

SUSTAINABLE THEMES

Mirova’s philosophy is based on the conviction that the integration of sustainable development considerations into investment decisions makes it possible to offer investors responsible investing solutions.

In order to identify the companies that effectively address the challenges of tomorrow, Mirova’s experts have developed a unique approach to economic analysis based on 8 sustainable investment themes.

Using this approach, Mirova teams identify companies that develop solutions for the future and also embed Corporate Social Responsibility (CSR) policies in their strategy.

The aim is to ensure that companies address key sector issues. For example, within the ‘Sustainable buildings and cities’ theme, the assessment of construction material companies focuses primarily on the energy efficiency of materials used, but also on other criteria used within the framework of a review of CSR practices, such as CO₂ emissions resulting from the production process, health and safety at work, respect for fundamental human rights and business ethics.

Regardless of their industry, these companies can take action in many ways: technological innovation, sustainable products or services and more, all of which are part of a long-term strategy and can contribute to the creation of a more sustainable development model.

8 sustainable themes

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SUSTAINABLE ENERGY

80%

of the world's energy consumption comes from fossil fuels¹

3 billion

people rely on burning wood and coal for warmth and cooking²

2006

year when conventional oil production peaked³

11 The challenge: supporting the energy transition

Reduce our dependency on fossil fuels...

For more than a century, the massive use of fossil fuels (coal, oil and gas) has led to considerable advancements in the majority of human activities: mobility, housing, industry, agriculture and health. Today, we know that climate change and the rarefaction of fossil resources are jeopardising our development model. To address this issue, it is vital to make a rapid transition towards not only low-carbon energy resources, but also a more energy-efficient economy. The necessary changes are colossal: world energy consumption is continuing to increase and fossil fuels still represent 80% of global energy supply.¹

...whilst promoting access to energy for all

Beyond these environmental issues, there is also a social implication. Around 40% of the population still has no access to modern forms of energy and relies on burning wood and coal for warmth and cooking,² which often results in numerous respiratory problems.

A range of solutions

Well-known solutions to these issues already exist: improving energy efficiency, and the massive use of renewable energies. However, the implementation of these solutions is too slow: energy efficiency efforts are not enough to stop the increase in energy consumption, and renewable energies represent

less than 15% of world production.¹ As such, these solutions will still require considerable further innovation.

Other, less consensual, solutions can equally provide answers to climate change. Natural gas, due to its reduced carbon footprint compared to that of oil and coal, can act as transitional energy. Nuclear energy, despite its security risks, also has the advantage of being a zero greenhouse gas resource.

Changes driven by regulatory and market developments

These changes are supported both by increasing regulatory pressure and by rising energy prices. With regard to regulation, international awareness of climate change led to the establishment of various treaties such as the Kyoto Protocol, the Copenhagen Agreement and the development of carbon markets in various parts of the world (including Europe, California, Australia and certain Chinese provinces). Although disagreements persist among countries on the type of reforms to be implemented at an international level, there is a strong consensus on the fact that it is necessary to act rapidly.

In addition to regulations, increased pressure on energy prices has been a strong incentive for change. For example, between 2003 and 2008, the 'third oil shock' resulted in a fivefold increase in price per barrel of oil, and a threefold increase in the price of gas.

(1) International Energy Agency, 2009, Energy Balance for World. • (2) United Nations, 2012, Energy and Sustainable Development. • (3) International Energy Agency, 2010, World Energy Outlook.

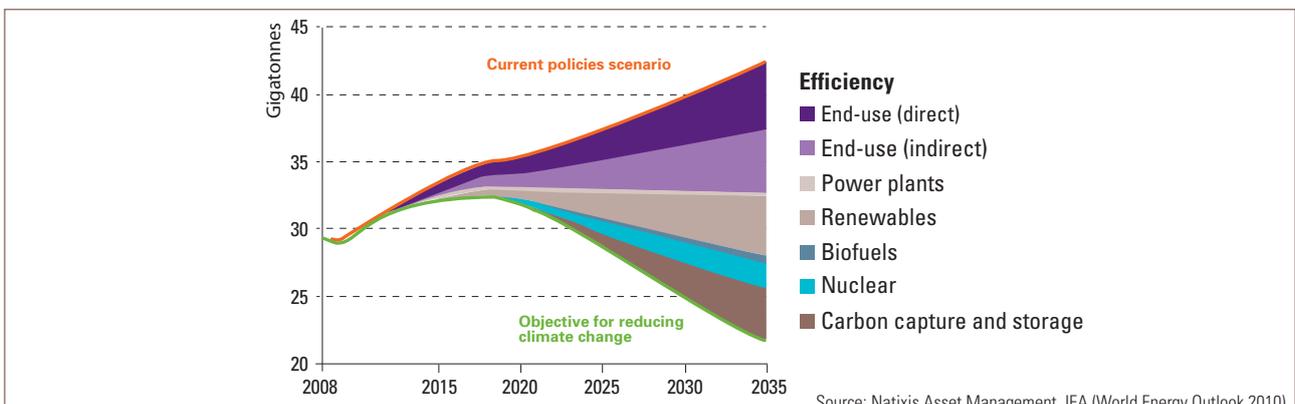


Figure 1: Reduction in emissions through technology in the IEA's '450 Scenario' making it possible to limit the increase in temperature to 2°C



SUSTAINABLE ENERGY

21 Responsible solutions

1 Energy efficiency

'The cheapest and most ecological energy is the energy we don't consume.'

Producers of capital goods offering energy-intensive machinery to their customers have important improvement levers in terms of the energy efficiency of their products, such as improving electrical turbine output, industrial motor optimisation and low-loss electrical transmission. Players offering the most innovative solutions can differentiate themselves by offering their customers lower energy consumption, reduced costs and a smaller overall environmental footprint.

2 Renewable energies

Electricity providers are among those most impacted by the necessity to reduce their carbon intensity (gCO₂/kWh) by investing in renewable production capacities and replacing thermal production capacities. While the production cost of renewable energy is still significantly higher than that of thermal energy, the need for development of these technologies has now become both a necessity and a window of opportunity, driven by regulation and consumer demand.

3 Reduction of the energy gap

Issues related to the access to energy are part of a much wider framework involving questions of development under governmental competencies. Private companies, however, can also contribute solutions. Besides philanthropic projects, some companies, for example, offer products specially designed to facilitate access to modern energy for disadvantaged populations. While these initiatives remain rare, the needs of these populations are enormous, representing both an economic and a social opportunity.

