

4. NON-FINANCIAL PERFORMANCE STATEMENT 2018

4.1. Business model

In a world undergoing major demographic and geographic upheaval, the need for transportation infrastructure has both grown and changed. To respond to these challenges, Colas needs to transform and adapt.

Building infrastructure entails implementing a maintenance system to ensure that infrastructure's long-term viability. In the case of road and rail infrastructure, maintenance and transformation of existing structures account for around 90% of the market and involves minor works (around 140,000 euros on average). Handling this ongoing work requires a network of local teams able to carry out these thousands of small-scale projects.

Furthermore, in order to be sustainable, a company must offer its employees and future recruits satisfactory working conditions, particularly as attracting talent has become a key issue for the public works sector. These days, fostering a sense of belonging at a company means embodying core values such as ethics, safety and respect for human rights.

In light of these two points, Colas has developed a business model based on the following principles:

- conducting its business activities by means of long-term, local operations on a human scale all over the world;
- taking a decentralized approach that lets its business units adapt to local conditions (technical, human resources, weather-related, etc.);
- allowing its business units and their clients to benefit from the pooled expertise of a major Group.

To optimize this business model, Colas draws on three additional points:

1. It is necessary to be able to carry out major new-build projects, mostly relying on the network of long-standing business units. Colas Projects was created with this in mind, allowing for technical and organizational advances in major projects that can then continue to enhance the network. There are also countries where major works are possible but where a long-standing presence is not feasible.
2. In order to offer clients and users the best possible transportation conditions, it is essential to have an overarching vision and control of the upstream value chain by producing a large proportion of construction materials (aggregates, asphalt mix, modified bitumen, etc.). This allows for the development of innovative techniques, control of impacts (carbon footprint assessment, for example) and offering the client economies of scale that also constitute a key factor in competitiveness.
3. Optimizing Colas' local presence may lead to taking on related work that it makes sense to handle at this level (building, civil engineering, networks, environment, etc.).

The construction and maintenance of mobility infrastructure is connected to environmental issues. Transportation and the related linear infrastructure meet an essential human need, but they also pose an environmental problem relating to the transition to new energy sources and environmental concerns such as the climate impact of combustion engines, resource use, ecosystem fragmentation and land development. Colas is aware of these issues and is taking action to change its activities accordingly. To this end, it draws on its business model of adapting to local conditions and its ability as a major group to pool improvements and come up with breakthrough innovations.

With all this in mind, Colas has set itself a mission to design, promote and perform transportation infrastructure solutions. Its ambition is to be the reference company in this field.

This explains the nature of its activities, as Colas' competitive universe consists of a number of aspects and a variety of parties are involved. As a world market leader in the public works sector, Colas competes with major French and European companies (such as Eurovia and CRH) when bidding for public tenders in Mainland France, Overseas France and internationally. Colas is also aware of the threat from companies in fast-growing emerging markets such as Turkey, China and Brazil, which it is having to compete with, particularly in developing parts of the world. Lastly, in new markets such as sustainable cities, we are seeing attempts to "uberize" the public works sector and the arrival of potential new competitors such as Alphabet, Cisco and Orange, which are using digital technology to position themselves as a driving force behind the transformation of cities, living conditions and transportation.

4.2. Main CSR challenges

Colas' approach to responsible development (see www.colas.com) is based on the dual conviction that its businesses help fulfill essential needs and aspirations, and that they must be conducted in a responsible manner. Colas has to take into account the expectations and contradictions of contemporary society, including social cohesion, climate change, transportation and housing needs, improving living conditions, energy transition and resource management.

As the cornerstone of this approach, the overall CSR policy implemented across the Group and adapted to the specificities of each entity is guided by several key priorities, based on the concept of risk management. For each of the Group's priorities, a policy of continuous progress has been established and is coordinated at every level of the organization. In most cases, global performance indicators and goals have been specified. This approach seeks to foster a deep and lasting culture of continuous improvement in the field, across the 800⁽¹⁾ construction business units and 2,000⁽¹⁾ materials production units listed in the non-financial reporting software.

Human capital	19	Circular economy and recycling	38
Attracting talent	19	Steps taken to promote the circular economy	38
A dynamic strategy	19	Consumption of raw materials and recycling	38
Diversity policy and preventing discrimination	22	Waste prevention and management	40
Retaining employees	25	Social acceptance and local regions	41
Organization of working time	25	Socio economic impact on local regions	41
Conditions for labor-management dialogue and agreements signed with employee representatives	26	Employment	41
Compensation and changes in compensation	27	Local purchasing within global policy	42
Developing careers	28	Patronage activities, sponsorships and partnerships	42
Career management within the Group	28	Social commitments towards non-contractual stakeholders	44
Integration of young managers	28	Citizens	44
Policies implemented for training	29	Road users	44
Health and safety	30	Local populations	46
Workplace health and safety conditions	30	Environmental impact on local and regional areas	46
Safety policy	30	Adapting to the consequences of climate change	46
Health policy	30	Sustainable resource use and pollution prevention measures	47
Workplace accidents, particularly their frequency and severity, and occupational illnesses	33	Protecting biodiversity	49
Outcome of agreements signed with trade unions or employee representatives as regards workplace health and safety	33	Ethics	49
3. Environment	34	Actions taken to prevent corruption and encourage fair business practices	49
Environmental policy principles of action	34	Code of ethics for the purchasing function	51
Systems in place for steering environmental policy	34	Energy and greenhouse gases	51
Employee environmental awareness-raising initiatives	35	Energy consumption and measures taken to improve energy efficiency	51
Resources used and measures taken to prevent environmental risks and pollution	36	Carbon footprint and reduction measures	53
Amount of provisions and guarantees to cover environmental risks	37		

(1) These figures do not take account of information concerning the Miller McAsphalt group.

4.3. CSR challenges – policies – action plans – key indicators

4.3.1. Human capital

Colas implements its human resources policy across all regions where it operates according to local legislation and its specific requirements. As part of its 2017-2020 Human Resources strategy, the areas developed to exercise its social responsibility are based on three priorities in addition to one essential commitment, that of health and safety (detailed in Section 2 of this report):

- **attract** new talent by surrounding itself with men and women who reflect the plurality of civil society (diversity in terms of culture, ethnicity, age, gender, initial training, etc.); preventing discrimination; implementing dynamic recruitment policies for future employees, work-based training students and interns; and championing equal treatment and equal promotion opportunities for men and women.
- **retain** employees by implementing actions favoring quality of life in the workplace, ensuring a good work/life balance, offering appropriate compensation and employee benefits, and creating the right conditions for dialogue between employees and management.
- **develop** employees' skills in order to enhance their expertise and give them more responsibility, make them more employable and also enable Colas to improve its financial performance and anticipate changes in its activities.

