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Circular Economy & Industry in 2035

Investment and financing policies

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1. Definitions

The macrovariable "Investment and financing policies" examines the full set of guidelines and strategies established by a government or organization to allocate resources efficiently to investment opportunities and secure the funding required for those investments in the national and European context.

1.1. Defining the report topic

An **investment policy** refers to the "parameters for investing government funds and identifies investment objectives, risk preferences or tolerance, constraints on the investment portfolio, and how the investment program will be managed and monitored" (Government Finance Officers Association [GFOA], n.d.). The fundamental principles of investment policy set out in this definition can be applied to other organizations, including private entities. **Financing policy**, in turn, concerns the methods and sources used to obtain the funds needed for investments. In response to climate challenges, investment and financing policies are increasingly adopting approaches designed to address them, particularly through socially responsible investment and sustainable finance.

Grounded in ethics, **socially responsible investment (SRI)** can be defined as "a form of investment that incorporates respect for ethical values, environmental protection, improved social conditions, or 'good' governance" (Revelli, 2013). It therefore applies the principles of sustainable development to investment. Funds bearing the SRI label look beyond financial criteria of returns and performance. For many years, the debate centered on SRI's financial returns. These returns were supported by "ethical" investors, who buy SRI securities even when the companies underperform. Once a social rating becomes available, "ethical" investors enter the market. They thus increase demand and, consequently, the prices of SRI securities. The difference in expected returns is ultimately offset by a "cost of ethics." "Ethical" investors accept this cost because they see themselves as prioritizing ethical conduct over financial returns (Dupré et al., 2009).

Sustainable finance further specifies how investments are made: It involves considering "nonfinancial" criteria, such as environmental, social, and governance factors, alongside financial criteria when analyzing, selecting, and managing investments, thereby promoting sustainable economic activities and practices (Autorité des marchés financiers [AMF], n.d.). The European Investment Bank (EIB) defines sustainable finance as the incorporation of social, governance, and environmental considerations into investment decisions, consistent with the AMF's definition. The EIB states that integrating sustainable finance helps achieve the objectives of the Green Deal. According to the same source, sustainable finance is a means of achieving a circular economy (CE) through sustainable industry and technology.

1.2. Relevance to the study and key questions for the future

Investment and financing policies play a crucial role in the transition to a CE by providing the necessary capital, offering incentives, and supporting innovation and infrastructure development. As such, investment and financing policies:

- **Determine the allocation of capital across sectors and projects.** These policies can channel financial resources toward activities that promote resource efficiency, waste reduction, and environmental sustainability.
- **Address the risks associated with the transition to a CE** (for example, market uncertainties, technological challenges, and regulatory changes). By providing risk mitigation mechanisms, these policies can encourage private-sector participation and reduce barriers to investment in CE initiatives.
- **Provide incentives to stimulate investment in CE-related activities.** These incentives may include government subsidies, tax benefits, grants, or favorable financing terms.

- **Support innovation in CE solutions.** Financial mechanisms such as grants, assistance, tax incentives, and venture capital can fund research and development into new technologies, materials, and processes that enable circularity. Policies can also facilitate and encourage collaboration between the public and private sectors, thereby supporting the commercialization of innovative circular technologies, products, and services.
- **Play a key role in financing the development of infrastructure that supports the CE.** Examples of infrastructure investment include recycling facilities, remanufacturing plants, waste management systems, and circular supply chains.

2. Retrospective analysis

This decade is critical to addressing the environmental emergency facing our planet. Billions in investment are therefore needed to combat environmental degradation, particularly by financing sustainability.

2.1. Past developments

A significant impact by the European Investment Bank since 2007: Throughout the 2000s, green and social bonds emerged as new financing tools for companies and governments. The European Union places sustainability at the heart of its initiatives. In 2007, the EIB issued the world's first green bond, called a "Climate Awareness Bond (CAB)," to finance climate-related projects. According to a report published by the EIB in 2019, between 2013 and 2017 it signed energy projects that "avoided approximately 8 million metric tons of CO2 emissions per year, equivalent to the emissions from 1.7 million cars driven for one year." Since 2014, the EIB has provided more than €50 billion in loans to support investment in projects involving renewable energy, networks, and energy efficiency. These loans have made a substantial contribution to reducing the cost of wind and solar energy.

The Paris Agreement as the first international treaty: Adopted on December 12, 2015, and in force since November 4, 2016, the Paris Agreement is the first "legally binding international treaty on climate change," according to the United Nations.

As the international community's response to climate change, the Paris Agreement provides a support framework with three components:

- Finance: Developed countries must provide financial assistance to developing countries. According to the treaty, large-scale financing and investment are needed to reduce the harmful consequences of climate change.
- Technology: Technology transfer is necessary to reduce greenhouse gas emissions.
- Capacity building: Under the Paris Agreement, developed countries must take the lead in building capacity and increasing support for developing countries.

The Paris Agreement recognizes the importance of financing in achieving its objectives. It therefore commits signatories to making "financial flows consistent with a pathway toward low-greenhouse-gas-emission and climate-resilient development" (BEI, 2020).

