



SUSTAINABILITY TRENDS 2019

In the sustainability universe, 2018 was a year of global commitments, industry coalitions and local action.

Seasoned business leaders recognized the close linkage between competitiveness and sustainability in the performance of their companies. Leading international organizations committed to climate neutrality, the UNFCCC's new coalition on health, environment and climate change was established, and the focus on circularity was intensified.

These shifts have resulted in new market segments, an emphasis on meaningful metrics – and a proliferation of disclosure requirements and reporting frameworks.

The global community recognizes sustainability as a business imperative with long-term impact – organizations are setting new precedents, commitments and standards in response to shifting stakeholder demands for active management. Businesses will need to continue to adapt as these developments evolve and escalate in the coming year.

Through our research and advisory work, AccountAbility has identified seven key trends to help companies and individuals navigate the complex landscape of sustainable business challenges, and guide organizations towards effectively managing their performance and impact in 2019.

We discuss how the following seven sustainability trends will guide and shape the landscape of sustainable business over the coming year:

- 1. Collaboration for Climate Action** – 195 countries have successfully committed to a “rule book” for climate action. *How can companies benefit from collaborative climate solutions?*
- 2. SMARTer Contributions to the SDGs** – \$5-7 trillion is required annually to achieve the UN SDGs. *How can business leverage the resulting \$12 trillion market opportunity?*
- 3. From Output to Impact** – Growing investor demand requires visible long-term value creation. *How do new standards measure the impact of sustainability initiatives?*
- 4. Supply Chain Intelligence** – Consumer and regulatory pressures have triggered a need for transparent supply chains. *How will technology and big data help companies mitigate risks and achieve efficiencies?*
- 5. Shift to Circularity** – A \$24 billion stimulus package has been announced to facilitate circular economies in Europe. *How can businesses capture the value of circularity?*
- 6. Rapid Urbanization** – The smart cities market is poised to reach \$3.5 trillion by the mid-2020s. *What will this mean for emerging sectors such as urban tech?*
- 7. Automation Drives Sustainability** – The global market for autonomous vehicles will be \$556.67 billion by 2026. *How will companies tackle challenges around public opinion, infrastructure and employment?*

Each trend includes **Key Takeaways** and recommendations to help readers **Stay Ahead of the Trend**.

In 2019, AccountAbility looks forward to advancing the global sustainability agenda by collaborating with clients and partners across all geographies and sectors today to address the Environmental, Social and Governance challenges of tomorrow. We invite you to explore these trends and engage with us in conversations about the exciting times ahead.



Sunil A. Misser
Chief Executive Officer
AccountAbility

7 TRENDS THAT WILL SHAPE THE LANDSCAPE OF SUSTAINABLE BUSINESS IN 2019



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7 TRENDS THAT WILL SHAPE THE LANDSCAPE OF SUSTAINABLE BUSINESS IN 2019



1 COLLABORATION FOR CLIMATE ACTION

Governments, industry groups and the C-suite are catalyzing corporations to accelerate climate action

Businesses have been called on by world leaders and governments to strengthen climate actions and efforts. The 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24) in December of 2018 recognized the private sector not as climate culprits, but as indispensable partners¹, who can realize profits from innovative climate solutions, initiatives and programs, as some leading companies have demonstrated in recent years.



195 COUNTRIES SUCCESSFULLY COMMITTING TO A "RULE BOOK" FOR CLIMATE ACTION

The recently concluded UN COP24 climate conference in Katowice, Poland resulted in 195 countries successfully committing to a "rule book" for climate action.

AccountAbility expects the business response to accelerate climate action most significantly through:

1 AGGRESSIVE SCIENCE-BASED TARGETS FOR EMISSIONS REDUCTION

The Science Based Targets Initiative, a collaboration between CDP, the United Nations Global Compact, World Resources Institute, the World Wildlife Fund and the We Mean Business Coalition aims to establish science-based target setting as a standard business practice by 2020.

Science-based targets align with the level of decarbonization required to keep the global temperature increase below 2°C². When set by organizations, science-based targets are shown to increase innovation, reduce regulatory uncertainty, strengthen investor confidence and credibility, and improve profitability and competitiveness³.

SCIENCE-BASED TARGETS ARE ON THE RISE:



COMPANIES TAKING SCIENCE-BASED CLIMATE ACTION⁴



COMPANIES APPROVED SCIENCE-BASED TARGETS⁴

We expect these numbers to rise, with representation from all major industry sectors globally.

2 INDUSTRY COLLABORATION INCREASES IMPACT ACROSS SUPPLY CHAINS

As corporations are increasingly looked to for climate change solutions, AccountAbility forecasts a significant growth of collaborative efforts within and across industries, and between business, governments, and non-profit organizations.

Collaborative climate action offers businesses and industries the opportunity to drive change across entire supply chains, extending the impact of individuals and easing the burden on single actors. Such collaboration can also aid businesses in mitigating supply chain risks, such as regulatory pressure and consumer and legal scrutiny.



COLLABORATIVE CLIMATE ACTION IS FASHION-FORWARD:



43 FASHION LEADERS COMING TOGETHER FOR CLIMATE ACTION

The fashion industry launched the **Fashion Industry Charter for Climate Action**⁵ with 43 leaders including Adidas, Burberry, H&M, Kering and others coming together for targeted climate action across the entire supply chain, to achieve the goal of net zero emissions by 2050. The Charter includes the following climate action strategies, which are applicable to other industries:

- Decarbonization of production;
- Use of sustainable materials;
- Investment in low-carbon transport solutions;
- Targeted stakeholder communications to drive awareness;
- Collaborations with investors and policymakers to catalyze scalable solutions; and,
- Implementation of circular business models across the industry.



3 VOLUNTARY DISCLOSURES RELATED TO CLIMATE ACTION

The Task Force for Climate-related Financial Disclosures (TCFD), originally developed in 2015, offers recommendations for voluntary climate-related financial risk disclosures. Since launching, the rate of corporate disclosures based on TCFD recommendations has increased rapidly.

TCFD IS THE “CEO’S PICK” FOR RESPONSIBLE - AND RESPONSIVE - DISCLOSURE

Growing from 100 CEO supporters in 2017 to more than 500 CEO supporters in 2018, representing a market capitalization of \$7.9 trillion⁶, the TCFD has gained substantial momentum and we expect it to further increase in wake of the COP24.



TREND OUTLOOK



KEY TAKEAWAYS

- World leaders recognize the invaluable part the private sector will need to play to address global climate concerns, which will lead to development of new financial incentives for “green” product and service innovation.
- Corporations will be looked to and relied upon for support globally, making 2019 ripe for industry collaboration and public-private partnership opportunities around climate action.
- Climate initiatives that are informed by science-based targets, collaborative in nature, and properly disclosed to relevant stakeholders will support the shift of climate action from a cost center to a revenue generator.