4.3.1.1. ATTRACTING TALENT

Public works are traditionally a less attractive business sector than others that faces difficulties with recruiting staff regardless of the job on offer and the skills required. In the light of this observation, which relates primarily to mistrust of the trades involved and the industry's lackluster image, Colas has adopted an active policy to respond to this challenge and attract future talent.

4.3.1.1.1. A dynamic strategy

In France, where the upturn in activity was confirmed in 2018, particularly in the Paris region with the Le Grand Paris Express projects, recruitment should be able to respond to needs relating to carrying out construction projects and the implementation of all functional and operational projects. The Human Resources department endeavors to make Colas more attractive and diversify its sources of recruitment in order to benefit from a greater variety of backgrounds in a highly competitive climate.

The Group's ability to attract new staff is clearly also bolstered by its fourth-place showing in the 2018 ranking of the best construction and civil engineering employers compiled by the data provider Statista for the magazine Capital as well as the positive opinions posted on business rating sites (Glassdoor, Indeed, Viadeo), reflecting its employees' pride in working for Colas.

Colas' recruitment strategy is supported in particular by its many partnerships with schools, which help build strong relationships with students, resulting in offers for internships, work-study positions, and ultimately full-time jobs.

In 2018, Colas took on a total of 2,600 interns across its Mainland France entities, 172 of whom were subsequently hired. Of the 138 interns in the final year of their studies, 42% were hired to full-time positions. Furthermore, the number of students on work-based training programs has increased significantly (by 100 people).

In 2018, alongside its commitment to developing its relationships with engineering schools, university technology institutes and other two-year higher education programs in civil engineering, as well as institutions like Centre d'Egletons, a French civil engineering training school, Colas introduced or continued various initiatives to promote its employer brand, such as: an ambassador program in partner institutions with a focus on diversity; the Golden Roads contest, for which interns contribute films they have made about their experience at Colas; the Colas Clubs Spring Challenge, an innovative competition showcasing the creativity of student members of performing arts clubs from different schools.

Colas sponsored the 2018 class at EATP, EFIA TP and CFC TP Egletons, named "Alain Dupont" (the name of the Colas CEO from 1983 to 2007), within the framework of awarding degrees to 461 students from different training programs.

The November schools forum held at the new Paris head office and the virtual forum that followed were both a resounding success.

In addition, the subsidiaries regularly hold site visits and get involved at schools in their local area. In 2018, Colas Centre-Ouest signed a partnership agreement with IUT Saint-Nazaire, sponsoring the 2018-2019 class for the "Public works project management" professional diploma and initiated the principle of a meeting with INSA Rennes students during which they were told about the Wattway project, its challenges and outlets. Colas Sud-Ouest met with all engineering schools within its area of activity, offering practice interviews with future graduates, Colas staff lecturers at schools, as well as an Insathon with the INSA Toulouse student council (speed job dating, business conferences, etc.). A co-opting program named "Wanted" was launched in September at Colas Nord-Est following the resounding success of the program initiated at Colas Ile-de-France Normandie in 2017. It has now been rolled out across all subsidiaries in Mainland France.

A variety of approaches and initiatives are also implemented at the Group's International entities to recruit candidates for positions: social networks, local agencies, websites, employee referrals, partnerships with schools, etc. As is the case in France, these subsidiaries continue to build ties with schools, primarily through partnerships within the geographic area they cover. In Africa, partnerships have been established with different schools such as Institut Med VI in Morocco, UCAC ICAM in Cameroon and USTM in Gabon. Colas Maroc attended the Forum Horizon, Mena Careers and Afric Talents employment forums in order to improve its local image and attract people from the African diaspora. In Europe, most countries take part in student fairs and benefit from partnerships with schools and universities. Colas UK has reinforced its apprenticeship policy, setting itself the target of hiring 5% of its staff on apprenticeship contracts by 2020. The UK subsidiary has launched a specific campaign targeting women, sponsoring events via the Women in Engineering network, including site visits and meetings with management.

As of December 31, 2018, the Colas Group had 57,997 employees.

Name of indicator	Scope	2017	2018
Workforce by geographic location⁽¹⁾ (number)	World		
Total France	(Mainland + Overseas)	33,683	33,702
Total International		21,496	24,295
- Europe (excluding France)		8,971	9,084
- Indian Ocean/Africa/Middle East		6,563	6,353
- North America ⁽²⁾		4,900	7,683
- Asia/Pacific (including New Caledonia)		715	765
- Central America/South America		347	410
Total		55,179	57,997

(1) Workforce as of December 31, which corresponds to all individuals working under an employment contract of any type for a company within the scope of consolidation or receiving direct compensation for their work from said company, excluding those having entered into a business contract (such as a service agreement) with the company.

(2) Including Miller McAsphalt employees.

As of December 31, 2018, Colas' global workforce was up 5% with respect to 2017.

The most significant increase was in North America (up 57%), mainly due to the acquisition of the Miller McAsphalt group in Canada.

In France, the number of employees has remained relatively stable, with the following changes: up 1.8% at Mainland France road construction subsidiaries (which make up 71.4% of the workforce in Mainland France); down 0.8% for Overseas France; down 5.4% at Specialized Activities subsidiaries.

The workforce is comprised of 56% workers; 26% office staff, technicians, and supervisors; and 18% managers.

Internationally, the workforce grew substantially (up 13%):

- the Group had 9,084 employees in Europe (excluding France) – making it the largest region in the International scope – and staff levels in this region remained stable, however there were fairly significant disparities between regions: up 15% in Hungary, up 13% in Poland, up 4% in Belgium, down 8% in Denmark, down 6% in the United Kingdom and down 5% in the Czech Republic;
- in the Indian Ocean/Africa/Middle East region, the number of employees remained stable but with major contrasts between countries: increase of 45% in Ivory Coast, 23% in Mauritius, 7% in Madagascar, and a fall of 67% in Algeria and 40% in Benin;
- in North America, as mentioned above, there was a sharp increase in the number of employees (up 57%). The number of employees in Canada saw a near three-fold increase (up 2,845 employees as of end-December 2018). In the United States, workforce levels remained stable, but with significant changes throughout the year due to seasonal business fluctuations;
- in the Asia/Pacific and Central America/South America regions, the number of employees accounts for 5% of the international scope. For road and building activities, the most significant increases are in Peru and Chile.

Name of indicator	Scope	2017	2018
External recruiting by status (number)	World		
Total France	(Mainland + Overseas)	4,080	4,173
– Managers		611	671
– Office staff, technicians and supervisors		978	1,227
– Workers		2,491	2,275
International ⁽¹⁾ (including New Caledonia)	International	13,517	18,137
– Managers		2,780	3,082
– Workers		10,737	15,055
Total		17,597	22,310

(1) Outside France, the total number of employees hired over the year is recognized, regardless of the nature of the employment relationship ("permanent" or "seasonal" employee), including Miller McAsphalt employees.