Growing public- and private-sector commitment: The World Bank's 2015 "Billions to Trillions" agenda emphasized the crucial role of public and private investment in achieving the UN Sustainable Development Goals (SDGs). In response, governments and the financial industry have shown a growing commitment to supporting CE projects, leading to an increase in banking and insurance products tailored to CE initiatives. For example, the Joint Initiative on Circular Economy (JICE) in Europe committed to allocating €10 billion between 2019 and 2023. In addition, Intesa Sanpaola, an international banking group based in Italy, launched a €5 billion credit facility in 2018 to support CE business models.

As Dewick et al. (2020) explain, the financial industry's interest in CE initiatives stems from their potential financial returns through reduced resource dependence and linear risk[1], as well as their ability to meet stakeholder expectations (Ellen MacArthur Foundation [EMF], 2017; FinanCE Working Group, 2018; Geissdoerfer et al., 2017). At the same time, the public sector also contributes financial resources to the CE through grants and loans supporting research and development, innovation, procurement, and infrastructure construction (Domenech and Bahhn-Walkowiak, 2019; Geng et al., 2019; Milios, 2018).

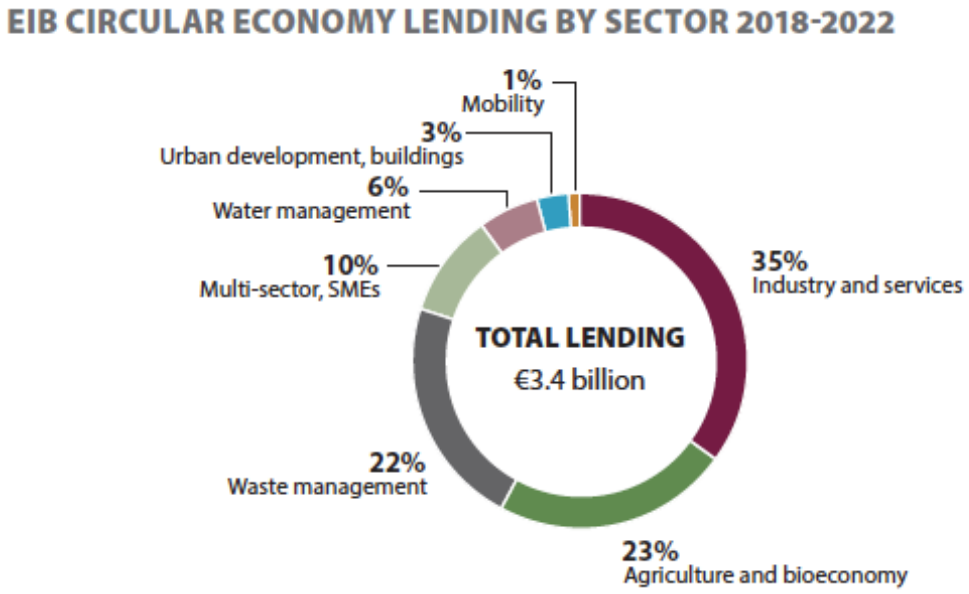
An expression of the Green Deal: European Green Bond Standards: Part of the Green Deal and included in the Commission's 2018 Action Plan on Financing Sustainable Growth, the European Green Bond Standards (EuGB) provide a regulatory framework for public authorities and companies to raise funds through green bonds. These standards aim to demonstrate the commitment of issuers implementing environmental projects in accordance with the EU taxonomy and to combat greenwashing. They therefore provide a label to companies that meet a set of requirements. These companies are consequently entitled to use the "Green Bond Standards" label as a signal to investors.

Combined financing for CE projects: Joint Initiative on Circular Economy (JICE): The European Union's largest national promotional banks and institutions (BGK in Poland; CDC in France, including Bpifrance; CDP in Italy; ICO in Spain; and KfW in Germany), together with the EIB, launched a joint investment target of €10 billion to accelerate the transition to a sustainable CE over five years (2019–2023).

JICE has supported several European companies and projects. Examples include CREAPAPER (a German start-up producing paper from grass), Vestiaire Collective (a French online platform for secondhand luxury fashion), Saviola Holding (an Italian company making particleboard and furniture from recycled wood), and Starmeat (a Polish meat products manufacturer using an innovative process to reduce meat waste).

From 2018 to 2022, the EIB allocated €3.4 billion to cofinance 118 CE projects across various sectors. The EIB's support for the CE spans a range of sectors, including agriculture and the bioeconomy, industry and services, mobility, small and medium-sized enterprises, urban development, waste management, and water management (EIB Circular Economy Overview 2023). 1 "Linear risks" are the risks associated with the linear economic model and business practices (for example, price volatility, supply chain failures, disruptive new business models, and fines or litigation arising from legislative changes). Using scarce, nonrenewable resources, prioritizing sales of new products, and a lack of collaboration, innovation, or adoption increase these risks and could harm the financial industry (Linear Risks, 2018).

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Source: EIB Circular Economy Overview 2023

A European roadmap for 2021–2025 encouraging sustainable financing: Sustainable finance, as defined by the United Nations Environment Programme (UNEP, n.d.), took root in the 1990s. It gained prominence at the 1992 Earth Summit in Rio de Janeiro, where private financing was identified as crucial to sustainable development, prompting a transformation of the financial system. As stakeholder awareness and scrutiny of environmental, social, and governance (ESG) issues increased, sustainable financing became widely accepted and incorporated into mainstream practice.