STAY AHEAD OF THE TREND

- Conduct a structured assessment of how your organization can establish science-based targets.
- Look to peers and industry associations for collaborative alignment on climate action to capitalize on efficiencies and amplify impact.
- Establish proper governance of climate-related strategies, programs, policies and metrics in alignment to mandatory or voluntary disclosure mechanisms and stakeholder expectations.

1: UN News <<https://news.un.org/en/story/2018/12/1028051>>

2: Science Based Targets <<https://sciencebasedtargets.org/faq/>>

3: Science Based Targets <<https://sciencebasedtargets.org/why-set-a-science-based-target/>>

4: Science Based Targets < <https://sciencebasedtargets.org/companies-taking-action/>>

5: UN Climate Change < <https://unfccc.int/news/milestone-fashion-industry-charter-for-climate-action-launched>>

6: TCFD < <https://www.fsb-tcfd.org/publications/tcfd-2018-status-report/>>

7 TRENDS THAT WILL SHAPE THE LANDSCAPE OF SUSTAINABLE BUSINESS IN 2019



2 SMARTER CONTRIBUTIONS TO THE SDGS

Corporate commitments to the UN Sustainable Development Goals will get SMARTer

Rising consumer expectations, mounting pressure from governments and shifting investor interests are driving companies to make “real” contributions to the United Nations Sustainable Development Goals (SDGs).

While governments, globally, have been playing a significant role in the SDG progress, the \$5-7 trillion capital needed annually to achieve the SDGs⁷ will require similar commitments from both the public and the private sectors.



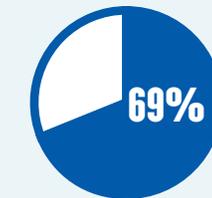
The investor community, working with the *UN Principles for Responsible Investment (PRI)*, the *UN Global Compact (UNGC)* and the *UN Environment Program Finance Initiative (UNEP-FI)* – together constituting the largest networks of private and financial sector constituencies (corporates, investors, banks and insurers) – have joined forces as the *Global Alliance on SDG Finance* to mobilize private capital towards achieving the SDGs.

The SDGs are expected to provide a \$12 trillion market opportunity in four core industries⁸ – food and agriculture, cities, energy and materials, and health and well-being – providing the investor community and corporates the impetus to explore new market opportunities.

AccountAbility foresees that traditional corporate acknowledgement and communication of high-level alignment or commitments will no longer satisfy market demand – investors and governments will be increasingly driven to establishing tangible goals in a targeted effort aimed at investing in and disclosing impact achieved towards the SDGs.



SURVEY RESULTS



COMMITTED CORPORATIONS



CORPORATIONS NOT MEASURING THEIR PROGRESS

1,500 global corporate brands surveyed by Ethical Corporation⁹

We expect to see companies take a structured approach to addressing the SDGs by developing clear strategies and initiatives to fulfill their SDG promises. This will necessitate adopting the **SMART** (*Specific, Measurable, Achievable, Relevant and Time-bound*) model of corporate goal-setting to ensure their commitments generate significant impact.

Companies will need to establish SMART goals and practical metrics to effectively disclose and report on their progress against the relevant SDGs.

Companies will be expected to:

1. Identify and prioritize SDGs that are most aligned to their business priorities and core competencies;
2. Establish SMART goals and targets that generate quantifiable value; and,
3. Report progress in a regular, standardized and useful fashion for governments and industry aggregators.



▶ TREND OUTLOOK



KEY TAKEAWAYS

- Governments will look to the private sector to bolster SDG progress – both, in voluntary and mandatory capacities. Corporates will need to be ready to respond.
- New financing mechanisms and sources of capital will be available to companies that can demonstrate SDG value creation and effective management. Those with robust SDG strategies in place have the most to gain.
- Organizations will be expected to move from high-level SDG alignment communications towards quantifiable and targeted SDG impact disclosure and reporting.

STAY AHEAD OF THE TREND

- Identify and prioritize SDGs relevant to your organization.
- Establish SDG initiatives and commitments that are SMART (Specific, Measurable, Achievable, Relevant and Time-bound).
- Report on progress completely, consistently and accurately.

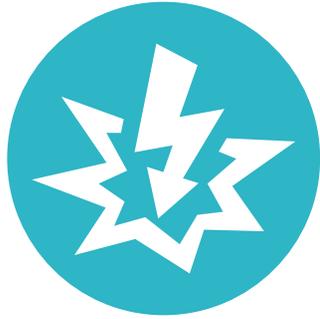


THE SDGS ARE EXPECTED TO CREATE A \$12 TRILLION MARKET OPPORTUNITY IN FOUR CORE INDUSTRIES - FOOD AND AGRICULTURE, CITIES, ENERGY AND MATERIALS, AND HEALTH AND WELL-BEING.

7: UN PRI <<https://www.unpri.org/news-and-press/un-alliance-for-sdg-finance/761.article>>
 8: UN Development Programme Programme <<http://www.undp.org/content/undp/en/home/blog/2017/8/25/More-than-philanthropy-SDGs-present-an-estimated-US-12-trillion-in-market-opportunities-for-private-sector-through-inclusive-business.html>>
 9: Ethical Corporation <<http://www.ethicalcorp.com/risk-sdg-wash-56-companies-fail-measure-contribution-sdgs>>



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3 FROM OUTPUT TO IMPACT

Managing impact is the new baseline for sustainability performance



ACCOUNTABILITY DEVELOPED ITS PROPRIETARY V.I.S.A.™ METHODOLOGY TO HELP CLIENTS MEASURE THE EFFECTIVENESS AND IMPACT OF SUSTAINABILITY INITIATIVES FOR LONG-TERM VALUE CREATION

In addition to the advancement of contributions and commitments to the SDGs, the maturation of *corporate sustainability* – as both, a field and a business practice – has brought with it a growing need to effectively measure, manage, monitor and communicate its value or business case to stakeholders. This has resulted in a shift of industry focus from “output” or “performance” to “outcomes” or “impact”.

The AA1000 AccountAbility Principles (AA1000AP 2018) – a practical set of internationally accepted guiding principles used by organizations to *assess, manage, improve and communicate* their accountability and sustainability performance – defines *Impact* as “the effect of behavior, performance and/or outcomes, on the part of individuals or an organization, on the economy, the environment, society, stakeholders or the organization itself. Material topics have potential direct or indirect impacts – which may be positive or negative, intended or unintended, expected or realized, and short, medium or long term.”

The AA1000 AccountAbility Principles 2018 (AA1000AP, 2018)

AccountAbility asserts that impact is moving to the forefront of sustainability in business as we look towards 2019.