			Key sectors			
			Oil and gas	Capital goods	Industrial gases	Gas and electricity utilities
Opportunities	Renewable energies	Hydraulic energy				
		Solar				
		Wind				
		Biomass				
		Geothermal				
		Other renewables				
	Other low-carbon energies	Gas				
		Nuclear				
		Carbon capture and storage				
	Energy efficiency*	Smart grids		1		
		Industrial processes				
	Access to energy for the most disadvantaged populations			3		3

□ Lack of significant opportunities □ Weak opportunities □ Strong opportunities

* The Sustainable energy section deals only with the industrial side. The other energy efficiency issues (notably transport, construction and consumer goods) are dealt with in other sections.

SUSTAINABLE MOBILITY

15%

of global greenhouse gas emissions come from the transport sector⁴

3

times more mobility in 2050 than in 2000⁵

30%

of the world's population does not have access to all-weather roads⁶

11 The challenge: travel better, together

Rethink mobility as a rare resource...

In a freer and more globalised world, the population strives to travel more. Today, mobility is moving further away from being a sustainable development model: air-quality deterioration in cities, CO₂ emissions, oil resource consumption and deterioration of ecosystem services due to transport networks. As fossil fuels become rarer and the effects of climate change, environmental degradation and increasing urbanisation are more evident, our societies now have no option but to turn towards a more moderate, fairer, cleaner, safer and intelligent sustainable mobility.

...whilst at the same time bridging the mobility gap

Today, mobility is an unequally spread privilege amongst human beings. Whether it is in the outer suburbs of developed countries or in developing countries deprived of infrastructure and transport facilities, mobility has become the reflection of social inequalities.

Tools for technological and organisational progress are key

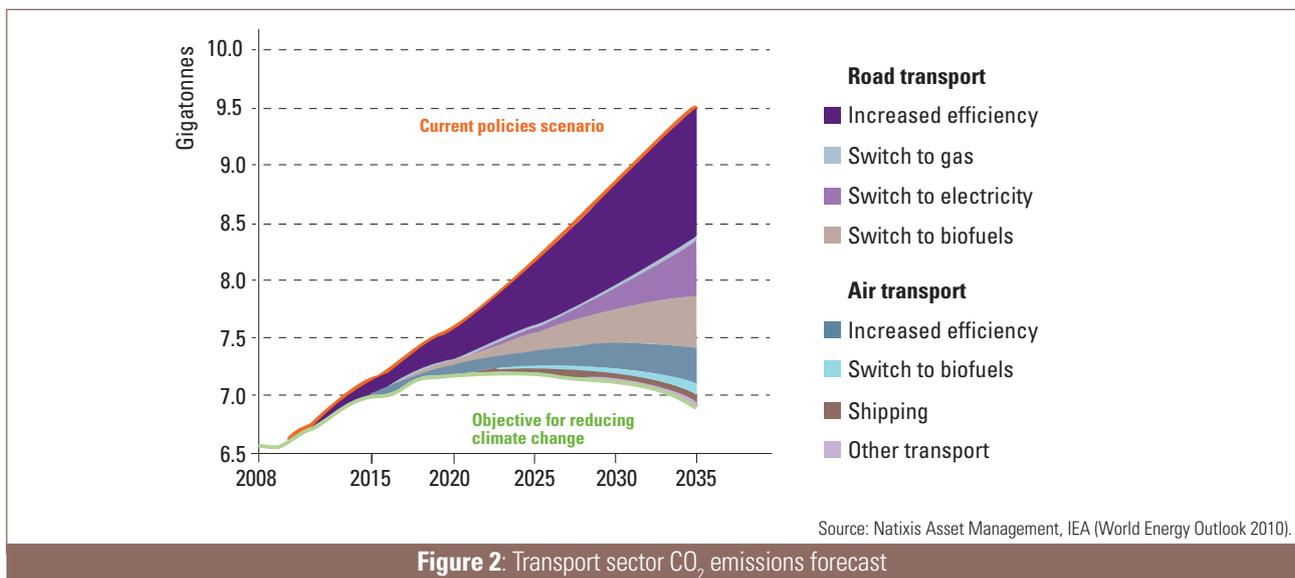
Whether they are brought about through stricter regulations (for example, public transport subsidies, fuel taxes, urban charging schemes or ecological bonuses/penalties) or through voluntary initiatives, some economic players are offering innovative solutions for 'progress tools' related to sustainable mobility.

The transition towards sustainable mobility provides an unprecedented opportunity for those first in line to step into the next era of oil shortages by developing alternative mobility solutions and technologies.

The challenges of sustainable mobility are as much technological as they are organisational.

- **Technological** in terms of enhanced vehicle energy consumption and the development of breakthrough technologies such as fuel cell and electric/hybrid vehicles to reduce our oil dependency.
- **Organisational** in terms of the new way of looking at travel that goes beyond the means of transport.

(4) International Energy Agency, 2009. • (5) OECD, 2011, 'Transport Outlook'. • (6) World Bank, 2007.



SUSTAINABLE MOBILITY

21 Responsible solutions

1 Improving combustion engine performance

At the top end of the value chain, car manufacturers and car equipment manufacturers, chemical engineers and tyre manufacturers have numerous ways of optimising vehicle consumption (per kilometre for passenger transport and per kilometre and per ton for freight transport) such as aerodynamics, lightening vehicles, reducing rolling resistance and internal energy consumption management. The most innovative players can differentiate themselves by offering their clients both a reduction in their energy consumption and thus their costs, and a reduced environmental footprint.