According to the European Investment Bank, these sustainable finance investments will be driven largely by the private sector over the long term. However, the public sector also plays three important roles: (1) providing a regulatory framework, particularly through the Green Deal at the European level and related national policies in each country; (2) providing several sources of direct and indirect financing—for example, the European Union devotes 25% of its overall budget and more than 30% of InvestEU investment to climate; and (3) increasing green investment by redirecting "global savings reserves and international capital markets. As part of the broader development of the capital markets union, the EU is establishing common standards and a common approach to sustainable finance" (BEI, 2020).

Labels awarded to "green" and "socially responsible" investors in France: Over the past two decades, more than ten sustainable and green labels have emerged in the financial markets of various European countries. France, however, is the only country to have created and supported two public labels: Greenfin, for funds with stronger commitments, and ISR, for more responsible investment (Grifo et al., 2020).

The creation of the green finance label in France

In 2015, the Ministry of the Environment, Energy, and the Sea created the first label for green finance: the Greenfin label (formerly the TEEC label). This label is awarded to funds that invest in the green economy. Its purpose is to guarantee investment funds' green credentials. It is aimed primarily at financial actors serving the common good through sustainable and transparent practices. It therefore excludes companies operating in fossil fuels and the nuclear sector.

Although the label belongs to the government, it is awarded by three external certification bodies. Using its specifications, these three bodies examine applications for fund certification submitted by asset management companies. They then decide, entirely independently, whether to award the label. The certification bodies conduct an annual review of their certifications, after which they may suggest changes.

Socially responsible investment in France

In 2016, the French government created the official ISR label. This label enables investment in savings vehicles that take account of nonfinancial criteria, namely social, environmental, and governance principles. According to the Ministry of the Economy, Finance, and the Recovery, the label considers four criteria: (1) social issues, such as equal pay for men and women and employment of people with disabilities; (2) environmental issues, such as greenhouse gas emissions and waste management; (3) governance, including efforts to combat corruption, transparency in compensation, and the representation of women on boards of directors; and (4) respect for human rights.

The Ministry of the Economy's certification process is rigorous and involves certification bodies accredited by COFRAC, a semipublic organization responsible for ensuring the quality of certifiers.

A CE strategy for the Grand Est region: In October 2019, Grand Est unveiled its Regional Waste Prevention and Management Plan (PRPGD), setting out measures to address waste volumes, recycling targets, and a six- to twelve-year strategy. The plan also includes a Regional Circular Economy Action Plan (PRAEC), supporting initiatives such as repair cafés and recycling centers. The region supports this transition through financial assistance and expertise, in partnership with ADEME Grand-Est, and invested €12 million from 2017 to 2020 through programs such as Climaxion. Start-ups such as Algae Natural Food benefit from this financing, using waste materials to produce microalgae, such as spirulina, with support from neighboring businesses such as the Cargill malting plant in the Port of Strasbourg.

However, significant barriers to CE investment remain: Collaborative research by Deloitte and Utrecht University identified four main, interconnected barriers to CE investment in the EU: cultural, technological, market, and regulatory barriers (Kirchherr et al., 2017). For example, companies reluctant to adopt circular principles may fail to develop corresponding designs, resulting in limited consumer interest and awareness. This cycle reinforces cultural and technological barriers.

Another challenge lies in regulatory and market constraints. Limited circular procurement practices restrict financing for circular business models, as companies struggle to demonstrate market viability without robust procurement policies. High upfront costs further complicate matters, creating hesitation among stakeholders: Early investors risk losses, while latecomers may benefit.

Access to financing also remains difficult, particularly for SMEs and start-ups that lack conventional financing channels.

2.2. Current developments

European and national efforts are multiplying today. Nevertheless, their effectiveness still falls short of what the evolving climate and environmental situation requires.

An EU taxonomy to help financiers identify environmentally responsible companies, but one that is difficult to apply: At the European level, several elements need financing to enable industry's transition to a CE, particularly the EU green taxonomy. The EU green taxonomy is a framework intended to assess all economic activities against various objectives, including the CE. It therefore serves to distinguish green companies from less green ones.

The classification of companies under the EU taxonomy is based on the CSRD (Corporate Sustainability Reporting Directive). This directive provides a framework for nonfinancial reporting. It gives financiers, whether public or private, the information they need to assess the issue and make financing and investment decisions.

With the "aim of proposing a set of standards consistent with the objectives of the Green Deal and the existing legal framework" (Chambre de commerce et d'industrie, 2023), EFRAG (European Financial Reporting Advisory Group) began work on standardizing nonfinancial performance reporting for the European Commission in 2021. In 2023, the European Commission adopted a set of ESRS (European

Sustainability Reporting Standards). These standards address environmental, social, and governance issues. A second set of standards is expected by June 30, 2024. These new standards will elaborate on the initial standards by providing specific information on certain sectors of activity.

Despite the value of these European standards, they remain difficult to apply. The only "penalty" for companies refusing to comply with them will be damage to their image among customers, employees, and providers of capital. The European strategy thus remains fairly indirect, given the freedom of capital movement and enterprise it grants financial investors. Financiers' choices are therefore guided primarily by customer preferences.