Name of indicator	Scope	2017	2018
Leavers (by reason for leaving) (number)			
Number of leavers in France (under permanent contracts) ⁽¹⁾	France (Mainland + Overseas)	3,140	3,538
– Redundancies (all reasons)		1,372	1,508
– Mutually agreed terminations		379	399
– Resignations		807	958
– Other (retirement, death, termination at end of trial period)		582	673
Number of leavers outside France ⁽²⁾ (including New Caledonia)	International	13,813	15,152
Number of departures (all reasons and all statuses)	World	17,547	19,313

(1) In France, the total number of employees under permanent contracts who left over the year is recognized.

(2) Outside France, the total number of employees who left over the year is recognized, regardless of the nature of the employment contract or relationship ("permanent" or "seasonal" employee), including the employees of Miller McAsphalt.

The number of new hires by the Colas Group grew strongly, up 25% year on year.

The increase was less significant in France (up 2%), relating primarily to international hires and more specifically the population of workers.

Outside France, in addition to the acquisition of the Miller McAsphalt group with over 2,700 employees at the end of December 2018, the volume of recruitment of workers rose significantly between 2017 and 2018 (up 40%), representing the hiring of over 4,000 people. In North America, Africa and Asia, hiring levels vary very widely, mainly due to seasonal factors.

By geographic region, movements in hiring were as follows:

- in North America, hiring levels were up significantly relative to 2017, for both managers and workers;
- in Europe, hiring levels were up significantly in central European countries and especially in Hungary and Poland;
- in Africa, in Ivory Coast, the launch of new contracts – particularly San Pedro and the Route du Nord – is accompanied by a sharp increase in recruitment;
- in the Indian Ocean region, in Madagascar, there is also an increase in recruitment due to the RN 5 construction project as well as strong growth in construction activity. The same effect can be seen in Mauritius due to the high level of general activity as a result of the launch of the A1/M1 Pont-Fer project.

Employer brand

This year, Colas obtained Top Employers 2018 certification. This certification consists of five stages and includes in particular an independent audit and analysis of several hundred managerial and HR practices.

Recognizing the importance of brand awareness in boosting its appeal as an employer, in addition to the Colas Careers Hub (www.hubcarrierecolas.com) and the Group's Careers website, Colas has continued to develop its digital communications strategy and initiated an in-depth review to improve the recruitment experience for job applicants, from the online application process to follow-up actions in the talent pool.

In 2018, backed by its strong social media presence, Colas continued its three major employee advocacy programs, rolled out around the world, thus increasing employee social engagement to help promote its employer brand and job offers on professional networking sites:

- Follow-Me, a program providing individualized support on LinkedIn for managers in France and abroad;
- Roadshows, a program of workshops to encourage business unit managers and members of management committees at subsidiaries to share their brand messages on professional networking sites. 2018 was the opportunity to extend roadshow training to all employees with access to the Colas Campus platform in the form of two video e-learning modules intended to develop personal branding on LinkedIn, the world's largest professional social network;
- Buzz Club, a platform to share content about Colas, particularly via mobile devices, open to staff in support functions and recent graduates, in order to facilitate employee referrals.

The Textkernel app makes it possible for applications to be submitted in less than one minute from a desktop PC, mobile phone or tablet. The applicant conversion rate – which measures the number of applicants submitting a CV after viewing a job offer – saw a more than three-fold increase for a sample recruitment campaign between 2017 and 2018.

Colas also initiated a partnership with Yaggo, a job application platform that lets companies respond to applicants online, ensuring a 100% response rate to applications received while also establishing an individualized relationship in terms of both the form of response and keeping track of applicants with potential.

Lastly, in order to strengthen its employer brand, Colas has launched an innovative major advertising campaign, “My job story”, based on employee commitment. On the basis of video testimonies presenting jobs at all entities, both in France and abroad, this campaign has been developed by and for the Group’s employees, who are invited to share funny or moving anecdotes in interview format, filmed locally using smartphones, and then adjusted to the campaign format by an advertising agency. These testimonies are to be published on social media as they are created over a six-month period from September 2018 to March 2019, but will be passed on primarily by employees themselves. All the videos made (from September to December 2018) will paint a stroke-by-stroke picture of what Colas is all about in terms of diversity and social connection, and allow it to communicate its employer brand to potential applicants while also helping to maintain pride in belonging to the company.

Outside France, Colas has made itself more visible and stepped up its communications via LinkedIn Worldwide agreements and more intense use of social media. In January 2018, Colas UK had its Gold level “Investors in people” accreditation extended.

A second “Colas & You” perception survey took place from September 17 to October 11, 2018. This concerned around 46,000 Group employees (26,220 technical/management/supervisory staff worldwide and more than 20,000 workers in France, including Overseas France). It comprised 90 questions and was translated into six languages. The response rate was 59% for managers and 33% for workers. The overall satisfaction rate for the full set of issues was 72%, thus remaining stable compared with the survey conducted in 2015. It reveals a high level of pride in belonging to the Colas Group. As regards France (Mainland and Overseas), the survey concerned more than 34,000 employees of all statuses and the response rate was over 44%.

Depending on each subsidiary’s results, specific and local action plans will be rolled out in 2019.

Another survey (Satin approach) to measure stress, health and well-being at work was rolled out again in 2018. This anonymous questionnaire is a prevention tool (see 4.3.2 “Health and safety”).

4.3.1.1.2. Diversity policy and preventing discrimination

Today, the company has to reflect the plurality of civil society. Taking account of the wide variety of backgrounds in terms of culture, ethnicity, religion, age, education/training, means of consumption, etc., Colas adapts itself to this reality and factors it into its HR practices.

Colas continued with its Diversity policy action plan in 2018 with a number of awareness-raising initiatives:

- presentation of the Diversity policy to the Management Committee during manager training programs or meetings of business unit managers at subsidiaries;
- four National Diversity Committee meetings in 2018;
- article in each edition of the E-HR e-newsletter (three editions in 2018 sent out to over 30,000 employees worldwide in French and English);
- a message in the in-house magazine Routes, which is distributed to Colas Group employees.

Name of indicator	Scope	2017	2018
Workforce by age bracket ⁽¹⁾ (as %)	World		
< 25 years old		5.7	6.4
25-34 years old		22.0	21.5
35-44 years old		27.0	26.5
45-54 years old		29.4	28.6
55 years old and up		15.9	17

(1) All types of contract (permanent, temporary, seasonal); figures including Miller McAsphalt group employees.