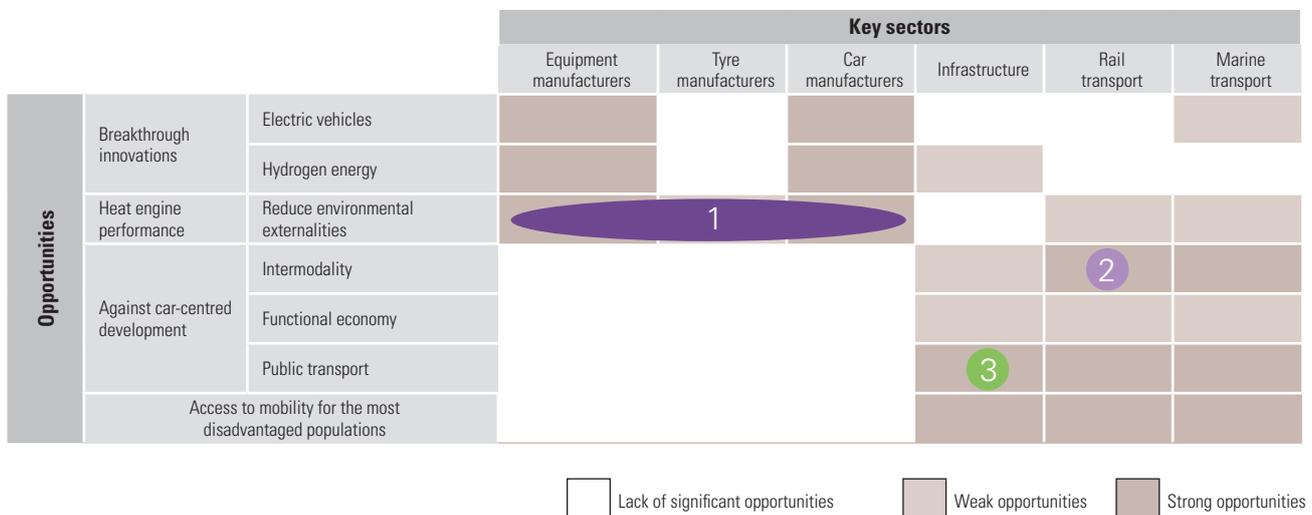
2 Promoting rail transport

Thanks to mostly electric engines, the rail transport sector has a much smaller environmental footprint than that of road transport. This ecological advantage must represent one of the essential factors in public policy on sustainable mobility, endowed with integrated and multimodal development logic. Rail transport should benefit greatly from an increasing global demand for transport, estimated at 12% across all modes between now and 2020.

3 Combined transport linking urban and suburban areas

Public transport is definitely the sector of the future. Tram-trains, the metro and trolleybuses are set to double their share of the market between now and 2025.⁷ The tram-train, which is able to travel both on tram tracks in urban areas and on rail tracks in the outskirts, will benefit from this renewed interest. This mode of transport enables travelling with ease from town centres to neighbouring cities, without having to change transport type.

(7) UITP, 2009, 'Public Transport: the smart green solution!'.



SUSTAINABLE BUILDINGS AND CITIES

35% of the world's energy is consumed by buildings⁸ **100 million** homeless people in the world⁹ **70%** of the planet's population will live in urban areas in 2050¹⁰

11 The challenge: eco-friendly thinking and responsible cities

Increasing environmental challenges...

As energy consumers, greenhouse gas emitters and, to a lesser extent, water consumers, buildings are a source of major environmental impacts. CO₂ emissions generated during the production of building materials, combined with massive energy consumption in the use phase, put buildings right at the heart of environmental concerns.

Considering the population increase and the rapid rate of urbanisation, needs in terms of construction are ever increasing (buildings, infrastructure, etc.), which further intensifies the environmental challenges associated with this subject.

...and numerous catalysts accelerating profound changes in the building sector

Given the scope of the challenges, measures are being put in place to move buildings towards a more sustainable model. Introducing carbon markets in different parts of the world should lead, for example, to the production of less pollutant heavy materials (e.g. cement). Furthermore, regulatory measures leading to more energy-efficient buildings are increasing. These include the European Energy Efficiency Directive aiming for 'nearly zero-energy buildings' by 2020; the 'Better Buildings Initiative' programme in the United States; and ambitious objectives in China in terms of green building in the 2011–2015 five-year plan. The development of labelling and certification (HEQ,¹¹ BREEAM,¹² LEED,¹³ etc.) also promotes environmental efficiency in the macro-sector.

Solutions offering both environmental and economic opportunities

The massive environmental challenges are, however, matched by a proportional number of improvement methods. In other words, the potential solutions are numerous: low-carbon cements, eco-construction reducing the environmental footprint of the early stages of construction, but, more specifically, optimising the use phase by focusing on the heart of the impacts (such as improved thermal insulation, and the control and management of water and energy consumption). Energy efficiency requires investment, but this will reduce the energy bill in the more-or-less long term, depending on the adopted solutions.

Access to housing – a social challenge to overcome

Although the issues of sustainable building are primarily environment-related, the social challenges cannot be ignored. The UN estimates that there are more than 100 million homeless and 1.6 billion inadequately housed people worldwide. These figures are set to increase due to the growing population in emerging countries. Nevertheless, housing remains a fundamental human right.¹⁵ The building sector therefore has a major role to play in access to housing for all and in housing quality improvement for low-income populations.

(8) International Energy Agency (IEA), 2008, 'Energy efficiency requirements in building codes, Energy Efficiency for new buildings'. • (9) UN, 2005, *The Human Right to Adequate Housing*, special reporter publication. • (10) UN, *World Urbanization Prospects, The 2011 Revision*. (11) HEQ: High Environmental Quality. • (12) BREEAM: BRE Environmental Assessment Method. • (13) LEED: Leadership in Energy and Environmental Design. • (14) IEA, 2011, *Technology Roadmaps, Energy-efficient buildings: heating and cooling equipment*. • (15) Article 25.1 of the Universal Declaration of Human Rights.

The International Energy Agency's 'Blue map' scenario¹⁴ is a hypothesis according to which, amongst other things, the energy consumption of buildings could increase by only 5% between 2007 and 2050, mainly due to energy efficiency efforts. According to the 'Business as usual' scenario, the increase could be up to 60% over the same period.

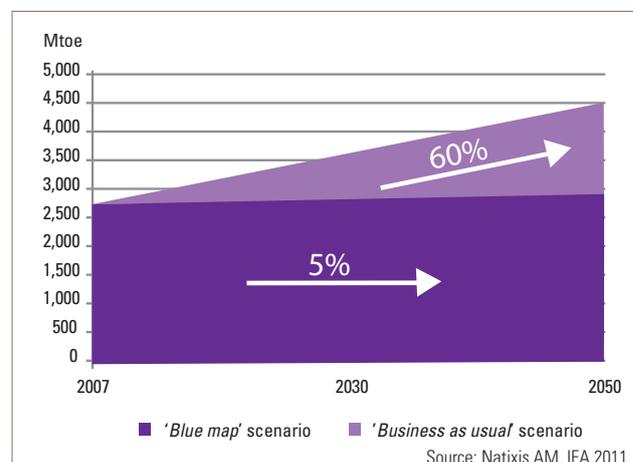


Figure 3: Evolution of the energy consumption of buildings according to different scenarios

SUSTAINABLE BUILDINGS AND CITIES

21 Responsible solutions

1 High standards for eco-construction and eco-renovation

A real estate company, for example, needs a set of detailed guidelines for builders for new developments and, equally, for the renovation of existing assets to improve their environmental performance. The best positioned players facing these challenges efficiently anticipate the implementation of regulations and meet the increasing demand from buyers and tenants who are more and more concerned about these matters. A significant proportion of certified assets (e.g. HEQ, BREEAM, BREEAM In-Use, LEED) indicates a proactive approach.