Moreover, to assess information on companies' degree of sustainability, financiers would have to "invent" their own methodology. There is thus no clear, harmonized methodology enabling investors and financiers to identify companies' degree of sustainability and make financing decisions.

Record financing from the European Union

Support for "clean" energy and sustainable investment

At the international level, according to the International Energy Agency's (IEA) report on world energy investment in 2023, investment in "clean" energy has exceeded investment in fossil fuels since 2021. These investments in "clean" energy primarily concern electricity generation, fossil fuel supply, and energy efficiency for households and businesses.

Several countries receive EIB support to participate in this development. For example, in February 2024, the EIB's financing arm announced a €36 million loan to the public company Elektroprivreda Bosne i Hercegovine to build the Vlašić wind farm in the Travnik region. This new wind farm will increase electricity generation and energy supply from renewable resources in Bosnia and Herzegovina.

Loan agreements to support green hydrogen

In March 2024, the European Investment Bank signed an agreement with Sunfire to finance electrolysis technologies that enable Europe's ecological transition. Financing may reach a maximum of €100 million. Through this agreement, the German company Sunfire aims to mass-produce its solid oxide electrolyzers to produce green hydrogen. "This hydrogen will replace fossil fuels in energy-intensive sectors such as chemical and steel production. Likely customers include fertilizer and ammonia or methanol producers, major energy companies, and steelmakers seeking to decarbonize their production" (BEI, 2024).

This EIB financing aims to mobilize more than an additional €372 billion across European countries by 2027.

However, according to the foresight analysis conducted by Antoine Le Bec and published in *Futuribles* in March 2024, the production costs of this hydrogen will not fall quickly. Substantial, sustained financial support from public and private actors will be needed.

Support for EU energy security and the green economy

In 2022, the European Investment Bank provided unprecedented new financing for renewable energy, storage infrastructure and distribution networks, and energy efficiency. For example, financing for projects promoting sustainable energy in the European Union reached a record €17.06 billion. The bank also began implementing a set of specific measures to support the REPowerEU plan, which aims to end dependence on imports of Russian fuels.

A LIFE subprogram dedicated to the CE

LIFE is the EU's funding instrument for the environment and climate action, with a €5.4 billion budget for 2021–2027 covering four subprograms. One specifically addresses the CE (CE, n.d.). This "Circular Economy and Quality of Life" subprogram cofinances CE projects, such as resource recovery from waste. It also supports initiatives involving water, air, noise, soil, chemicals management, and environmental governance.

A program on the horizon: Horizon Europe

The EU's largest research and innovation program ever, with a budget of nearly €95.5 billion running through 2027. This includes approximately €5.5 billion from the NextGenerationEU (NGEU) instrument to promote greener, more digital, and more resilient societies while supporting the post-COVID economic recovery. Horizon Europe also facilitates European partnerships to address pressing challenges such as the CE. For example, the Circular Bio-based Europe Joint Undertaking (CBE JU) is a public-private partnership between the EU and the Bio-based Industries Consortium, financing projects to strengthen competitive, circular, bio-based industries in Europe (Circular Bio-based Europe Joint Undertaking, n.d.).

InnovFin—EU Finance for Innovators for SMEs

An initiative launched by the European Investment Bank Group in collaboration with the European Commission under Horizon 2020. It aims to facilitate access to loans, guarantees, and equity for innovative SMEs and early-stage companies. Financing in the circular bioeconomy thematic area is facilitated by the European Circular Bioeconomy Fund. This impact venture capital fund aims to close the financing gap in Europe's bioeconomy, targeting sectors such as agriculture and food, forestry, the blue economy (related to the marine environment), industrial biotechnology, bio-based chemicals and materials, packaging, construction, and textiles. Individual investments range from €2.5 million to €10 million (ECBF, n.d.).

Yet contradictory practices persist in European countries

Despite this financing for projects enabling the transition to a CE, some countries, such as Norway, continue to issue oil and gas exploration and production permits. Norway, a leader in electric vehicle adoption and a country where hydropower has historically supplied more than 90% of electricity generation, derives 58% of its exports from hydrocarbons.

In France, the oil company Vermilion secured a favorable opinion from the public inquiry commissioner to begin new drilling in Gironde. The Canadian oil company also applied to continue exploiting its deposits in Essonne until 2040. The French ministerial decision is still pending.

Strengthening France's transition to the circular economy through different financing programs

The France Relance plan

Launched in 2020 in response to the COVID-19 pandemic, the France Relance plan, with a €100 billion budget over two years, centers on three priorities: the ecological transition, business competitiveness, and social and regional cohesion. To support the transition to the CE and strengthen and structure recycling sectors, the government substantially expanded its support system. Under the recovery plan, €500 million was allocated to the CE for 2020–2022. In addition, innovation support under the France Relance 2030 plan was awarded to recycling, and the CE fund nearly doubled, reaching €300 million in 2023 and 2024.[2]

Under the France Relance plan (2020–2022), ADEME supported twenty-five measures across nine different themes. A budget of €1.6 billion was allocated to industrialization and deployment projects.