1 INVESTING IN STRATEGIES, PRODUCTS AND SERVICES WITH A PURPOSE

Impact investing – investments made with the intention to generate positive, measurable, social and environmental impact alongside a financial return – has gained significant traction in the mainstream, further reinforcing the need for corporate actors to find ways to measure, manage, monitor and communicate impact of their sustainability strategies and initiatives.

BlackRock¹⁰, Vanguard, Voya, State Street and a number of other influential asset managers¹¹ are calling for companies to serve a social purpose and generate impact, while leading financial institutions like UBS, Morgan Stanley, Credit Suisse and a host of others are developing impact-based products and services.

2 THE EMERGENCE OF TOOLS, FRAMEWORKS AND METHODOLOGIES TO MEASURE AND MANAGE IMPACT

In response to the nascent, but growing, demand for impact measurement and reporting, a variety of tools and methodologies have been developed. We anticipate the landscape to narrow, as the market indicates an agreed upon “currency of impact.” Until then, organizations will need to evaluate the landscape of emerging tools, frameworks and methodologies to determine the option that best fits their management and reporting needs.



World Business Council for Sustainable Development

The World Business Council for Sustainable Development (WBCSD) has launched the Social Capital Protocol, which facilitates measurement of social impact, and has upgraded its Natural Capital Protocol to better enable businesses to measure their impacts and dependencies on nature.



3 TELLING THE IMPACT STORY

We have come a long way from the early days of “greenwashing” as a de-facto sustainability reporting practice. Corporate leaders are paving the way for the transition from publishing superficial annual sustainability PR pieces to building, owning and sharing stories of impact that are **measurable, relevant and meaningful**.

Trailblazers are advancing their reporting to focus on impact creation, measurement and progress:

- BASF has developed a “Value to Society” approach to measure the economic, ecological and social impacts of its activities along the value chain¹².
- Kering has reported on the environmental impact of all its brands and supply chains in an Environmental Profit and Loss Report¹³.
- Salesforce released its first Social Impact Report and has committed to annual reporting on its social impacts¹⁴.

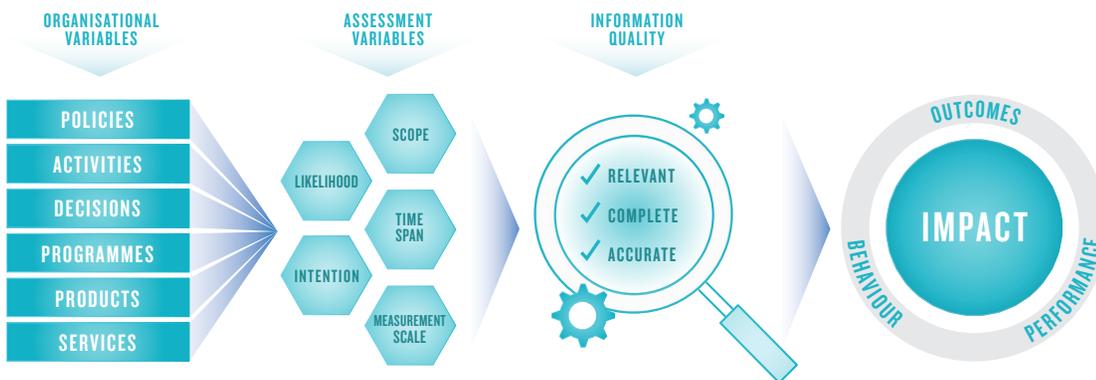
TREND OUTLOOK

KEY TAKEAWAYS

- Growing investor focus on corporate social purpose and ESG impact will reward companies that visibly and credibly demonstrate impact generation, and penalize those that do not.
- Organizations will continue to experiment with emerging tools, methodologies and frameworks for impact measurement and management, until consensus can be reached regarding the right “currency of impact” which will ultimately narrow the impact measurement, management and disclosure landscape.

STAY AHEAD OF THE TREND

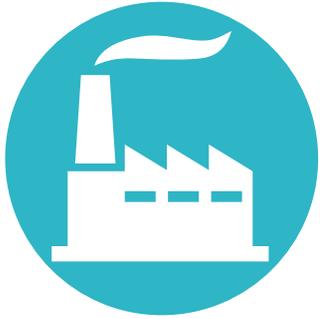
- Identify and prioritize relevant impact focus areas that your organization is well-suited to address.
- Apply relevant tools, methodologies and frameworks to guide an impact-based approach to evaluating, managing and communicating sustainability and business performance.
- Establish and communicate your organization’s impact narrative to strengthen the value and legacy of your brand with investors and other stakeholders.



MEASURING, MANAGING AND EVALUATING IMPACT TO LEAD EFFECTIVE DECISION-MAKING AND RESULTS-BASED MANAGEMENT (AA1000AP, 2018).

10: BlackRock <<https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter>>
 11: CECP <http://cecp.co/wp-content/uploads/2018/02/SII-Investor-Letter_final.pdf?redirect=no>
 12: BASF: <https://www.basf.com/global/en/who-we-are/sustainability/management-and-instruments/quantifying-sustainability/we-create-value.html>
 13: Kering: <http://www.kering.com/en/sustainability/whatissepl>
 14: Salesforce: <https://www.salesforce.org/announcing-the-salesforce-org-social-impact-report-2018/>





4 SUPPLY CHAIN INTELLIGENCE

Smarter technology and transparency are transforming supply chain management

Pressure from consumers, activist groups and regulators is driving companies to increase the transparency of their supply chains when it comes to better accountability of their environmental, social and governance (ESG) practices.

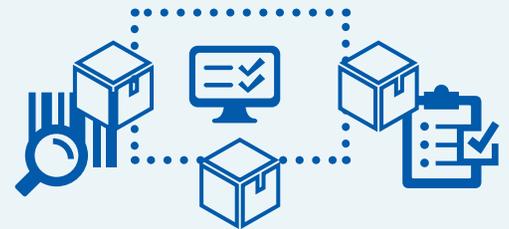
AccountAbility anticipates regulatory pressures around supply chains to continue to increase, especially in the areas of slavery, human rights and trafficking.

The California Transparency in Supply Chain Act of 2010 has triggered international governments, including those in the UK, France, Australia, and Hong Kong, to introduce anti-slavery legislation¹⁵.

Fortunately, the rise of Big Data, Block Chain, “Internet of Things” (IoT) and Artificial Intelligence (AI) are easing the burden on companies to mitigate supply chain risks and enhance the accuracy, management and transparency of their supply chains and meet market demands.



IBM Food Trust™



IBM recently launched IBM Food Trust¹⁶ that uses blockchain technology to bring unprecedented levels of transparency to food system data. Carrefour, Nestle, Tyson Food, Unilever and Walmart have subscribed¹⁷ to the platform, with more expected to follow.