2 Passive energy efficiency in buildings

The use phase in buildings has the largest environmental impact in the industry, arising mainly from high energy consumption. Heating and air conditioning alone are responsible for more than half of total consumption. Efficient thermal insulation considerably improves passive energy efficiency in buildings and therefore reduces the energy bills. Manufacturers of insulation materials such as glass wool, stone wool or high performance glass are particularly well positioned to address this issue.

3 Active energy efficiency

Like eco-efficient construction material manufacturers (see Point 2), electrical equipment providers can offer lasting solutions to reduce energy consumption. This is a matter of actively improving energy efficiency by proposing, for instance, consumption measurement systems (smart meters), building automation (detection and automatic lighting), programming devices (e.g. to turn off office computers and ventilation) or even heating management systems.

			Key sectors				
			Real estate	Construction & engineering	Construction materials	Capital goods	Property services
Opportunities	Eco-construction of building and cities	Sustainable construction guidelines	1				
		Construction in line with environmental standards					
		Eco-designed materials					
		Monitoring and certification of environmental performance					
		Passive eco-efficiency: energy and water			2		
	Use phase environmental efficiency	Active eco-efficiency: energy and water				3	
		Eco-renovation of existing buildings	1				
		Raising occupant awareness of responsible behaviour					
	Quality housing for low-income populations	Access to housing					
		Improving the quality of housing					

Lack of significant opportunities
 Weak opportunities
 Strong opportunities

SUSTAINABLE RESOURCES

30%

of agricultural output worldwide is wasted across the food chain¹⁶

6,900 billion

m³ water demand in 2030 (vs 4,500 billion today)¹⁷

40 to 50

times more precious metals in electronic waste than in mines¹⁸

11 The challenge: preserving resources whilst sustainably supporting our needs

Increasing pressure on all types of resources¹⁹

Never before have our societies been confronted with such tension about supplies of minerals, water, agricultural products, and so on, due to demographic growth and increased living standards. We have realised that there is not an endless supply of some non-renewable resources. This also applies to renewable resources that are currently being exploited beyond their renewal rate (including fish, forests and water).

Agriculture and forests: ensuring sufficient production whilst preserving ecosystems

21st Century agriculture has a difficult role to fulfil in producing enough food to satisfy the needs of an increasing population, as well as providing agricultural products for the biofuel and green chemistry markets. All of this whilst preserving soil fertility, quality of water, biodiversity and climate. Improving yield and exploitation rates through sustainable agricultural practices and limiting loss of crops are the main levers to work on towards a sustainable agriculture and achieving a 'new green revolution'.

Water: developing infrastructure and technologies

Although the current quantity of water on Earth is relatively constant, fresh water is an unevenly distributed resource. Local imbalances are already apparent in numerous regions suffering from water shortages, and these are accentuated by the increase in demand for water as well as climate change. As 70% of water is consumed by the agricultural sector, this issue is strongly linked to that of food security and, more widely, that of health. Favouring investments in increasing supply (infrastructure, treatment) and improving use efficiency (mainly through improved irrigation techniques) are key measures to guarantee sustainable access to this resource.

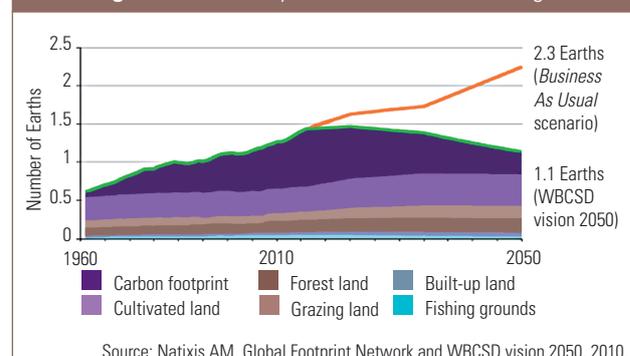
Waste and recycling: optimising resources

Business models based on a linear, 'extract-transform-dispose' economy are exposed to growing risks, ranging from increased commodity prices to the risk of supply chain disruption. These fundamental trends are set to increase with the urbanisation of the population and rising costs of resource-extraction. We are convinced that the key economic players in favour of circular development (industrial ecology, recycling, etc.) are going to seize opportunities for economic, social and environmental value creation.

Metals: preserving quality reserves

To address the issues of a decline in reserves and of the increasing environmental impact of mineral extraction from lower-grade ores, recycling is a solution, but it will remain technically limited. Reducing the environmental impact of mining, preserving reserves by using recycled/substitution metals, and providing metals which contribute to the growth of green technologies are all examples of solutions which have yet to be developed.

Figure 4: How many 'Earths' are we consuming?



The equivalent of 1.5 times the Earth's natural resources is consumed each year and this ratio could increase to 2.3 times in 2050 if production methods do not change.

(16) UK Government Office for Science, January 2011, 'The Future of Food and Farming: Challenges and Choices for Global Sustainability'. • (17) 2030 Water Resources Group, 2009 'Charting the water future'. • (18) Global e-sustainability Initiative (GeSI), 6 July 2012, 'E-waste: Annual Gold, Silver 'Deposits' in New High-Tech Goods Worth \$21 Billion+; Less Than 15% Recovered'. • (19) Although resource management concerns all sectors, certain activities are more directly linked to exploitation and the processing of raw materials. We have divided the sustainable resources investment theme into four sub-sectors: Agriculture and forests, Water, Metals, Waste and recycling (fossil fuels are covered by the Energy investment theme).