ADEME's CE fund

ADEME has various financing instruments to encourage investment in the CE and thus accelerate the transition to this new industrial model. Through these instruments, ADEME finances projects that pursue longer product lifespans, reuse, ecodesign, and waste recycling. These instruments include ADEME's CE fund, which aims to implement CE and waste policy in France. It supports the research and development, demonstration, and industrialization stages. For example, ADEME launched the ORMAT (Objectif Recyclage MATières) call for projects, open until September 2024, which targets "processors responsible for additional

[2]https://presse.ademe.fr/2024/03/plastiques-textiles-metaux-le-recyclage-progresse-en-france-au-service-de-lacceleration-de-leconomie-circulaire.html#:~:text=Dans%20le%20cadre%20du%20plan,euros%20en%202023%20et%202042.

sorting and preparing waste after collection and initial sorting; regenerators or recyclers; manufacturers wishing to incorporate recycled raw materials, or more of them, into their products, or that refurbish or remanufacture batteries; and, in some cases, commissioning companies."

France 2030

Continuing the approach taken by France Relance, France 2030 has a five-year budget of €54 billion and aims to promote industrial competitiveness and innovative technologies. Half of the funding is allocated to emerging actors, while the other half is dedicated to decarbonization initiatives. It aims to achieve ten objectives by 2030 to better understand the world (for example, investing in the deep sea), live better (for example, investing in healthy, sustainable, and traceable food), and produce better (for example, producing the first low-carbon aircraft in France). By 2023, €21 billion had already been committed and 40,000 direct jobs had been created or maintained.[3] The first prerequisite for achieving the objectives set by the 2030 plan is to secure access to raw materials. This requires mobilizing materials recovered through recycling. The plan therefore provides €300 billion in public support to strengthen investment in the plastics recycling and incorporation chain.

https://presse.ademe.fr/2024/03/plastiques-textiles-metaux-le-recyclage-progresse-en-france-au-service-de-lacceleration-de-leconomie-circulaire.html#:~:text=Dans%20le%20cadre%20du%20plan,euros%20en%202023%20et%200242.

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The PIA4 program

Launched in 2020, **the fourth Programme d'Investissements d'Avenir (PIA4)** will have €20 billion over five years, twice as much as the two previous programs launched in 2014 (€12 billion) and 2017 (€10 billion). This demonstrates that support for innovation lies at the heart of the government's investment policy. It combines two approaches to accelerate innovation across all sectors and make intervention and financing tools easier to understand: strategic priority investments and sustained financing for higher education, research, and innovation.

Under the PIA programs, ADEME launched nearly 152 calls for projects over ten years, leading to 1,085 projects. With a budget of €2.7 billion, these are primarily innovation projects.

Developing financing strategies and mechanisms for environmental businesses

In June 2023, INEC submitted forty proposals to the Ministry for the Ecological Transition. INEC considers mobilizing savings, taxation, and financing essential to the transition to a CE. With respect to public financing, companies need guarantees of stability to gain a clear view of the expected returns on their investments. Tax benefits must also be consistent and sustained over time. The proposals include direct public investment and a guarantee fund for CE projects by microenterprises and small and medium-sized enterprises (SMEs); direct assistance to encourage ecodesigned products and processes; tax reductions for companies supporting the CE; a CE bonus for SMEs; and a dedicated, transparent savings account for the environmental transition.

In addition, a practical government guide entitled *Les principaux dispositifs pour la transition écologique des TPE et PME* lists the main mechanisms for financing the ecological transition of nonindustrial microenterprises and SMEs. Bpifrance, ADEME, the chambers of trades and crafts (CMA) networks, chambers of commerce and industry (CCI), and other entities offer various forms of financial support, including diagnostic tools, transition support, grants, loans, tax credits, assistance, and bonuses.

[3]https://www.economie.gouv.fr/france-20#30

Events are also organized to help companies find investors, such as the Rencontres financières Ecotech organized by PEXE, ADEME, and Bpifrance in July 2023, which gave environmental businesses opportunities to meet investors and raise funds.[4]

But what happens to investors receiving this financing?

The French government's determined efforts to move from a linear economy to a CE have changed the dynamics of several economic sectors in France. These efforts have been reflected particularly in incentives for investment in recycling. Since 2020, government financing has enabled unprecedented growth in the materials recycling market. For example, Weecycling, an SME in Normandy and one of the five selected beneficiaries of the France Relance plan, announced a €20 million investment in late 2022 to increase its production of precious metals, platinum group metals, and copper from waste.

In turn, the EPR sector is pushing manufacturers to address recycling. Investment partnerships with private organizations are therefore developing. SUEZ entered into a partnership with Eramet to develop the ReLieVe battery recycling project. This project received a €70 million European grant.

Traditionally highly concentrated, with four major companies—Derichebourg, Suez, Veolia, and Paprec—generating 40% of sector-wide revenue, the recycling market has opened to start-ups in recent years through the French government's investment and financing policies. For example, the Lyon-based start-up Carester created permanent magnets through an investment of €42 million, including €15 from the France Relance plan. While established companies are compelled to rethink their business models in response to French and European regulatory changes, new entrants have the advantage of entering the market with a fully circular model from the outset. Nevertheless, they must contend with other problems facing the recycling market: falling metal prices, the economic slowdown, restrictions on waste exports to non-OECD countries, supply pressures, and so on.