The distribution of ages across the Group is fairly even worldwide, comparable to 2017 levels.

Measures to promote gender equality

The diversity policy implemented by Colas' Executive Management is structured around three objectives:

- attracting more women, which means benefiting from a larger number of female applicants for jobs on offer: in France, 18 pairs of ambassadors, comprising a man and a woman have been identified. After undergoing training, they are invited to speak at forums or during events at schools to tell people about Colas, what it does and career opportunities for both women and men. Relations with schools have also been rethought to target more women, now supporting an increasing number of cultural and artistic associations. Lastly, the partnership agreement signed in 2017 with the “Elles Bougent” non-profit has helped Colas boost awareness among women across France and encourage girls in middle school and high school to consider pursuing scientific and technical career paths;
- hiring more women in all business lines: with this aim, internal recruiters and partners – namely temporary employment agencies and recruitment firms – are making sure to put forward applications from both genders for all jobs, particularly in supervisory roles;
- retaining talented women and supporting their career development: the Group has introduced support measures for women. In 2018, 35 female employees were offered depending on their job level and requirements either a leadership development training course (Leadership au féminin) or a year of mentoring with a Colas manager, either male or female. Given the positive feedback received, these two programs will run again in 2019.

In addition, in late 2017, Colas launched a dedicated and “mixed” social network (open to men) called WE. One of the key aims of this network is to improve diversity, in particular by working on the representation of women in the Group to strengthen gender equality. This allows members to discuss and share ideas.

A Steering Committee has been set up to initiate action plans in the areas of combating sexism, breaking down gender stereotypes and creating a more favorable environment for women to flourish professionally (suitable workwear, dedicated locker rooms, etc.). Its role is to support the 840 members of the WE network worldwide.

In order to bolster this approach, a landmark agreement to enhance diversity and improve professional equality between men and women was signed for France in June 2018 (see conditions of dialogue with employee representatives and past agreements).

In September 2018, Colas Afrique's HR team took part in the second annual Women In Africa (WIA) summit on the theme of “Looking at Africa with confidence, believing in its talents”. A number of issues were discussed, such as the place of women in business or even the importance of education for the development of women.

In Europe, the Group's subsidiaries ensure that equality between men and women is respected and apply a proactive policy, particularly in terms of recruitment. In certain countries such as the United Kingdom and Denmark, specific statements from management have been drawn up with precise long-term targets. A training program on this topic has been developed and is offered to all employees at Colas UK.

Name of indicator	Scope	2017	2018
Workforce by gender ⁽¹⁾ (as %)	World		
Women		10.4	10.8
Men		89.6	89.2

(1) All types of contract (permanent, temporary, seasonal); figures including Miller McAsphalt group employees.

The percentage of women in the workforce rose slightly (up 0.4 points).

Name of indicator	Scope	2017	2018
Representation of women in the Group⁽¹⁾ (as %)	World ⁽¹⁾		
– Female office staff, technicians and supervisors (as % of total office staff, technicians and supervisors)		21.9	21.9
– Female workers (as % of total workers)		1.7	2.5
Female managers (as % of total managers)⁽²⁾		10	11.6

(1) All types of contract (permanent, temporary, seasonal); figures including Miller McAsphalt group employees.

(2) Number of women managers relative to the total number of managers.

In France, the “Female managers” category is based on employment code criteria, under which managers are defined as being at or above the level of department head (chef de service).

Outside France, the “Female managers” category is defined as members of a local management body (the body that makes strategic decisions, such as an Executive Committee).

The percentage of female workers increased by nearly 1 point in 2018. This increase was mainly the result of efforts made by subsidiaries in North America.

The percentage of female managers rose slightly, with the most significant increase in the number of female managers taking place outside France, up from 13% in 2017 to 15% in 2018. In France, the percentage rose by 1 point: 9% in 2018, up from 8% in 2017.

Preventing discrimination

In France, the principle of non-discrimination was reaffirmed in the negotiation of agreements on diversity and gender equality, resulting in the signing of an agreement in June 2018. The importance of non-discrimination is regularly reaffirmed by way of presentations as part of the Colas University training programs, delivered to managers at various stages of their professional development within the Group. Under the new legal requirements concerning the obligation to provide non-discrimination training, a specific training program was launched and completed by around 80 Group recruiters (in six sessions across Mainland France). The program will be adapted into an e-learning module in order to reach a wider audience.

Outside France, subsidiaries located in English-speaking countries are focusing their efforts on measures to combat discrimination.

Subsidiaries in Europe made further progress in promoting diversity and equal opportunity. In the United Kingdom, Ireland, Switzerland and Denmark in particular, specific statements and management charters on this issue have been drawn up in addition to the Colas Group’s charters. In Ireland, a specific chapter is planned in the new HR manual “Dignity and respect for all”. In Belgium, specific measures concerning employees aged over 45 have been implemented at profit centers. In the United Kingdom, Colas UK takes a proactive approach (specific certification for the construction sector), and is involved in studies into diversity in recruitment. Diversity is encouraged by initiatives organized with associations for ex-prisoners, ex-military, disabled people, outplacement agencies, etc. In Switzerland, a system for reporting discrimination guaranteeing anonymity has been set up.

In North America, US subsidiaries are bound by federal laws prohibiting job discrimination in hiring, employee treatment and compensation. They make their commitments clear and send vacancy announcements to placement agencies that specialize in the employment of minorities, or to specific publications. Colas North America University offers ethics courses. US-based employees who feel they are victims of harassment may call a toll-free number for help.

Measures to employ and promote the social integration of people with disabilities

In France, as part of its Disability policy, Colas recruits disabled workers and also raises employee awareness about the issue. The Handi-alternance campaign in partnership with Cap’emploi and Agefiph in the Paris region has allowed for communication about disability. A new approach is planned for 2019. An initiative has been launched to improve use of sheltered employment organizations in collaboration with the Purchasing department. Approved suppliers have been listed in a platform. An internal communications campaign was relaunched at the end of 2018 to encourage use of the sheltered employment sector wherever possible and for the benefit of both parties.

In Europe, Colas UK has obtained “Be Fair” accreditation from the Construction Industry Training Board in recognition of its commitment to fairness, inclusion and respect. During National Inclusion Week, Colas UK conducted a series of activities and published various articles on social inclusion. The “The Inclusion – Unlocking tomorrow” campaign continues to promote greater diversity within the company. The campaign was in the form of posters both on the internet and on a mobile app accessible to everyone. Colas UK has introduced performance indicators in this area in order to improve transparency and encourage responsibility among everyone.