SUSTAINABLE RESOURCES

21 Responsible solutions

1 Slow or controlled-release fertilisers

The efficiency of nitrogen fertilisation is one of the major objectives of modern agriculture. Excess input of fertilisers compared to the amount needed by plants escapes into the ecosystem and leads to the proliferation of green algae and dead zones. Slow or controlled-release fertilisers, by which nitrogen is released little by little, based on the volume the plants can absorb, reduce loss. Today, these fertilisers are used in high-value-added agriculture and are beginning to be used in cereal farming.

2 Micro-irrigation

Micro-irrigation, also known as ‘drip irrigation’, is the most modern and most water-economical irrigation technique. It is mostly used in vegetable, fruit and flower production. The use of micro-irrigation has increased over the last few decades due to the production of affordable systems for small farms.

3 Recycle metals from urban deposits of e-waste

Waste from electronic equipment increases by 40 million tons each year. By 2020, for example, the volume of e-waste in China will triple. Specific collection and separation networks have therefore developed several initiatives which are showing promise, such as recycling mobile phone batteries. Recycling metal (cobalt, nickel, copper, rare earths, etc.) from used rechargeable batteries and other types of waste is a win-win opportunity on an environmental and economic scale.

4 Metal reclamation technologies and treatments

Extraction yields from mining and metallurgical companies can be increased by key players offering metal reclamation and treatment technologies from effluents, smoke residues and production site dust and waste.

			Key sectors				
			Chemistry	Machinery & equipment	Metals & mining	Consulting engineering & services	Utilities
Opportunities	Agriculture and forests	Increased agricultural productivity	1				
		Bio-based economy					
	Water	Increased fresh water supply					
		Optimised water consumption		2			
		Access for all to drinking water					
	Waste and recycling	Promotion of the circular economy	3				
	Metals	Improved efficiency in the mining industry				4	
		Green technologies					

Lack of significant opportunities
 Weak opportunities
 Strong opportunities

SUSTAINABLE CONSUMPTION

3 billion

new 'active' consumers²⁰ to join the middle classes between now and 2030²¹

4.16 Earths

would be necessary if the world population were to adopt the current consumption pattern of the United States²²

1.4 billion

adults are overweight²³

11 The challenge: separating consumption from the environmental footprint

Our current model: global over-consumption...

We are currently a global population of 7 billion people, and we are already using the equivalent of 1.5 Earths! Our current consumption habits rely on a continuing increase in resource usage and environmental impacts. Given the increasing demographic and economic growth forecasts in emerging countries, the strong increase in middle-class consumers will reinforce this pressure on the planet.

...full of significant imbalances

At the same time, more than a billion people are still living on less than \$1.25 per day, which does not allow them to satisfy their basic needs. Another example is that the number of people suffering from chronic hunger is still very significant, though the number of overweight people has surpassed this figure. So, how can we improve the quality of life of a growing population whilst at the same time preserving their natural capital?

Increasing awareness of these issues amongst consumers

The answer to this question lies primarily in the hands of the consumers themselves. Consumer awareness of sustainable development is increasing, not just in Europe (72% of Europeans say they would be prepared to buy ecological products despite their being more expensive, according to Eurostat)²⁴ but equally in emerging countries (45% of Chinese people say they would pay more for an ecological product, according to a National Geographic²⁵ study).

Although there is still a discrepancy between these statements and the act of buying, these figures are continuing to rise. In the same way, an underlying trend around natural

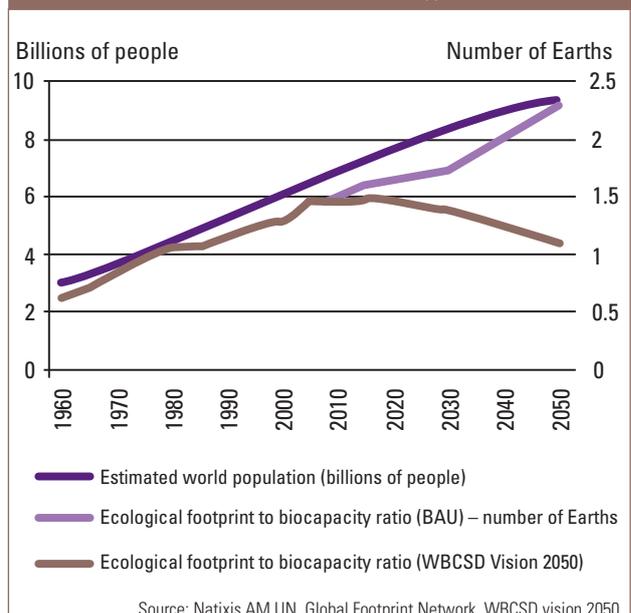
products, health and well-being is becoming concretely apparent in consumer behaviour around the world. In 2011, Euromonitor International²⁶ estimated the global health and well-being market at more than 600 billion USD.

New business models to develop

These challenges constitute opportunities for businesses in the consumer sector: to bring more value, whilst at the same time reducing the environmental footprint of their products throughout their whole life cycle, and actively encouraging behavioural change on the part of their clients. Numerous initiatives already exist (Fair Trade, sourcing of raw materials from sustainable origins, high nutritional value products, and so on) but they remain marginal.

In order to address the challenges of sustainable consumption, a change of scale is required. Players offering robust and integrated solutions as part of their business model will be favoured in this investment theme.

Figure 5: Evolution of the ecological footprint to biocapacity ratio under the Business as Usual (BAU) scenario and the 'WBCSD Vision 2050' hypothesis



Source: Natixis AM UN, Global Footprint Network, WBCSD vision 2050.

(20) 'Active' consumers in this context refers to the adult population (over 20 years of age) whose daily spending is between 10 and 100 USD (PPA), i.e. the 'middle class' and above. • (21) OECD, 2010, Emerging Middle Class in Developing Countries. • (22) Global Footprint Network. • (23) WHO, May 2012. • (24) European Commission Directorate General, 2011, Special European Barometer 365. • (25) National Geographic, 2012, Greendex 2012, Consumer and the Environment: A world tracking survey. • (26) Euromonitor International, June 2011.

SUSTAINABLE CONSUMPTION

21 Responsible solutions

1 Responsible procurement

The production of agricultural raw materials creates major environmental and social challenges and represents one of the main impacts of a food producer. Companies wishing to buy their raw materials from sustainable and responsible sources (e.g. fish that is 100% MSC²⁷ certified, or Fair Trade coffee) are providing a relevant response, both to sustainable development challenges and to consumer expectations.