The development of markets in France through grants and loans is certainly valuable in accelerating the transition to the CE. However, efforts should not stop at financing. Investments made under CE financing programs should receive support during their first years of operation. In addition to monitoring, a support budget may need to be provided for companies whose projects have received financing.

SRI in search of performance: The ISR label was created by the Ministry of the Economy and Finance in 2016. On February 29, 2024, an order was published specifying the ISR label's exclusion criteria. The order aims to strengthen the requirements for combating climate change. Accordingly, from March 1, 2024, companies exploiting coal or unconventional hydrocarbons, as well as new projects exploring for, extracting, or refining hydrocarbons, will be excluded from ISR funds.

Unfortunately, however, SRI companies suffer from underperformance. According to Revelli (2013), this underperformance may result from a lack of skills among portfolio managers. Because of their "quantitative" training as former analysts or investment bankers, combined with conventional assessments of their performance (Hildyard & Mansley 2001), fund managers often find it difficult to adopt a longer-term investment horizon that incorporates both financial and nonfinancial criteria (Juravle and Lewis, 2008).

Revelli (2013) therefore argues that "portfolio managers should systematically receive training in techniques for managing ESG criteria, just as they do in financial strategies, to avoid subjectivity in selecting securities for SRI portfolios." Training in socially responsible investment for portfolio managers should therefore be considered.

[4]https://www.techniques-ingenieur.fr/actualite/articles/le-financement-une-thematique-majeure-pour-promouvoir-la-transition-ecologique-et-leconomie-circulaire-125163/

France: The new El Dorado of the circular economy?[5] Foreign investment in France focuses heavily on the CE, with major companies committing billions to various projects. For example, Eastman, a US company, plans to invest €850 million to establish the world's largest molecular plastics recycling plant in Normandy by 2026.[6] Leading brands such as LVMH Beauty, The Estée Lauder Companies, Clarins, Procter & Gamble, L'Oréal, and Danone have also expressed interest in multiyear supply agreements with the facility. Ikea has announced an investment of more than €650 million in CE initiatives in France. Public authorities actively support these projects, offering between 5% and 10% of the investment amount through initiatives such as Choose France.

Industrial demand for recycled materials exceeds supply, driving up the price of recycled plastic. Recycled plastic production has consequently become profitable, making the CE an attractive economic model. France is home to leading companies such as Veolia and Suez, as well as innovative companies such as Carbios, which pioneered the endless recycling of plastic waste through a new biological process.

Corporate investment in the CE is increasing: European industries have invested significantly in the transition to the CE in recent years. These investments cover various sectors, including recycling and waste management (such as recycling infrastructure, waste-to-energy technologies, and innovative recycling processes); sustainable materials and packaging (including bioplastics, compostable packaging, and reusable packaging solutions); extending product lifecycles (investment in initiatives promoting product durability, repairability, and remanufacturing); and sharing and product-as-a-service business models (such as sharing platforms, rental services, and subscription-based models).

Investment varies with company size

Companies investing in the CE vary in size, with large companies often leading the way because of their financial resources and expertise. However, smaller companies and start-ups are also increasingly innovating in niche areas and attracting investment from venture capital funds and other investors interested in sustainability.

According to an EMF report, both large companies and small innovative businesses are active in CE initiatives (*Financing the circular economy*, 2020). Nestlé committed to investing up to CHF 2 billion (US$2.9 billion) to switch to food-grade recycled plastics and innovate in packaging solutions. Unilever committed to halving its use of virgin plastics by 2025. L'Oréal allocated €50 million to finance circular projects, including new business models to combat plastic pollution. Among the innovators, Finland-based RePack offers a reusable, returnable packaging service for e-commerce; UK-based Bockatech developed technology to produce low-cost, lightweight, recyclable, reusable plastic containers; and the Czech company MIWA offers a comprehensive business ecosystem for reusable packaging powered by smart technologies, in partnership with Nestlé.

Many companies in France have invested in recycling organic and plastic waste

Recycling organic and plastic waste is essential to the CE. Many companies in France have invested in this sector. For example, in construction, Génération bien construire (GBC) plans to increase its plastics micronization capacity with a planned investment of €3 million to €5 million in 2023. In cosmetics, perfumery, and pharmaceuticals, Technicaps, a specialist in closures and packaging solutions, is opening a new production workshop in Le Mans dedicated to caps and closures for bottles and jars. Trioworld, a manufacturer of industrial and agricultural plastic films, is launching Triosmart, a range of horticultural products made from 68% recycled materials. Lactel, France's leading producer of drinking milk, is expanding

[5]According to the article published on January 21, 2022, at https://www.novethic.fr/actualite/environnement/economie-circulaire/isr-rse/pourquoi-la-france-devient-le-nouvel-eldorado-de-l-economie-circulaire-150507.html

[6]https://www.eastman.com/en/sustainability/environmental/circularity/site-locations/france-site#:~:text=The%20first%20phase%20of%20the,phase%2C%20currently%20planned%20for%202030.

production of recycled-plastic milk bottles. SGT, a plastic packaging specialist, invested €28 million in a food-grade recycled PET manufacturing plant. Further investment is planned at its two French sites.

Companies are also innovating in waste recycling. Moulinot compost & biogaz invested €3 million to establish a food waste recycling operation in Angers. Groupe Brangeon, which specializes in transportation and waste management, acquired Ecosys to strengthen its organic material recycling capabilities.