Name of indicator	Scope	2017	2018
Number of employees with disabilities ⁽¹⁾	France (Mainland + Overseas)	975	953
Number of new hires with disabilities ⁽¹⁾	France (Mainland + Overseas)	25	24
Revenue with companies that employ people with disabilities (in euros)	France (Mainland + Overseas)	1,753,278	1,735,356

(1) Fixed-term and permanent contracts.

Despite the measures taken to hire people with disabilities, all of the indicators in this area remained stable.

4.3.1.2. RETAINING EMPLOYEES

4.3.1.2.1 Organization of working time

Worldwide, the organization of working time takes into account the seasonal nature of the Group's transportation infrastructure construction and maintenance business.

In France, the preferred organization of working time is based on annualization and a fixed number of days worked. Annualization and the working time modulation plan – which apply to workers and office staff, technicians and supervisors in the Operations business line – mean that work can be organized according to seasonality, while rewarding overtime. In businesses like Railways and Road Safety and Signaling, where safety requires that work be carried out at night, specific procedures are used for the organization of work. The working hour arrangement applied to managers, which is based on a set number of days worked, is being gradually extended to supervisors. The tool used to manage working time and time off for employees whose working time is counted in days keeps track of days worked, rest days, and leave days on a monthly basis. It is also designed to facilitate ongoing dialogue between managers and employees about their workloads and the work-life balance. In Mainland France, subsidiaries use temporary employment agencies to fill short-term staffing requirements.

Outside France, the seasonal nature of business also has an impact on the organization of working time.

In North America, for example, projects are mainly carried out between April and November, with a large proportion of seasonal employees. In the United States and Canada, in many states, weather conditions mean that it is not possible to work on construction sites all months of the year. The approach to staffing is influenced by this seasonality: employees work at the entities for six to eight months of the year and are rehired from one year to the next. In Canada, working times during periods of activity are governed by provincial regulations and, for unionized workers, by collective bargaining agreements. A fatigue management policy is in place at most Canadian companies that tracks hours worked and rest periods.

In Europe, working time is calculated on an annual basis in most countries, in line with the local legislation. Flexibility encourages work at the times of the year best suited to construction. At the end of the year or when new projects come in, the entities publish a schedule of activity for the upcoming year and submit it to employee representatives. In other countries such as the Czech Republic, Austria, Denmark and Iceland, subsidiaries bring in seasonal staff at the busiest times of the year.

In Africa, working time is geared to the legislation in force in each country. An overtime rate is paid for hours worked outside normal working times. On certain projects, employees are granted time off at the end of the month.

In certain countries, working times are adapted during the month of Ramadan.

Name of indicator	Scope	2017	2018
Employee working time arrangements ⁽¹⁾ (as %)	France (Mainland + Overseas)		
– Hourly		81	80
– Fixed number of days worked		19	20
Number of hours worked ⁽²⁾	World	106,669,569	111,508,974

(1) Fixed-term and permanent contracts.

(2) All types of contract (permanent, temporary, seasonal); figures including Miller McAsphalt group employees.

In 2018, the 4.5% increase in the volume of hours worked was mainly due to the acquisition of the Miller McAsphalt group and the integration of its staff.

4.3.1.2.2. Conditions for labor-management dialogue and agreements signed with employee representatives

In France, turnout for the latest employee elections, to choose members for the new social and economic committees in each subsidiary, remained high (82%) in 2018.

Two collective agreements covering all Colas Group subsidiaries in Mainland France were signed in 2018:

- a “working time account” (“Compte Épargne-Temps” or CET) agreement taking over from the initial system from 2002, plus easing measures negotiated at the time of the Colas Group’s “Quality of Life at Work” agreement signed on December 1, 2017. This Group agreement, signed in March 2018, now allows employees to use days in their “working time account” to take shorter periods of time off for personal matters, while ensuring that business units are not disrupted;
- following on from agreements relating to workforce planning (2016) and quality of life at work (2017), a landmark agreement to enhance diversity and improve professional equality between men and women at the level of the Colas Group. Signed in June 2018, this agreement is based on two main aspects – diversity and professional equality between men and women – and defines the guiding principles shared by all Colas Group companies. At the same time, in order to reflect the actions and measures that are most appropriate to its situation from those defined, each subsidiary has to initiate negotiation at their level of an additional agreement to roll out this landmark agreement.

In addition to initiating negotiations, the agreements signed at subsidiaries concern primarily employee representative bodies, taking account of the organization of union representative elections for most subsidiaries in 2018 and the creation of a Social and Economic Committee (merging of the current bodies: works council, employee representatives and health and safety committee).

A number of Social and Economic Committee agreements have been signed in order to define the social mapping of the Group’s subsidiaries (business unit committee and central committee) and organize the implementation and working of these bodies at these different levels.

Name of indicator	Scope	2017	2018
Turnout for latest elections for members of works councils or social and economic committees, employee representatives, or the combined works councils and employee representatives known as <i>délégations uniques du personnel</i> (as %)	France	82	82
Existence of an employee representative body ⁽¹⁾ (as %)	International	74	80

(1) Number of companies with more than 300 employees at which there is a recognized interface for dialogue (either elected or designated) between management and local staff, divided by the total number of companies with more than 300 employees.

In Mainland France in 2018, labor-management dialogue took place via 283 employee representative bodies, a lower number than the previous year due to the gradual introduction of CSEs (economic and social committees). Turnout for the latest elections remained high (82%).

At the Group’s International entities, and particularly in Europe and Africa, three-fourths of companies employing more than 300 people had staff representation comparable to that in France.

In North America, labor-management dialogue takes place via trade unions. Subsidiaries also hold information meetings to foster labor-management dialogue.

Agreement relating to quality of life at work

An agreement concerning all Colas subsidiaries in Mainland France relating to quality of life at work was signed on December 1, 2017 and implemented in 2018.

This agreement has introduced new working arrangements for employees:

- the development of remote working in a number of forms: weekly remote working (one or two “fixed” days per week) and monthly remote working (quota of up to eight days per month). In addition, employees can work from home or at one of the Colas Group’s business units. As of end-December 2018, 181 people were working remotely. For 2018/2019, to begin with, remote working was limited to four days per month and one day per week to avoid disrupting the organization of work for staff;
- occasional remote working, a more flexible form of working remotely particularly suited to operational managers.

The agreement also offers services for employees in order to offer a better work-life balance, namely:

- help with their children’s homework, with free access to tutoring (from kindergarten to high school) and “online teachers”;
- childcare, along with a housekeeping service platform.

Awareness campaigns have been launched to make sure employees know that under France’s CET program they now have the option of transferring some of their unused days off to the Bouygues PERCO and/or PEG company savings plans.

Further measures planned by the agreement will be implemented in 2019, such as help for employees who are caregivers and a legal and administrative support platform.