Wilmar International¹⁸, the world’s largest palm oil trader supplying 40% of the world’s palm oil, recently announced a detailed plan to map and monitor all its suppliers, in a bid to make its supply chain deforestation-free. Wilmar’s announcement, a culmination of an intense campaign by Greenpeace, is expected to have implications for the entire industry.

We anticipate such platforms and collaborations to soon be developed for other high-risk, high-impact industries, notably fashion¹⁹, jewelry²⁰, metals and mining²¹.

EMERGING TECHNOLOGY IS ENABLING COMPANIES TO SHIFT TO LEANER YET MORE RESPONSIBLE SUPPLY CHAINS



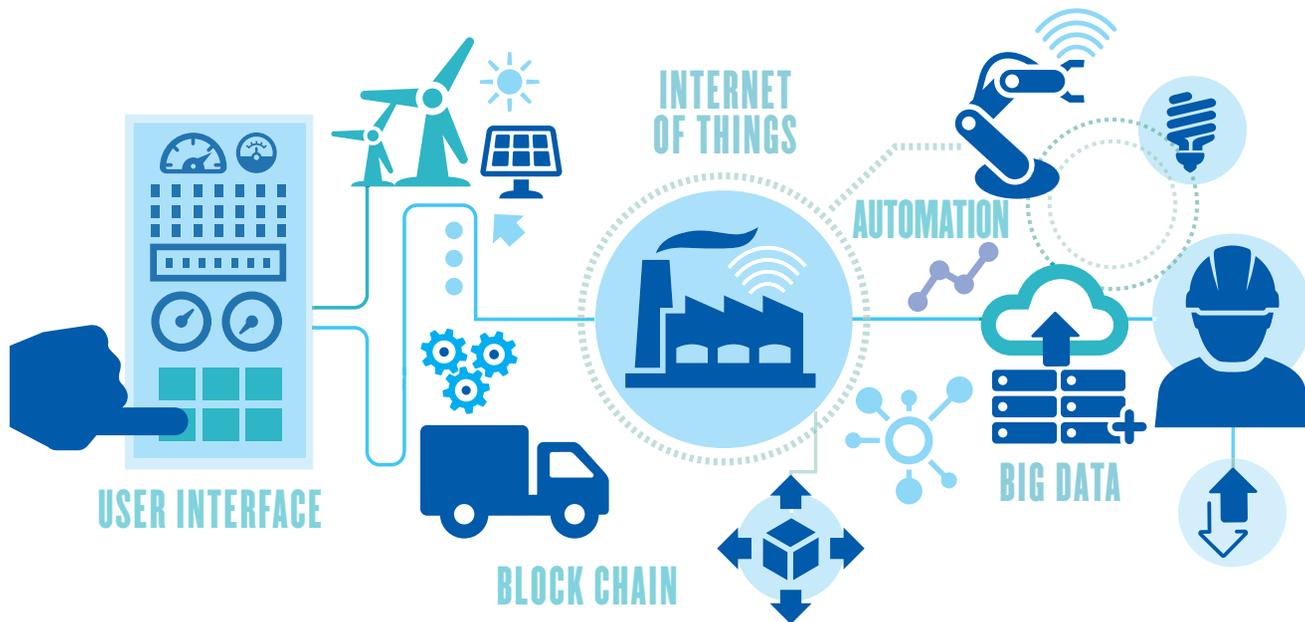
▶ TREND OUTLOOK

KEY TAKEAWAYS

- Traditional supply chain management practices may no longer suffice to meet the expectations of regulators and investors. Organizations will need contemporary and innovative practices to satisfy demands for transparency and disclosure.
- Big Data and smart technologies such as Block Chain, “Internet of Things” and Artificial Intelligence will enable innovative supply chain management systems that not only offer greater transparency and accountability, but also opportunities for operational efficiencies, cost reductions, quality control, and risk mitigation.

STAY AHEAD OF THE TREND

- Engage relevant supply chain stakeholders to understand their expectations.
- Conduct a formal review of current supply chain management practices to identify gaps and deficiencies and to highlight potential strategies for improvement and modernization.
- Consider data management and automation technology platforms that can offer near- and long-term supply chain innovation value.
- Diligently, openly and honestly communicate supply chain management efforts, progress and results.



TECHNOLOGY WILL ENABLE INNOVATIVE SUPPLY CHAIN MANAGEMENT SYSTEMS THAT OFFER GREATER TRANSPARENCY, ACCOUNTABILITY, AND HIGHER OPERATIONAL EFFICIENCIES.

15: International Corporate Accountability Roundtable < <https://www.icar.ngo/news/2018/8/14/good-better-best-improving-modern-slavery-acts-from-the-uk-to-australia>>

16: IBM Food Trust: <https://www.ibm.com/blockchain/solutions/food-trust>

17: IBM Blockchain traceability platform: <https://channels.theinnovationenterprise.com/articles/ibm-launches-blockchain-based-food-traceability-platform>

18: Wilmar International: http://media.corporate-ir.net/media_files/IROL/16/164878/News-Release-10-Dec-18-Wilmar-Leads-Palm-Oil-Industry-to-be-Deforestation-Free.pdf

19: Forbes < <https://www.forbes.com/sites/samantharadocchia/2018/06/27/altering-the-apparel-industry-how-the-blockchain-is-changing-fashion/#33f57a7729fb>>

20: International Council on Mining & Metals < <https://www.icmm.com/en-gb/case-studies/global-projects-to-increase-transparency-and-reduce-corruption>>

21: International Council on Mining & Metals < <https://www.icmm.com/en-gb/case-studies/global-projects-to-increase-transparency-and-reduce-corruption>>

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5 SHIFT TO CIRCULARITY

Shifts from a linear to a circular economy will change the Business of Tomorrow

Rampant consumption and an increasing awareness of the resulting social and environmental impacts are leading governments, consumers and organizations to rethink the current “linear” economic system (*Produce-Use-Discard*) and move towards a “circular” economy, a system of production and consumption that is reusable, restorative, and sustainable by design.

While the private sector has spearheaded innovative circular economy solutions, governments internationally have recently made significant political and financial investments to facilitate this movement. The EU and China signed an MoU²⁸ committing to align on circular economy policies to unlock new sources of economic growth and innovation, while reducing environmental impacts.

THE SHARING ECONOMY MODEL

AccountAbility anticipates that the shift towards circularity will accelerate with increasing directives and investments in favor of circular processes, which will keep resources in use for as long as possible, minimizing negative impact on society and the planet. We anticipate growth in both opportunities and challenges for businesses as they will have to continuously innovate in order to overhaul traditional processes and product designs aimed at maximizing resource value, while minimizing waste and emissions.