3. Foresight exploration

3.1. Structural trends

Continued incentives to invest in environmentally responsible companies: Recent years have seen a proliferation of incentives for investment in green and socially responsible companies. Given the plans and roadmaps at both the European and French levels, these incentives will continue to exist to enable the transition to a CE before 2030.

Freedom of choice granted by the European Union: The European Union chooses to issue directives rather than regulations. Unlike regulations, which apply directly to member states, directives must first be transposed into each country's national law. Choosing directives for the transition to the CE therefore means choosing to give each country discretion in implementing legislative acts. This trend will continue, particularly in financing and investment policies, so as not to restrict companies' freedom to choose their investments.

3.2. Uncertainties

The EU taxonomy's ability to change practices: The EU taxonomy plays an increasingly prominent role in investment and financing. Nevertheless, it remains difficult to apply and has still not been widely adopted. Stakeholders hope that repeated nonfinancial reporting will eventually lead companies to change their practices and adopt the taxonomy. However, changing practices requires a systemic approach in which all actors change how they operate.

Uncertain adoption of European Union directives: The application of European Union directives remains fairly flexible. First, at the government level, the EU guarantees its member countries the option of adopting or rejecting its directives. Second, at the level of European companies, it provides information and tools to enable financing and investment in sustainability. However, it leaves them free to decide what they want to do and how they want to invest. This flexibility also carries over to the national level.

Overcoming short-termism in financial markets: Short-term pressures on fund managers are particularly damaging to the long-term vision required by a circular economy investment strategy, which may take twenty-four to thirty-six months (Sullivan and Mackenzie, 2006). Researchers and practitioners broadly agree that short-termism is a powerful and pervasive barrier to SRI in financial markets worldwide. It deserves particular attention because it is closely linked to individual, organizational, and institutional barriers to SRI. There is therefore a need

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to redesign incentive systems for corporate executives and portfolio managers on the basis of long-term performance assessment (Juravle and Lewis, 2008).

The uncertain competitiveness of green hydrogen: According to the foresight analysis published in *Futuribles*, green hydrogen's competitiveness is uncertain compared with other production routes, such as those based on carbon capture. Despite its potential in several sectors, particularly air and maritime transportation, this form of production therefore remains uncertain and fails to reassure investors.

The choice between effectiveness and a gradual approach: At the European level, financing and investment policy objectives were developed from the top down. When setting these objectives, politicians did not know

how effective the policies could be expected to be. As deadlines approach, they will have to choose between two options: accelerating the transition to circularity and therefore proceeding abruptly, or abandoning their objectives.

The impact of reforms to the European carbon market: Reform of the European carbon market, encompassing the European Union Emissions Trading System (EU ETS) and the Carbon Border Adjustment Mechanism (CBAM), has significant implications for the future of the CE. The EU ETS and CBAM can influence investment and financing policies by shaping market incentives, creating opportunities for sustainable companies, and requiring investment in low-carbon, circular technologies and practices. Whereas the EU ETS focuses on regulating emissions within the EU, CBAM extends its scope to imports, potentially affecting industries worldwide. (Scheduled to enter its definitive regime in 2026, CBAM is currently in a transitional phase lasting until 2026.)[7]

However, the extent to which policies will be strictly enforced, and the possibility of facing major demonstrations such as the current farmers' protests or trade retaliation by India and China over CBAM, remain uncertain.[8]

3.3. Weak signals/seeds of change

Standardization and the development of rigorous tools and metrics: Dewick et al. (2020) highlight the challenge posed by a lack of consistent information for potential funders and investors assessing the effectiveness of CE projects. Financing and investment decisions for CE projects require rigorous tools and metrics. Measurement tools such as Circulytics, developed by the EMF in 2020, aim to address this problem. Circulytics facilitated companies' transition to the CE, regardless of industry or size, by assessing operations across the company using a broad range of indicators. However, the Circulytics methodology and resources remain available for reference (EMF, n.d.). The foundation is also currently working on a new tool to support strategic CE decisions.[9]

Directing financial flows toward sustainability through labels: The taxonomy and CSRD do help investors make financing and investment decisions. Nevertheless, existing mechanisms lack sufficient detail and a precise methodology to guide financial flows effectively. SRI labels focused on investment processes, which have begun emerging in recent years, could complement these mechanisms.

The emergence of a new unit of measurement that could replace carbon: Carbon is currently the main unit used worldwide to measure climate risk. Over the past year, however, the world has been experiencing a second wave, which will be even more complicated and is particularly concerned with biodiversity and water quality. This change needs to be anticipated by financing investment in biodiversity and water quality, as well as research into how to measure them and their impacts.

The role of fund managers: Fund managers are the principal actors in the socially responsible investment market. They not only make the final investment decisions but can also be important drivers of change. As a Just Pensions report shows, they are often tasked with pursuing an engagement policy on behalf of pension funds and retirement plans (Gribben & Olsen 2003). Companies increasingly delegate decisions about SRI policy in retirement plan management to their fund managers (UKSIF, 2000). For example, Naaraayanan et al. (2019) examine the attention paid to environmental issues by the board of the New York City retirement system. The researchers show that the targeted companies subsequently have less environmentally harmful emissions.