Name of indicator	Scope	2017	2018
Number of collective bargaining agreements negotiated, including mandatory yearly negotiations	France (Mainland + Overseas)	62	168

Of the 168 agreements negotiated, the majority (99) are related to the renewal and implementation of Economic and Social Councils (election cycles begun in 2018), 48 relate to compensation/employee benefits/collective agreements, 10 to organization and working hours, and 11 to quality of life at work/diversity.

4.3.1.2.3. Compensation and changes in compensation

The compensation policy applied by Colas around the world is based on the annual guidelines issued by Executive Management, taking into account the economic environment, inflation, the job market and wage negotiations with trade unions and employee representatives. This Colas policy keeps jobs aligned with responsibilities, with attention to equity between men and women, and includes measures for young people, talent management, and promotions. It rewards achievement and recognizes employees' competencies.

In France, where the economy is beginning to recover, with an inflation rate of 1% in 2017, a pay increase budget amounting to 2.8% of payroll on a present/present basis was decided in 2018.

The variable compensation policy applied by the Group is based on the overall performance of all its entities in France and around the world. The amount paid out by subsidiaries is based on three criteria: the Colas Group's results, the subsidiary's results and individual performances.

Variable compensation paid to executives and managers is more impacted than that paid to supervisory staff by the entity's financial performance and meeting personal targets.

Every manager is provided with a pay review tool, plus relevant performance indicators. Managers are thus given all the information they need to review their team's pay levels and can submit their proposals with a single click to the subsidiary's and then the Group's validators for approval. The information system is no longer geared solely to the needs of HR staff; it is also a managerial monitoring system that provides traceability, efficiency and a seamless approach to the validation of pay increases and promotions.

In line with the overall compensation policy applied by the Bouygues Group, Colas provides employees with very good levels of health insurance, pension benefits and personal risk coverage and allows employees to share in profits by giving them access to PEE and PERCO employee savings vehicles and profit-sharing plans.

A 2017 compensation benchmarking exercise was carried out by Bouygues SA via consulting firm AON HEWITT. This benchmarking was done by business sector and by job type (works/management/HR/IT/legal). This study shows that compensation paid by the Colas Group is in line with the market.

In the United States, Colas Inc. uses local pay surveys, given the regional differences between its units in western states (California, Nevada), central states (Wyoming, Colorado, South Dakota, Nebraska, Arkansas, Missouri, Illinois), and eastern states (Florida, Alabama, Georgia, South Carolina, North Carolina, Tennessee, Kentucky, Ohio, Virginia, Pennsylvania, New York). As a result, its employees can be paid at a level in line with the local market. Likewise, Colas Canada uses local surveys to set its pay. For unionized employees, pay is set through the collective bargaining arrangements applicable to their businesses.

In northern Europe, market surveys conducted in certain countries revealed pay disparities in the Operations and Engineering business lines, resulting in plans to close these gaps. In central Europe, the large number of infrastructure projects created tension in the jobs market, driving wage increases at certain units. All countries in Europe therefore rely on a benchmark of sector pay levels.

In Africa, the subsidiaries in Morocco, Ivory Coast and Gabon, which rely on market surveys and best practices, have reviewed their compensation processes in order to better assess, steer and retain employees as well as attract new talent thanks to fairer rules rewarding performance.

Name of indicator	Scope	2017	2018	Change (%)
Average annual wages by status⁽¹⁾ (in euros)	France (Mainland + Overseas)			
- Managers		61,502	62,144	+1
- Office staff, technicians and supervisors		36,723	37,338	+1.67
- Workers		26,546	27,084	+2

(1) Permanent contracts.

Average annual wages in France have seen steady year-on-year growth. It should be noted that the most significant wage growth has been for workers.

4.3.1.3. DEVELOPING CAREERS

4.3.1.3.1. Career management within the Group

The mobility policy pursued by Colas has long been a key element in its approach to career development for the Group's employees. It aims to facilitate transfers between different functions and/or regions within the Group to help meet employees' professional and/or personal goals and manage changes in staffing requirements for businesses. One of the challenges of this policy is making the development of talent fit the Group's performance and growth.

Transfers between subsidiaries or within subsidiaries concern all employees both in France and abroad.

The principles and key rules are presented in the Colas Mobility Charter, which is available on the e-colas intranet. It states specifically that the process for each transfer should be based on a partnership between the employee, the manager and the human resources department. It also indicates that special arrangements should be put in place to assist with transfers, which includes expatriate assignments and secondments, as well as outright transfers.

Nomades, a jobs bulletin board accessible on the e-colas intranet, displays internal job offers, which also appear, alongside others, on the Bouygues Group's Mobylic platform.

Subsidiaries – particularly those outside France – often have their own information tools about the opportunities available to employees.

Changes were also made to the mobility support programs to make them clearer and more transparent, better suited to the personal and professional needs of employees and their family. They also address factors that can hamper mobility, such as a spouse's job and housing costs. They now include a common set of assistance packages (including moving costs, contribution towards the cost of finding a new home, etc.), plus specific forms of financial assistance that may vary according to employee status.

A study into key jobs was carried out in 2018 in collaboration with the Group's subsidiaries. This will allow for the creation of an enhanced jobs reference framework including all associated skills in order to provide better visibility with regard to possible career trajectories and therefore allow for better development of career paths, particularly within the framework of job transfers.

Through the "One Colas" corporate plan – rolled out internationally (excluding North America) under the name "Route 22" – the Group's Executive Management has reasserted its desire to internationalize its talent by recruiting staff from international backgrounds, offering career development guidance to French and international employees, and promoting job mobility across regions and continents. Support and training programs will be rolled out in 2019 as part of this Group-wide plan.

In Mainland France, a policy to support career paths has been defined and implemented as part of the workforce planning system (GPEC) agreement signed between Colas and its employee representative partners in December 2016 for a period of five years (2017-2021), with the aim of developing and reinforcing career management. At the heart of this approach is the individual discussion interview, a valuable opportunity and a key tool in building career paths. The "Point Carrières" scheme spearheaded by the Group's Human Resources department continued in 2018 to listen to employees' aspirations, offer jobs and better anticipate their career development.

In addition, "Career Committees" were relaunched to think about the development and support of the most talented staff and prepare succession plans for the Group's main managers. Another key tool in career management, the jobs and skills reference framework mentioned above should be accessible to employees soon. Thanks to these job descriptions, which cover both the position and key skills, it will be possible to determine trajectories from one job to another, with the aim of establishing formal visibility on building a career plan.