The use of electric subscription and ride-shares will be between four- to ten-times cheaper than owning a car by 2021²⁹. This means that products can be designed for fleet or high-volume commercial sales and produced more efficiently, resulting in a market that produces less waste at all points of a product’s lifecycle.

Though this circular model is gaining momentum in all sectors, an evolving economic model such as this requires a parallel shift in consumer behavior and expectations. The shift from a traditional “ownership model” requiring capital-intensive purchasing to a “sharing model” that attracts consumers with low-cost, pay-for-use rental alternatives is generating increasing consumer demand.

In addition to new companies, like Uber, Lyft and Airbnb, that have disrupted traditional transportation and hospitality industries with sharing economy business models, established companies are also exploring ways to innovate and partake in the sharing economy.

- Philips has created subscription models for its lighting products³⁰
- CHP is creating temporary villages for students using shipping containers³¹
- BMW launched ReachNow, a car sharing service that allows App users to use BMWs and Minis for a per-minute or per-hour rate³²



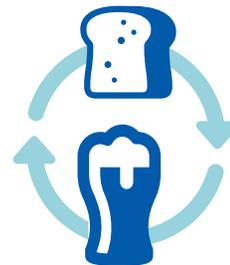
ECONOMIC STIMULUS ANNOUNCED BY EU²² TO ALIGN ON CIRCULAR ECONOMY POLICIES INCLUDING A NEW SET OF MEASURES AND DIRECTIVES AROUND PLASTICS, CHEMICALS, WASTE, RAW MATERIALS AND MORE.²³



EILEEN FISHER LAUNCHED A PROGRAM TO REPURPOSE AND REMAKE OLD CLOTHES²⁴



TIMBERLAND IS PRODUCING TIRES THAT CAN BE RECYCLED INTO TIMBERLAND SHOES²⁵



TOAST ALE TURNS WASTED BREAD INTO BEERS²⁷

UNILEVER CONTINUES TO EXPLORE AND REINVENT ITS BUSINESS MODEL FOR A CIRCULAR ECONOMY²⁶

BUSINESSES HAVE BEGUN TO RETHINK THE SOURCING AND THE END-OF-LIFE USE OF THEIR PRODUCTS



▶ TREND OUTLOOK

KEY TAKEAWAYS

- Changing regulatory pressures and penalties, the cost and availability of raw materials, and consumer behavior and expectations will continue to move local and global markets from linear models to circular economies.
- Businesses will be forced to seriously consider the increasingly material externalities associated with the sourcing, production, consumption and end-of-life impacts of their products and services, and respond with innovative solutions at the design level.
- The sharing economy has flooded the market with new, inventive and quickly-growing startups that are disrupting traditional industries. Established players will move from startup partnerships to acquisitions in order to absorb innovative models and compete in the changing landscape.

STAY AHEAD OF THE TREND

- Conduct a formal Life-Cycle Analysis or Impact Assessment to gain clarity and comprehension of the true cost of your operations, products and services.
- Target innovation around responsible resource selection, production methods and predicted consumer behavior.
- Identify secondary markets for materials reuse to guide product design and strategic partnerships.
- Work with local regulators to co-develop systems and incentives that facilitate circular economy-inspired R&D for your business.
- Consider alternative “product as service” models to engage new demographics and capitalize on sharing economy opportunities.



THE SHARING ECONOMY MODEL ATTRACTS CONSUMERS WITH PAY-FOR-USE RENTAL ALTERNATIVES. USERS THRIVE ON THE VALUE DELIVERED BY ACCESS TO BETTER, AFFORDABLE AND UNIQUE PRODUCTS AND EXPERIENCES.

22: European Commission < http://ec.europa.eu/environment/circular-economy/index_en.htm>
 23: European Investment Bank: <http://www.eib.org/en/infocentre/press/releases/all/2015/2015-299-eu-opens-up-eur24bn-of-existing-finance-to-circular-economy-businesses-in-support-of-eu-climate-goals.htm>
 24: Eileen Fisher: <https://www.eileenfisher.com/circular-by-design-gfa/25>; European Commission < http://ec.europa.eu/environment/circular-economy/index_en.htm>
 25: TIMBERLAND: <https://www.timberlandtires.com/our-story/>
 26: UILEVER CIRCULAR BUSINESS MODEL: <https://www.forumforthefuture.org/Handlers/Download.ashx?DMF=ea974cca-6444-41cb-9d37-0341fe2d7fe1>
 27: TOAST ALE: <https://www.toastale.com/>
 28: European Investment Bank: <http://www.eib.org/en/infocentre/press/releases/all/2015/2015-299-eu-opens-up-eur24bn-of-existing-finance-to-circular-economy-businesses-in-support-of-eu-climate-goals.htm>
 29: <https://www.forbes.com/sites/quora/2017/06/22/what-will-car-ownership-look-like-in-the-future/#5173ebef6b99>
 30: PHILIPS CIRCULAR LIGHTING: <https://www.signify.com/global/sustainability/circular-lighting>
 31: CPH Village: <https://cphvillage.com/>
 32: BMW CAR SHARING: <https://reachnow.com/en/>



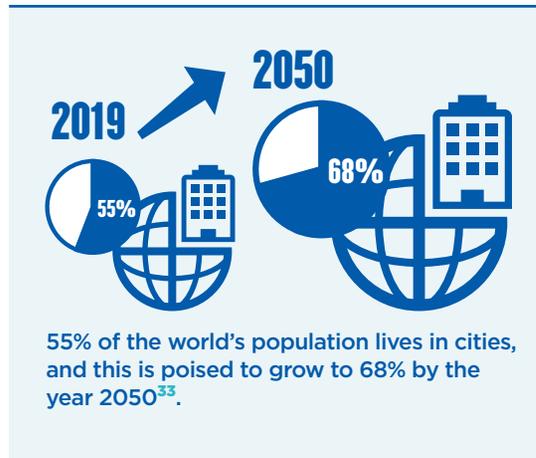
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6 RAPID URBANIZATION

The rate of urbanization presents new business challenges and opportunities

Rapid urbanization is redefining societies, economies and cultures, and compelling businesses to both address the challenges and capitalize on the opportunities posed by the urbanization.



NECESSITY FOR RADICAL REDESIGN OF OPERATIONS

Companies like Nestlé and Mars are faced with supply chain disruptions as rural small-holder farmers migrate to cities. Logistics companies, like UPS and FedEx, are concerned about the increasing volume and complexity of their operations due to congestion and infrastructure challenges. These examples demonstrate the shifting nature of operations faced by all businesses and highlight the need for organizations to re-evaluate and redesign their operations to survive, let alone thrive, in this rapidly changing landscape.