[7]https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en#:~:text=CBAM%20will%20apply%20in%20its,the%20decarbonisation%20of%20EU%20industry.

[8]Based on the views expressed by Dr. Ivan Savin in the interview conducted on March 17, 2024.

[9]Based on the interview with Alice Bodreau of the EMF conducted on April 12, 2024.

All stakeholders, particularly pension fund managers, who often lack specific expertise, should therefore be made aware of the benefits of long-term thinking and the costs of a short-term perspective.

The role of investment advisers: Investment advisers provide a very broad range of services to institutional clients, from asset allocation advice and benchmark selection to evaluating the performance of fund managers and the overall portfolio. Investment advisers have contributed to short-termism in capital markets by encouraging fund managers to prioritize risk management. Yet when investment advisers focus on long-term investments, ESG/CSR scores rise (Kim et al., 2019). They are therefore key actors who can help accelerate or slow the adoption of socially responsible investment.

3.4. Controversies

Standardization versus innovation: Government regulations, including the adoption of robust indicators, methodologies, and reporting standards, can mitigate linear investment risk (Ball, 2006; CE, 2019). However, supporting certain investments in particular CE projects can be counterproductive to environmental sustainability efforts (Corvellec et al., 2020; Hobson and Lynch, 2016). Dewick et al. (2020) therefore argue that further expansion of CE investment funds should be postponed until standards, assessment metrics, and methodological issues have matured, given the high risks associated with investment in suboptimal CE projects and companies. However, the authors caution that although standards reduce some uncertainty and make CE investments more financially attractive, they risk curbing innovation directed toward the overall goal of greater circularity. Investing in similar organizations with similar CE practices can hinder innovation.

Tensions with industrial lobbies holding back regulation: With the transformation still far from achieving European and national objectives, it risks becoming abrupt. Regulatory change supporting the transition to the CE entails a change in business models. This change creates transition risk in the financial structure. When financiers invest in a company, they therefore risk losing money. They must also bear a transition cost. Investors lobby to slow this change. They thus tend to hold back regulations supporting the transition to the CE to retain existing business models and preserve the profitability of their investments.

This generates tensions between political actors and industrial lobbies that hold back the transition to the CE.

3.5. Disruptions

Vague indicators used by investment funds could exclude entire sectors: Vague indicators can affect companies' and projects' eligibility for funding, potentially leading to the systematic exclusion of entire sectors (Dewick et al., 2020). For example, coal, oil, and gas companies could be excluded on ESG grounds, even though in some cases they could contribute effectively to the CE. In Turkey, for example, oil companies participated in industrial symbiosis initiatives, helping reduce waste and clean up the environment (Alkaya et al., 2014).

BNP Paribas's "Circular Economy Exchange-Traded Fund" invests in companies adopting circular business models, excluding those with poor ESG performance. However, it uses flexible criteria to assess the eligibility of companies in tobacco, coal, oil and gas, and utilities. This use of vague indicators raises the question of whether these funds exclusively support the CE or represent more general responsible financing mechanisms. It entails an opportunity cost from not investing in companies that could accelerate the transition to a CE (Dewick et al., 2020).

Consequently, if CE indicators become a determining factor, certain sectors, such as those associated with fossil fuels, could be excluded from all financing. Sectors that do not meet ESG criteria therefore tend to face reduced investment and financing opportunities.

Integrating developing countries: CE financing marginalizes developing countries that already suffer under the linear model (Schröder et al., 2018). CE investment currently targets mainly high-income countries. Financial institutions and mechanisms therefore need to be developed in developing countries to address CE challenges (Preston and Lehne, 2017). Effectively integrating developing countries into the CE could thus constitute a disruption that accelerates the transition to a circular economy. This integration requires financing investment in systems such as recycling in developing countries.

A European conceptual revolution to change freedom of choice: Faced with limited adoption of its directives, the European Union may decide to undertake a conceptual revolution in its current modes of regulation. Contrary to its values, it may choose to abandon the discretion associated with directives in favor of regulations that apply immediately and mandatorily across member states.

Removing financial barriers to the growth of green SMEs: Despite SMEs' significant economic impact in Europe (Ormazabal et al., 2018; Rizos et al., 2015), substantial barriers impede their participation in the CE. Significant investment in circular eco-innovation is necessary for positive SME growth in Europe. However, apart from investment in ecodesign, most CE innovations fail to increase SME growth rates (Demirel and Demirtas, 2019). Limited access to external financing further constrains investment in eco-innovation, adversely affecting the growth of green SMEs (Cuerva et al., 2014; Kunapatarawong and Martinez-Ros, 2016). Demirel and Demirtas (2019) find that only equity financing, such as angel investment and venture capital, contributes significantly to SME growth, while conventional debt and grants have little or no impact. However, capital-intensive, risky clean technologies struggle to attract equity investors (Demirel and Parris, 2015).

Robust coverage from insurance companies: For existing companies, moving from a linear to a circular model requires substantial investment. Some companies may even have to cease operating. Consider farmers in France, whom public authorities forced for many years to move from an optimized model to a linear one. Public policies now require them to make substantial investments and take on debt to replace this linear model with a circular one. If insurance companies assume their responsibility and reassure these farmers by covering part of the transition cost, farmers can move toward circularity with confidence.[10]

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