2 Plant-based ingredients

Plant-based natural ingredients are a good alternative to chemical products derived from oil, in particular for the agrifood industry (for example, aromatic extracts, colourants, natural preservatives), but also for other industries such as cosmetics (for instance, ingredients from plants known for their anti-ageing and hydrating properties). They also improve the healthy/well-being/natural profile of a product. This kind of player can also have a significant role in helping businesses in the food sector with their product reformulation (for example, improving the nutritional profile, or the substitution of synthetic ingredients suspected of harming health or the environment).

(27) Marine Stewardship Council.

3 Development of eco-products

Eco-products aim to reduce the environmental footprint across the whole life cycle, by offering a reduced, even positive, impact on at least one of the key phases of the product, i.e. during production, use or end of life. In general, businesses tend to position themselves on two product categories: eco-designed products, offering an environmental advantage during the production phase (e.g. products designed using recycled materials); and eco-efficient products, offering an environmental advantage during the use phase (e.g. low-emission household electrical appliances).

Key players in the sector looking to include these kinds of products in their product mix, going beyond niche products, are favoured in this particular investment theme.

			Key sectors		
			Food production and distribution	Production and distribution of non-food goods	Hotels, restaurants, leisure and services
Opportunities	Responsible sourcing	Sustainable raw materials	1		
		Recycled raw materials			
		Fair trade / solidarity sourcing	1		
	Eco-products/eco-services	Eco-designed products		3	
		Eco-efficient products			
		Eco-services			
		E-commerce			
	Improving quality of life	Environmental labelling			
		Health/nutrition positioning	2		
		Consumer services (e.g. restaurant vouchers)			
		Offers of specific products for low income populations			

Lack of significant opportunities
 Weak opportunities
 Strong opportunities

SUSTAINABLE HEALTH

~20%

of the world's population do not have access to basic health care²⁸

15%

of the world's population have some form of handicap²⁹

~8%

of the world's population are over the age of 65³⁰

11 The challenge: ensuring the right to health and longevity for all

Changing trends create new social challenges

There are numerous macro-trends that impact the health investment theme, causing key players in the industry to rethink their activities. A combination of demographic growth in developing countries and low public budgets allocated to health has complicated access to even the most basic forms of health care. The Millennium Development Goals highlight the importance of a partnership with the private sector to 'provide access to affordable essential drugs in developing countries.' In developed countries, the ageing population has led to the appearance of new forms of disease, which often raises the question of caring for people suffering from loss of independence. Over-medication is also a major problem in countries where health care systems are costly and unequally taken care of by the government.

Promote access to health care for all with effective positioning in new markets

The Sustainable Health investment theme primarily aims to support businesses which overcome the obstacles to promoting equitable access to health care products and services in developing, as well as developed, countries. Beyond the charitable aspect (donations, revenue-based prices, etc.), the major challenge remains the creation and generalisation of sustainable and independent health care systems, particularly in developing countries. The investment theme equally promotes skills-transfer, and support for the creation of infrastructure and finance mechanism initiatives. Well positioned players in this sector could also attract new markets, whilst reinforcing their social acceptability.

Improve quality of life and independence

The ageing population and the increased number of dependent people have brought about the emergence of two increasingly important challenges for the key players in this investment theme:

- Strengthen support for those who are dependent (due to age, an illness or a handicap) in specialised establishments or at home.
- Reduce suffering for people with serious illnesses such as cancer, who have to undergo painful treatment and suffer unpleasant side effects.

Innovation, a keystone in the development of sustainable health

Numerous factors make R&D crucial for key players in the sector: the end of flagship medicine patents, the emergence of new pathologies, the increasing number of patients suffering from loss of independence but still aspiring to a better quality of life, and the lack of competencies in certain areas. Innovation therefore constitutes the main lever for improvement, with the development of new molecules, and more targeted treatments, the focus on preventative solutions to reduce over-medication, the development of personalised treatments to improve patients' quality of life, and the sharing of expertise to promote access to health care for all.

(28) OECD, August 2005, 'Private Health Insurance for the Poor in Developing Countries?'
 • (29) WHO, June 2011, 'Disability and Health'. • (30) World Data Bank.

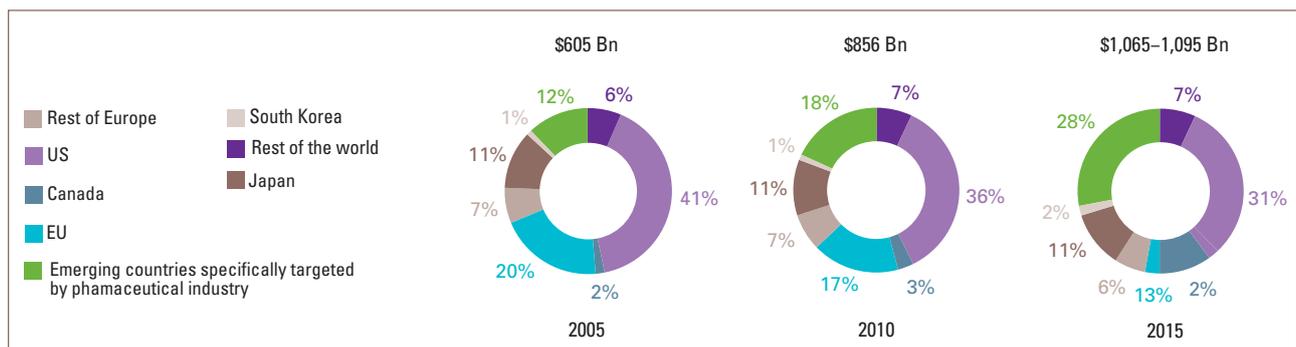


Figure 6: Evolution of health care spending by geographical zone

Source: Natixis AM, IMS Market Prognosis, April 2011.



SUSTAINABLE HEALTH

21 Responsible solutions

1 Adapting to local challenges

Adapting operations to local challenges is a key element for the health-related sectors. For a pharmaceutical company, it serves as a way to systematically implement specific approaches to address local medical needs in each new location within a country. These include the directing of R&D towards priority diseases in situ (e.g. infectious diseases), local income-related pricing practices, and increasing public awareness through teaching methods adapted to improve screening, diagnosis and treatment.