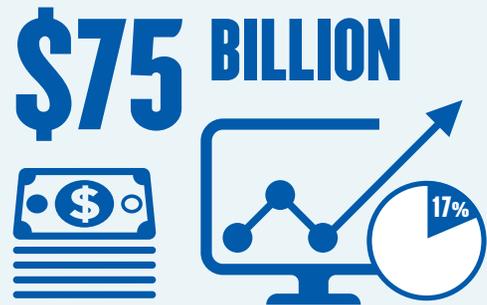
OPPORTUNITIES FOR SUSTAINABILITY INNOVATION

As businesses are compelled to address the challenges and opportunities associated with urbanization, they are poised to play critical roles, both in the rise of infrastructure and technology that reduce social and environmental impact, drive economic development, and improve quality of life³⁴.

“Urban tech” – a budding technology sector which designs innovative products, services and business models around city living systems and communities – is on the rise, capitalizing on the growing value of a shared economy model in increasingly populated urban centers.

2018 saw a continued and accelerated rise of companies capitalizing on rapid urbanization – such as Uber, Lyft, WeWork, Waze, Lime and Bird – along with a multitude of startups in emerging fields like construction tech, real estate analytics, delivery, and smart infrastructure.

Fueled by substantial venture capital investments, urban tech companies are revolutionizing everything from food delivery to office rental as they continue to find ways to innovate for, and profit from, urbanization in a millennial market.



17% OF ALL GLOBAL VENTURE CAPITAL

Urban tech investment totaled \$75 billion between 2016-2018, representing 17% of all global venture capital³⁵.



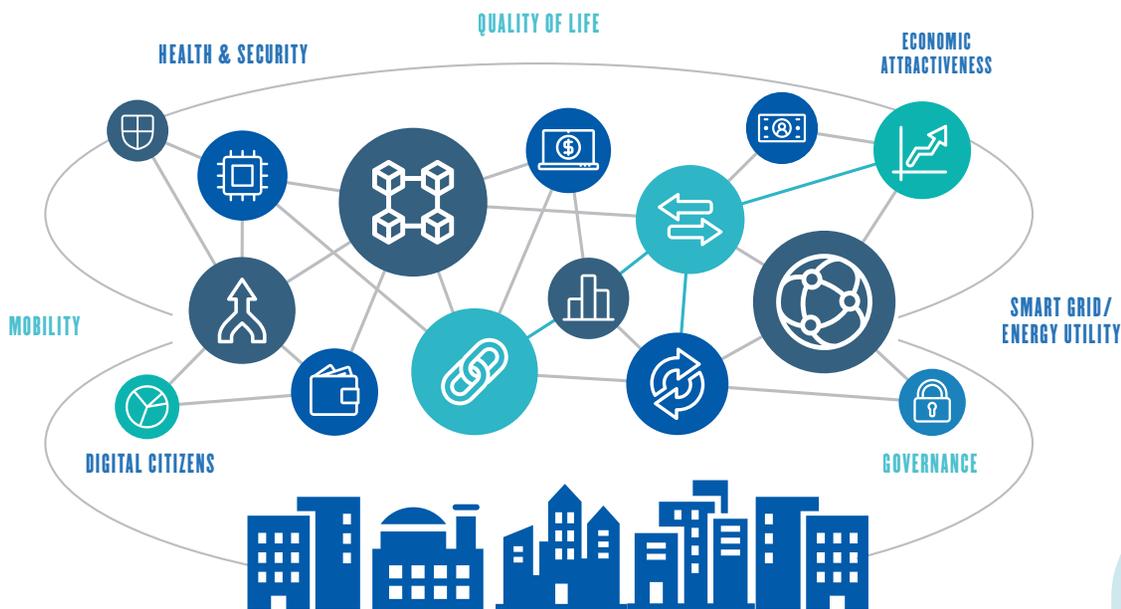
▶ TREND OUTLOOK

KEY TAKEAWAYS

- Urbanization will continue to offer new opportunities, though the speed of change is already bringing unprecedented challenges that will require responsive action in 2019.
- Changes in labor availability, purchase order volume and demand volatility will stress human capital, sourcing, production, distribution and response systems. Companies in all sectors will need to redesign their business models to adapt to the shifting landscape and rise of “smart” and sustainable cities.
- The growth of the urban tech sector will continue to disrupt traditional business models. Established companies across sectors will explore acquisitions and/or partnerships with urban tech companies.

STAY AHEAD OF THE TREND

- Conduct a formal Life-Cycle Analysis or Impact Assessment to gain clarity and comprehension of the true cost of your operations, products and services.
- Target innovation around responsible resource selection, production methods and predicted consumer behavior.
- Identify secondary markets for materials reuse to guide product design and strategic partnerships.
- Work with local regulators to co-develop systems and incentives that facilitate circular economy-inspired R&D for your business.
- Consider alternative “product as service” models to engage new demographics and capitalize on sharing economy opportunities.



THE “SMART CITIES” REVOLUTION IS ALREADY HERE, WITH A MARKET THAT IS PROJECTED TO GROW FROM \$1 TRILLION IN 2017 TO \$3.5 TRILLION BY THE MID-2020s³⁶. HITACHI, CISCO, SIEMENS, AND MICROSOFT ARE SOME EXAMPLES OF COMPANIES INVESTING HEAVILY IN BUILDING “SMART” AND SUSTAINABLE CITIES³⁷.

33: UN DESA <<https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html>>

34: Bank of America <<https://www.bofaml.com/en-us/content/smart-cities/future-smart-city-infrastructure.html>>

35: Investopedia <<https://www.investopedia.com/news/smart-cities-companies-profit-urban-challenges/>>

36: Smart City Hub <<https://smartcityhub.com/technology-innovation/the-top-ten-companies-that-build-smart-cities/>>

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7 TRENDS THAT WILL SHAPE THE LANDSCAPE OF SUSTAINABLE BUSINESS IN 2019

7 AUTOMATION DRIVES SUSTAINABILITY

Automation accelerates the transportation revolution



A PEW RESEARCH STUDY FOUND SHIFTING BUT STILL CONCERNING PUBLIC OPINION AROUND AUTONOMOUS VEHICLES:



WERE NOT TOO ENTHUSIASTIC OR NOT AT ALL ENTHUSIASTIC



WERE VERY WORRIED OR SOMEWHAT WORRIED



WOULD NOT WANT TO RIDE IN AN AUTONOMOUS VEHICLE



42% OF WHICH SAID THEY DON'T TRUST IT OR WOULDN'T WANT TO GIVE UP CONTROL



SUSTAINABILITY ISSUES IN THE TRANSPORTATION SECTOR

While the socioeconomic benefits of transportation – of both, goods and people – has made the sector an indispensable, integrated facet of modern civilization, its proliferation has generated costly impacts on environment and society:

- Premature deaths related to air pollution, estimated to be 3.7 million by the WHO in 2012, are most closely related to particulate matter (PM). Road transport alone can account for up to 30% of PM in European cities and up to 50% in OECD countries³⁸.
- Transport is also responsible for about 15% of global greenhouse gas (GHG) emissions³⁹, and, more specifically, over 20% of total fuel combustion CO₂ emissions globally⁴⁰.