4.3.1.3.2. Integration of young managers

The integration of young managers joining Colas is done on the ground, for example allowing young works engineers to train with teams on construction sites before gradually being given responsibility. The "Tour de France" scheme offers new joiners three to four stints at different subsidiaries, or even a tour of the region within the same subsidiary. At the end of 2018, 40 Tour de France posts were available. The new manager then joins Colas University during the second year with the Group. The aim is to develop autonomy, responsibility, teamwork and knowledge of the Group. Career development towards management responsibilities is achieved rapidly during the first three to ten years depending on the business area.

In 2018, Colas launched a World Tour graduate program to attract new talent, targeting more specifically leading French universities such as Mines ParisTech, École des Ponts ParisTech, École Centrale Paris and HEC business school. The modular program that can be tailored to suit all backgrounds consists of three stages in 18 months, including two outside France, with personalized coaching from a management team member, as well as an HR contact throughout the program.

These actions foster pride in belonging to the Group. In 2018, Colas was ranked by Choosemycompany as the seventh best company for internships and the eighth best company to work for. It was also ranked fourth best construction and civil engineering employer in 2018 by Capital.

Efforts to integrate young people are also reflected by hires under the International Volunteers in Business ("VIE") program in technical roles and support functions. A total of 21 young people were integrated in 2018, including three in North America.

4.3.1.3.3. Policies implemented for training

Colas has an ambitious policy of investing in training to support the competency development of all its employees, irrespective of what their status is, the role they have, and the region in which they work.

Under this policy, each of the Group's subsidiaries implements a formal training plan, and these have been drawn up in close to 99% of its units. These training plans put into action the development priorities set by Colas' HR department, including training in technical fundamentals, managerial skills, safety and prevention, which represents the leading category of investment in training.

Colas makes a particular effort in terms of digital transformation by means of the implementation of the UniOne Digital system. A roadshow in France organized by the Information Systems department did a tour of regional subsidiaries' head offices to inform and train employees in new digital practices. On this occasion, awareness was raised among employees about the use of collaborative tools such as SharePoint, Teams and Yammer, as well as the Group's business line tools. These meetings allowed for the message to be communicated to employees that measures exist to help them to adopt these tools, particularly by means of the Netexplo digital academy, as well as Colas' office automation tools digital training offering (Vodéclic). Whether concerning communities relating to a specific theme (business lines, projects) or region (via sites such as Paris, Magny, etc.), employees are able to enhance their expertise in networks and collaborative working. This trend is set to continue with the implementation of a Knowledge Management approach. In the area of digital technology, a pilot version of an employee portal for employees and managers was set up at the end of 2018 and will be rolled out across Mainland France in 2019. This portal combines primarily new HR services such as a digital safe and Selfs (paid leave and HR), with the aim of creating closer proximity to employees and better interaction.

In June 2018, the Colas Campus online platform providing access to a digital training offering was opened in all regions outside France. Wherever they are located in the world, all Group employees with an email address now have access to an online training catalogue offering innovative-format modules. In the course of the year, in addition to the Netexplo digital academy, 10 business line tutorials were rolled out on the platform, available in 13 languages, with the aim of providing tips for essential phases of construction projects. A number of other modules have been designed and rolled out, such as using commercial performance within the framework of works for individuals, applicable safety regulations, using LinkedIn to boost the Group's employer brand, etc. A large amount of this content can also be accessed via the dedicated mobile app, which can be downloaded onto smartphones and tablets. Since its launch, the platform has logged over 67,000 connections and delivered more than 21,000 hours of training. A mentoring program initiated in 2017 continued in 2018 at Colas Rhône-Alpes Auvergne in the form of a senior business unit manager sponsoring a young business unit manager.

Name of indicator ⁽¹⁾	Scope	2016 ⁽¹⁾	2017 ⁽¹⁾
Existence of a formal training plan ⁽²⁾ (as %)	World	99	99
Number of employees trained	World	36,050	34,320
Number of days of training	World	107,848	116,952
Number of people under apprenticeship contracts taken on during the year	France	431	503
Number of people under vocational training contracts taken on during the year	France	272	303

(1) Figures related to training are consolidated in fiscal year Y for the period Y-1. They do not take account of information concerning the Miller McAsphalt group.

(2) Outside France, this refers to the number of companies with more than 300 employees where a training plan exists.

In 2017⁽¹⁾, 34,320 employees received training, thus about 60% of the global workforce, and 116,952 days of training were recorded at the Group's companies in France and around the world.

Across the entire scope of Mainland France, 3.96% of the payroll was spent on training, corresponding to 32,724 training initiatives and 500,535 training hours. For the first time in four years, the volume increased not only in terms of hours (up 11%) but also in terms of the number of training initiatives (up 6%). This is due in particular to the upturn in the Group's activity, which is traditionally accompanied by an increase in hiring, internal transfers and promotions, which in turn increases the need for training to give these employees the skills they need in their new roles.

With the upturn in activity, apprenticeship and vocational training contracts also saw a significant increase (up 15%).

In 2017⁽¹⁾, the four Colas University courses had 287 participants, guiding them through the key stages of their professional development. Of these, 47 came from international subsidiaries.

Alongside its prevention and safety training sessions, which accounted for 48.6% of total training hours during the year, Colas also prioritized business-specific technical skills for nearly 19% of training hours in order to advance operational excellence at worksites.

In 2017⁽¹⁾, 52.8% of training hours were delivered to workers; 26.5% to office staff, technicians and supervisors; and 20.7% to engineers and managers. This breakdown is the same as that in previous years.

The Colas Campus training center, which offers nearly 200 personalized training programs designed for and by Colas, provided training to 4,232 French-speaking employees from a variety of backgrounds.

Among the Group's International entities, units in Europe implemented programs to meet training needs, particularly in management and leadership as well as junior- and senior-level contract management. A program called Advance Program for International Leaders (APIL) was set up to train Colas' international managers. The first session was held in 2017/18 and brought together nine employees from different nationalities. A second session is planned for 2020.

4.3.2. Health and safety

Protecting employees is an essential and major tenet of Colas' human resources policy. Safety is of paramount importance to Colas, and it has set a "zero accident" target. Risk analysis and looking into causality in terms of health and safety allow it to establish appropriate and structured action plans, implement an approach based on continuous improvement and make progress in all aspects of these areas to not just prevent and avoid accidents and illness.

So that this issue is effectively taken into account at the highest level, key performance indicators are used as targets for the variable portion of compensation paid to Colas' Chairman and Chief Executive Officer. As of 2018, these indicators are subject to in-depth verification and audits by a third-party organization, allowing the auditors to deliver a certificate of reasonable assurance. This taking account of safety check results now applies to subsidiary CEOs and is spreading to all managers.

4.3.2.1. WORKPLACE HEALTH AND SAFETY CONDITIONS

4.3.2.1.1. Safety policy

The Group's health and safety policy is built around four priorities:

1. compliance with rules;
2. training and information;
3. a safety-first approach to project and process design;
4. follow-up of action plans.