2 Contributing to sustainable local health care systems in developing countries

Sustainable access to health care for all is paramount to the development of autonomous and sustainable health care systems. The investment theme therefore focuses on players which implement proactive initiatives in this direction. For a medical equipment group, for example, the purpose is to contribute to the development of health infrastructure in emerging countries, and the promotion of skills-transfer through training aimed at health professionals to enable them to make more efficient use of equipment. By taking constructive steps of this sort, companies prepare their future markets, potentially gain market share and thus reconcile growth with social responsibility.

3 Developing cutting-edge expertise in personalised medicine

Personalised medicine is born out of the fact that two people with the same disease may respond differently to the same treatment, often due to genetic differences. Adopting this new approach therefore offers new perspectives since it consists of treating patients whilst taking into account other parameters, such as their biological profile and the molecular characteristics of their disease.

For example, using personalised medicine would make it possible to detect early on whether or not the patient would be responsive to treatment, thereby enhancing targeted care, increasing efficiency, reducing side effects and improving patients' quality of life.

The Sustainable health investment theme therefore targets pharmaceutical companies offering advanced approaches in this area.

For example, in the case of serious diseases like cancer, it will target a subgroup of patients who share specific genetic characteristics and whose tumours have the same molecular abnormalities. By obtaining this almost tailor-made molecular mapping, the proposed treatment is adapted to maximise the chances of a cure.

			Key sectors				
			Pharmaceutical and biotechnological groups	Medical equipment	Medical services	Mutuals and insurance	
Opportunities	Access to health care		Flexible prices adapted to incomes and/or the local situation	1			
			Development of sustainable health care systems		2		
			Finance mechanisms				
	Access to health care	Innovation	Sharing intellectual property				
			Skills-transfer				
	Innovation	Personalised medication / targeted treatment		3			
		Cutting-edge research in key pathologies		1			
	Independence and quality of life		Products and/or services reducing dependency and/or improving quality of life for the elderly and/or disabled				

□ Lack of significant opportunities □ Weak opportunities □ Strong opportunities

SUSTAINABLE INFORMATION AND COMMUNICATIONS TECHNOLOGY

15%

of global CO₂ emissions could be reduced by 2020 due to ICT technology³¹

~2%

of global greenhouse gas emissions were from the ICT sector in 2007 (expected to double by 2020)³²

10%

increase in telecommunication penetration rate will increase the annual GDP growth rate by up to 1%³³

11 The challenge: offering tools to advance sustainability

The role of ICT in reducing global emissions

The Information and Communications Technology (ICT) sector has a significant role to play in the fight against climate change by enabling sectors such as transport, buildings, power and industry to optimise their energy consumption. Key players in ICT believe that their technologies could contribute to a reduction of up to 15% of global CO₂ emissions by 2020.

Potential opportunities are diverse:

- Smart grids: improving network efficiency, developing management solutions for electricity demand ('demand-response').³³
- Transport: optimising truck routes, developing low-emission vehicles.
- Buildings: better automation of energy-consuming devices (lighting, heating, air conditioning), improving building design.
- Industry: optimising electric motors, ICT-driven automation.
- Dematerialisation: teleworking, videoconferencing, e-paper.

The ICT sector can improve its own energy efficiency

The ICT sector contributes around 2% of world greenhouse gas emissions, a contribution equal to that of the global aviation sector. This figure is set to increase rapidly in years to come. To put this into perspective, the number of PCs will increase to around 4 billion by 2020, compared to approximately 1 billion in 2007. As a result, emissions linked to the use of PCs, mobile phones, telecom infrastructure and data centres could double between 2007 and 2020.

It is, however, possible to make significant changes in energy efficiency to limit the emissions associated with such growth.

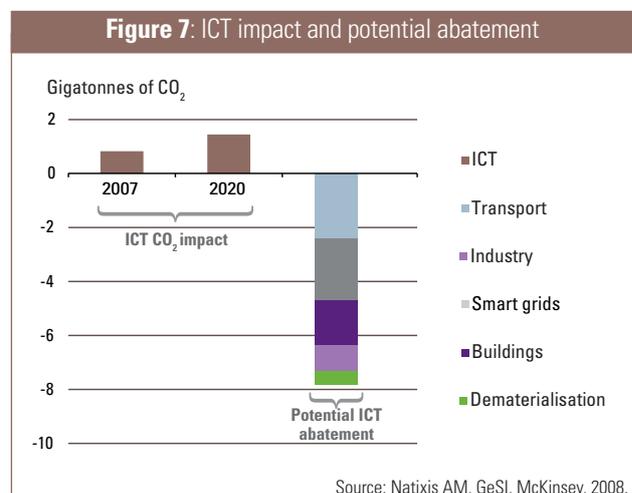
Key players have estimated that further technological advances in terms of energy efficiency could compensate for the increase in the demand for PCs between now and 2020. This trend has been supported by customers such as the American government, which requires that IT purchases must be Energy Star compliant. Companies and individuals have also started to include environmental factors in their purchasing decisions.

Important social opportunities

The ICT sector and in particular publishers, broadcasters and other content creators, have an important role to play in further developing access to information, education, communication and culture. Accessible products that improve access to, and the use of, mobile communication and the Internet have a positive impact on the lives of individuals and on the economy. To put this into perspective, it is estimated that a 10% increase in the telecommunications penetration rate would result in a growth of 1% of GDP. While these issues affect everyone, they are even more significant for disadvantaged populations. For example, one of the UN's development goals relating to ICT prioritises equitable access across countries as well as the communities within them.

(31) GeSI – McKinsey, 2008, SMART 2020 – 'Enabling the low carbon economy in the information age'. • (32) ITU, 2012, The Impact of Broadband on the Economy: Research to Date and Policy Issues. • (33) 'Demand-response' is a model for electricity producers, used in collaboration with their customers, to reduce electricity demand during peak hours by planning the use of different appliances. This model allows both reduced costs for the electrician and reduced environmental impact from electricity generation since 'peak electricity' is usually produced by the most polluting technologies.

Figure 7: ICT impact and potential abatement



Source: Natixis AM, GeSI, McKinsey, 2008.



SUSTAINABLE INFORMATION AND COMMUNICATIONS TECHNOLOGY

21 Responsible solutions

1 Limitation of the environmental impact of buildings

Modelling software can make a significant contribution to CO₂ and energy savings in the day-to-day running of buildings. This software would allow engineers and architects alike to evaluate the energy use of a building, using simulations to determine how design could influence energy reduction. Another example is that of building management systems (BMS), which can monitor automated lighting, heating and cooling, resulting in more efficient energy consumption.