Negative externalities – *direct*, *indirect* and *cumulative* – have been exacerbated by population and GDP growth, especially in urban centers, and have long been a focal point for sustainability advocates who have thus far witnessed gradual, incremental improvement.

The Sustainability Accounting Standards Board (SASB) has identified GHG Emissions, Air Quality, Health & Safety and Critical Incident Risk Management as the sustainability issues most likely to be material to industries across the transportation sector⁴¹.

The advent and innovation of **a) electrification**, **b) vehicle sharing** and **c) automation** have more recently enabled rapid change in the transportation sector, encouraged, not by advocacy, but by competitive market conditions, and facilitated by regulatory responses to sustainability issues, such as climate change, public safety and urbanization.

AUTOMATION CAN HELP, IF MANAGED EFFECTIVELY

Since Tesla mainstreamed the recognition of “vehicles as technology” in the 2000s, the paradigm shift has transformed the auto industry and presented opportunities for non-traditional entrants from other sectors. Google and Uber have been pioneers in driverless vehicles, many of which are populating

the roads in several major urban areas internationally. General Motors, Ford and Toyota have responded in kind, with investments in acquisitions or innovations of their own.

As beta testing and rollout of autonomous vehicles accelerates in 2019, we see growing application and impact of autonomous transportation in other sectors, such as long-haul trucking, railways and sea transportation.

CHALLENGES

1. Easing public perception (e.g. risk, ethics, accountability)
2. Overhauling operations in order to maintain market competitiveness
3. Incentivizing investment in transformative R&D
4. Developing strategic partnerships or acquisitions

OPPORTUNITIES

1. Improvement in safety incident rates as autonomous vehicles are not prone to human error caused by exhaustion, inebriation, emotion or subjectivity⁴²
2. Lower fuel/power consumption rates and reduced direct transportation emissions, provided it is coupled with electrification and utility scale renewables⁴³

General Motors (GM), which bought Cruise Automation for nearly \$600 million, is on the verge of delivering self-driving EVs⁴⁴. GM built one of the largest charging stations and is ready to launch electric “robotaxi” services⁴⁵ in several US cities, starting in San Francisco this year. In January 2019, GM’s Cruise Automation announced its partnership with the food delivery company, DoorDash. In 2019 they will be testing driverless deliveries⁴⁶ to consumers in major cities across the United States.



In August 2018, Yara International⁴⁷, a Norwegian fertilizer company, announced plans for an autonomous and purely electric container ship that should be operational in 2022. According to the company, the electric ship should replace a total of 40,000 truck journeys a year⁴⁸.

As the industry evolves, there will be unavoidable consequences when it comes to infrastructure and employment. The public and private sectors alike will need to grapple with a transforming workforce - 300,000 traditional jobs may be eliminated each year in the US, but new automated transportation job listings accelerated to a 250% year-over-year increase in the second quarter of last year⁴⁹.

AccountAbility expects focus and innovation in the field of autonomous transportation to escalate in 2019, with vehicles and infrastructure increasingly recognized not just as utilitarian machines, but as hardware and software with accelerating intelligence.



THE U.S. DEPARTMENT OF TRANSPORTATION EXPECTS AUTONOMOUS TRANSPORTATION TO REDUCE TRAFFIC FATALITIES BY AN ESTIMATED 94%⁵⁰

▶ TREND OUTLOOK

KEY TAKEAWAYS

- The recent growth of automation in the auto industry will encourage and advance similar trends in other core industries of the transportation sector, particularly those with broad-reaching impact.
- Impacts from the acceleration of electrification, automation and shared vehicles can be overwhelmingly beneficial if advanced concurrently and with complementary investment in necessary infrastructure development and policy reform.
- As the transportation sector continues to transform, traditional industry jobs will fade and new jobs and market opportunities will continue to materialize.

STAY AHEAD OF THE TREND

- Understand the implications that transportation automation will have for your supply chain, operations, distribution and employment for your organization.
- Determine ways to capture new market opportunities through innovation.
- Identify and engage strategic partners that will support a smooth and profitable transition.

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45: The Economist < <https://www.economist.com/business/2018/01/25/gm-takes-an-unexpected-lead-in-the-race-to-develop-autonomous-vehicles> >

