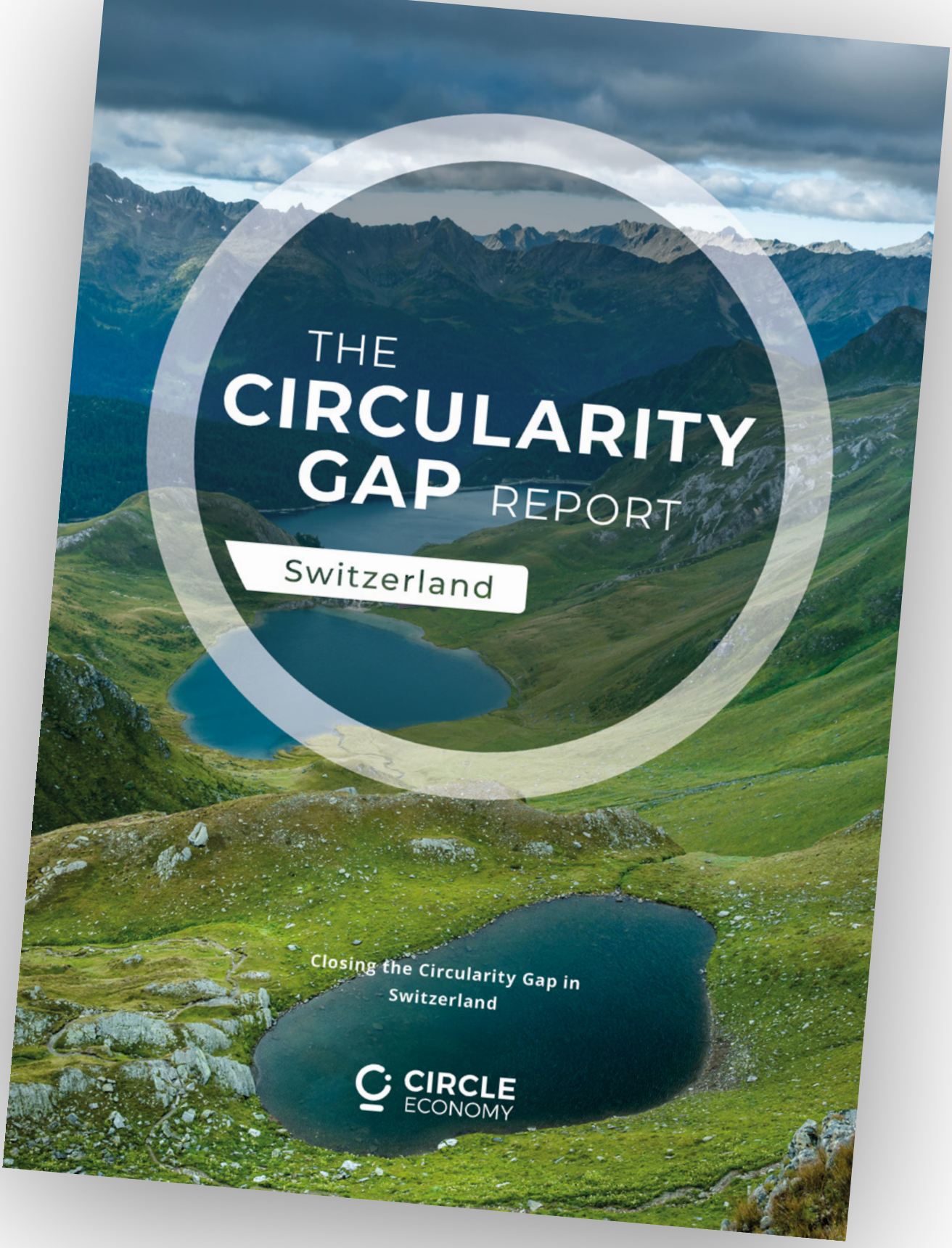

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