2 Reduction of data centre energy consumption

With the emergence of the Internet, data centres are regularly blamed for their high, ever increasing consumption of electricity. Even if this is true, solutions exist to reverse this trend. Energy performance differs significantly from one data centre to another due to differences in server technologies and building design, and there are, therefore, ways of improving these performances. Certain players are currently offering solutions to dramatically reduce energy consumption, thus reducing their clients' energy bills as well as their environmental footprint.

3 Mobile banking

Telecommunications companies in Africa have established partnerships with financial institutions to provide underprivileged and/or remote communities with access to basic financial services where the traditional banking system does not yet exist. Through the use of mobile phones, users are able to access their account balances, and make transactions, payments, credit applications, and other similar operations.

		Key sectors			
		Software	Hardware & consumer electronics	Telecoms & telecoms equipment	Media & support services
Opportunities	Contribution to carbon/energy reduction	Industrial automation			
		Smart logistics			
		Smart buildings	1		
		Smart grids			
		Dematerialisation			
	Green ICT	Telecoms infrastructure			
		Data centres	2		
		PCs and peripherals			
	Communications and information for all	Reduction of the digital divide			3
		Improved access to education and culture			
		Responsible content			

Lack of significant opportunities
 Weak opportunities
 Strong opportunities

SUSTAINABLE FINANCE

87% of growth in the socially responsible investment (SRI) market in Europe between 2007 and 2009. In 2010, 'core' SRI reached 10% of assets under management³⁴

>50% of the earnings of companies of the MSCI All Country World Index could be at risk from environmental costs³⁵

2.5 billion individuals have no access to bank accounts or credit³⁶

11 The challenge: financing a positive economy

Favouring investments which contribute to positive change

The financial sector plays a key role in allocating financial resources and incentivising clients. It is therefore the sector's responsibility to catalyse the necessary transition towards a more sustainable economy. For example, through their investment decisions, banks can favour companies working with renewable energies, from equipment manufacturing to distribution. A positive contribution can also be made by financing projects that assist sustainable economic growth, whether through creating infrastructure, allocating funds to microfinance or granting loans to social businesses. Insurance products can also promote sustainable behaviour, for example, by charging lower premiums for electric vehicles and energy-efficient homes.

Screening for environmental, social and governance risks

The environmental and social impact of the finance sector is somewhat limited compared to other industries, notably energy or retail. However, the financial sector invests in companies present in such industries and provides financing for projects that directly impact both the environment and society.

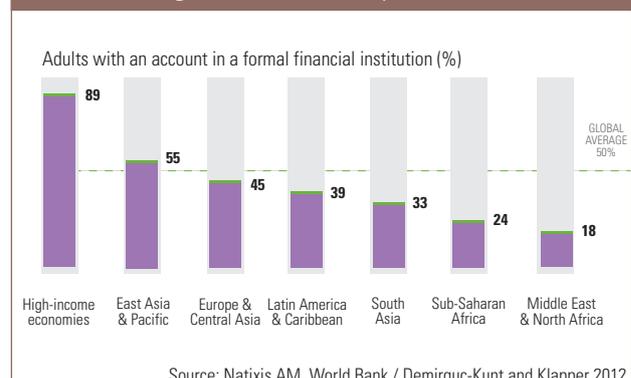
By integrating environmental, social and governance (ESG) criteria into their investment and loan analyses, investors can reduce the indirect impact of their funding and, in the long term, promote greater risk mitigation for their corporate clients. In 2003, the launch of the Equator Principle (a voluntary standard for assessing and managing environmental and human rights risks in project finance) marked the beginning of the financial sector's recognition of their indirect environmental and social responsibility.

Since then, various other subsectors have launched similar initiatives, such as the Principles of Responsible Investment (PRI), the Sustainable Stock Exchange (SSE) and most recently, the Principles for Sustainable Insurance.

Reaching the underbanked

The World Bank estimates that 2.5 billion people currently have no access to financial services such as bank accounts or credit. Through responsible microfinance, by offering services such as savings accounts, credit and insurance to low-income communities, the finance sector can help these populations in both developed and developing countries to manage their assets, generate income and reduce financial risk.

Figure 8: Bank account penetration



(34) Eurosif, 2010, European SRI Study 2010 – USSIF, Sustainable and Responsible Investing Facts. • (35) UNEP, 2010, Universal Ownership: Why environmental externalities matter to institutional investors. • (36) World Bank, 2012, Who are the Unbanked?



SUSTAINABLE FINANCE

21 Responsible solutions

1 Integrate ESG factors within investment selection criteria

Some asset managers establish processes to integrate ESG risks as part of their investment criteria. As a result, these analyses will highlight the issuers who offer solutions to sustainability challenges, and reduce their exposure to those who do not adequately manage or try to limit their negative socio-environmental impact. A similar screening process can be implemented for analysing private equity investments and corporate loans.

2 Encourage ecological behaviour

Some insurance companies encourage clients to adopt more eco-friendly practices through the products that they offer. They can implement a differentiated premium pricing for those who purchase low-emission vehicles or homes certified by environmental organisations. Additionally, insurers can offer homeowners a service whereby, in the event of a covered loss, the insurance company will cover the cost of upgrading the property to eco-friendly standards.

3 Invest in social businesses

Investors can also play a role in promoting sustainability by financing for-profit businesses whose product and/or service has a specific social or environmental goal. These kinds of investments are usually known as *impact investing*. Examples of such companies include providing school transportation in rural areas, selling affordable, nutrient-rich meals in impoverished communities or installing solar panels in locations previously dependent on expensive diesel energy generation. By investing in such business models, investors are able to generate measurable social and environmental impacts in addition to a financial return.

			Key sectors				
			Retail banks	Corporate investment banks	Asset management	Insurance	Diversified financials*
Opportunities	Financing the real economy	Financing the production of goods and services					
		Screening ESG issues in products and services			1		
	ESG in risk management	Investing in companies which mitigate environmental issues					
		Promoting ecological behaviour through products and services				2	
		Putting in place a policy of impact investing			3		
	Green investing	Providing access to finance in low-income communities					
	Social products	Financing infrastructure in developing economies					

Lack of significant opportunities
 Weak opportunities
 Strong opportunities

*Diversified financials include a range of companies providing services to businesses, such as stock exchanges, rating agencies and credit companies.

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