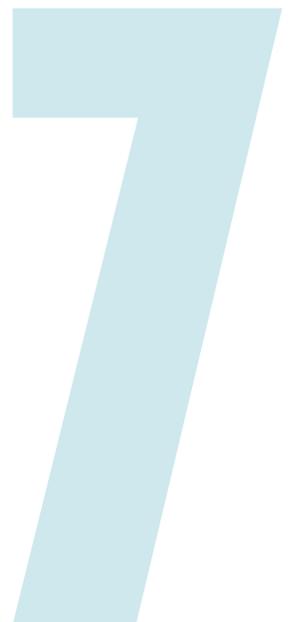
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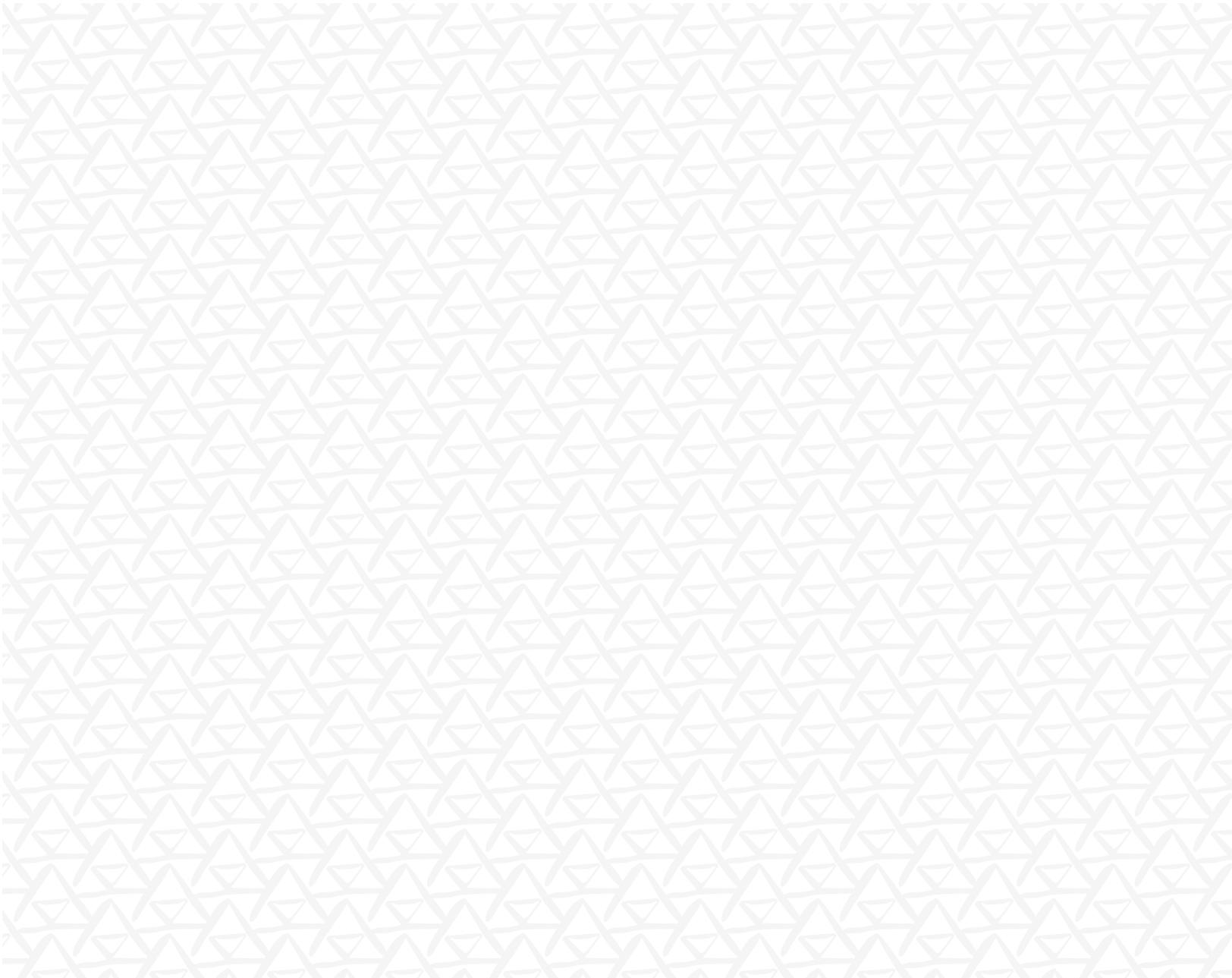


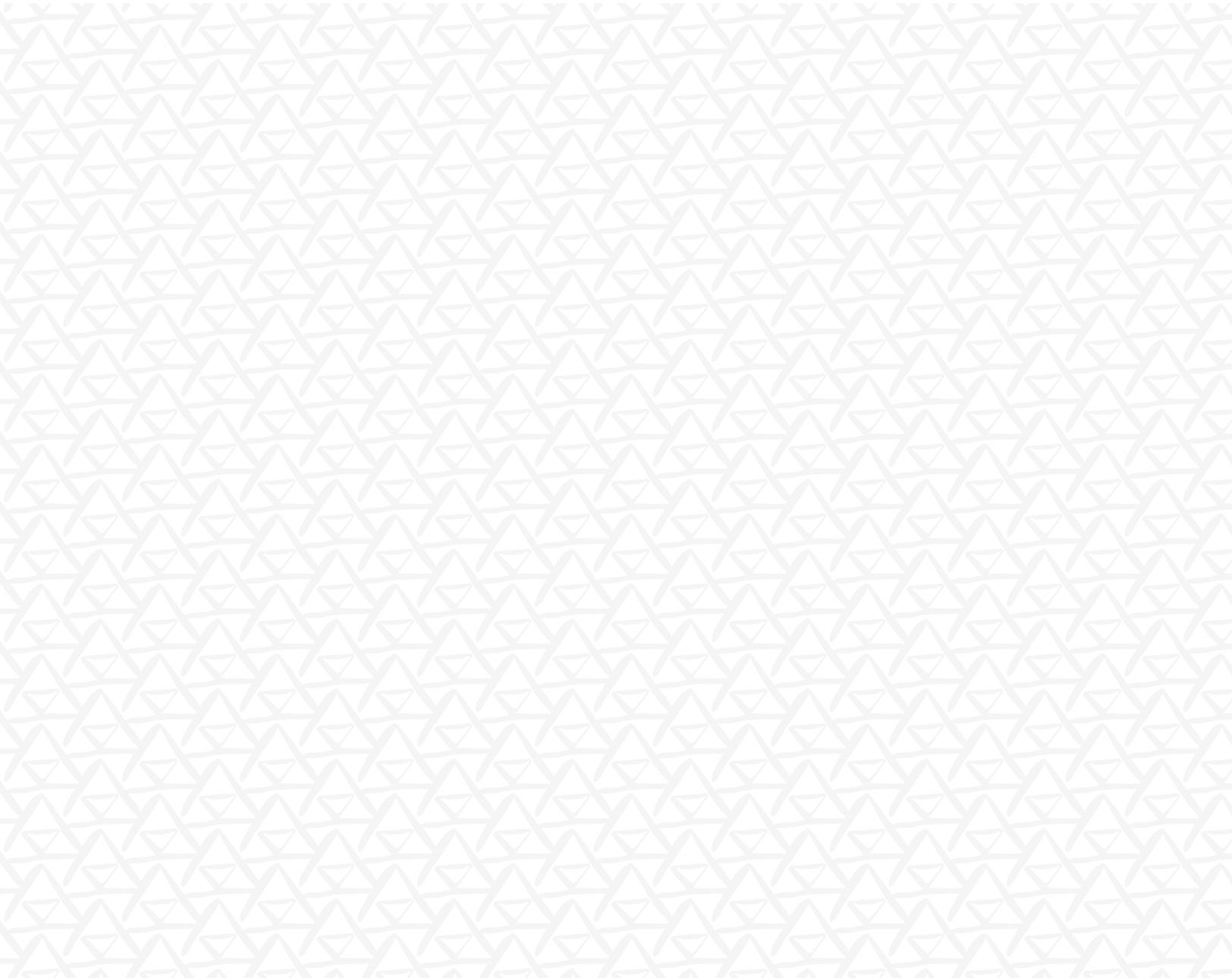
ABOUT ACCOUNTABILITY

AccountAbility is a global consulting and standards firm that works with business, governments and multi-lateral organizations to advance responsible business practices and improve their long term performance. Since 1995, we have been helping corporations, nonprofits and governments embed ethical, environmental, social and governance accountability into their organizational DNA.

For two years in a row, AccountAbility has been ranked among the Top Sustainability Management Consulting Firms by the Financial Times, UK.

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