In 2018, the Group's annual Safety Week concerned prevention of addictions (drugs, alcohol, psychoactive medications and rules concerning the use of mobile phones). It was held from June 25 to 29 at all Colas offices worldwide, involving around 60,000 employees. The film "Under the influence" – which won two awards at the safety film festival – was shown across the entire Group, with video quizzes presented by managers and summary sheets for all employees as well as posters to complete the campaign.

Other significant actions included:

- "Safety Culture" days in Mainland France for all newcomers to the Group. Between 2,500 and 3,000 employees are concerned each year;
- safety supervisory inspection at Colas Centre-Ouest, which is also currently being rolled out at Colas Rail and Colas Sud-Ouest;
- the rollout in Canada of the Goal Zero process already in place in the United States, in partnership with Caterpillar Safety Services;
- the Safety Culture program launched at Spac together with ICSI, a French industrial safety culture institute;
- virtual reality training on crush hazards as part of the prevention days for newly hired employees;
- an "accident risk" project with Volvo Construction Equipment, which allows for pedestrians to be alerted if they enter a prohibited zone close to machinery, as well as the operator. This system uses artificial intelligence to recognize human presence.

4.3.2.1.2. Health policy

In the area of health, specific initiatives are pursued to limit:

- musculoskeletal disorders (providing physical activity risk prevention training or ExoPush powered exoskeletons, which help reduce strain for asphalt paving teams). More than 40 units have been rolled out in France, Belgium, Switzerland, Denmark, Australia and Central Europe. These exoskeletons were developed by robotics engineers in collaboration with Colas workers and experts to facilitate the manual application of asphalt mixes and thus improve working conditions for paving workers, with a much more vertical posture and a lower heart rate;
- noise exposure (mandatory use of hearing protection); in 2019, noise will be the main theme of Safety Week;
- exposure to ultraviolet radiation (frequent reminders to wear protective clothing and rollout of new long-sleeved T-shirts).

Colas has also implemented mechanisms and actions (described below) to reduce employee exposure to bitumen fumes, silica dust and chlorinated solvents. The Group also takes part in a number of industry-wide measures, including those relating to crystalline dust emissions as part of the campaign launched by the FNTP (the French national federation of civil engineering companies) and OPPBTP (the French professional agency for risk prevention in construction and civil engineering).

A monograph on bitumen fumes was officially published in 2013 by the IARC (International Agency for Research on Cancer, an offshoot of the World Health Organization). The IARC stated in its publication that, despite the substantial number of studies carried out, it was unable to judge whether there is a link between cancer and exposure to bitumen and bitumen fumes in road work. Given the IARC's findings, no new positions have been adopted by national authorities in the various countries where Colas has operations, with the exception of France, whose health authorities have produced an extensive update on the issue.

The conclusions and official report of ANSES (the French national agency for food, environmental and occupational health and safety) reflected the risk analyses carried out by the road construction industry, stating that there are no grounds to consider a carcinogenic risk in the production or use of non-oxidized asphalt, but that this substance does present risks of eye and upper respiratory irritation. There were no further publications in 2018. In order to monitor the risk of employee exposure to this irritant, a major study was launched by INRS (the French national research institute for occupational safety and health) and Routes de France (formerly USIRF, a French road industry association) to develop a standard method for the measurement of bitumen fumes inhaled by workers. Completed in 2015, this research involved broad participation by industry players, including Colas. An assessment template to evaluate the effectiveness of prevention methods has been developed and is now used by health insurance agents. Employee exposure data monitored using this new assessment tool will enable a database to be built up and analyzed at least every five years.

For several years now, Colas has worked on reducing exposure to bitumen fumes and has pursued its strategy around the world with two main objectives:

- reducing bitumen application temperatures, since every 12°C reduction in temperature reduces fume emissions by around 50%. In addition, the R&D program currently under way to further expand the production of warm mixes is being supplemented by communications campaigns aimed at convincing customers to adopt warm mixes in place of traditional hot mixes; in 2016, the INRS determined that the use of warm mix results in a statistical reduction in exposure of 25% (see indicator below);
- upgrading the fleet of finishers (machines that lay asphalt mix) to equip them with fume extraction systems. In 2016, the INRS determined that using these systems results in a statistical reduction in exposure of 55% (see indicators below).

Work on these two areas continued in 2018, and a joint publication by Routes de France, the INRS and the DGT (General Labor Directorate) is due to be published next year.

Measures are also being taken to eliminate residual use of oxidized bitumen (as defined in the IARC's monograph), following its classification as a probable carcinogen, both in road and waterproofing applications. Currently, Colas' only use of oxidized bitumen is related to its presence in roof shingles recycled into asphalt mixes at certain facilities in North America.

Workplace health bodies and industry players have rallied around the issue of exposure to dust at worksites, quarries and gravel pits.

In France, Routes de France, a trade body in which Colas plays a very active part, published guides on two issues: preventing dust risk in surface-planing, sawing, chipping, scaling and coring activities; and preventing dust risk on recycling platforms, together with the UNPG (French national union of aggregates producers).

These guides were prepared with input from the DGT as well as OPPBTP.

A guide addressing dust risks at asphalt mixing plants is currently being finalized.

Colas is taking action in France and around the world to reduce exposure to dust at manufacturing facilities and construction sites alike by using equipment and processes that create a humid environment through spraying or misting, having workers wear personal protective equipment, and upgrading milling and planing equipment with machines fitted with dust extraction systems. Dust risk was one of the priorities in the 2017 action plan under the Group's health policy, and was brought to the fore again in 2018.

In France, Colas has taken part in the debate on the presence of amphibole elongate mineral particles (which belong to the same family of naturally occurring rocks as asbestos) in existing roads, recycled materials and newly extracted aggregates. Colas is a member of several working groups that bring together public-sector experts as well as building, construction, demolition and public works industry associations to better gauge this risk and develop suitable prevention measures.

The health effects of potentially asbestos-bearing actinolite and of amphibole elongate mineral particles (EMPs) are an issue that has attracted attention for a number of years in many different countries (including the United States, Germany and Hungary) from a regulatory and scientific standpoint. At present, France is the only country in which a number of public decision-makers have decided to identify this risk as a commercial asbestos risk. Colas has great respect for the requirements of the French authorities, but it has opted not to embrace this stance in its risk analysis nor to apply it to the other countries in which it works. At the same time, it aims to promote a genuine scientific and regulatory dialogue internationally, in particular in the United States, where most of the research in this area has been carried out, but where it has not been regarded as sufficiently conclusive.

Solvents are the latest front in the fight against employee exposure to toxic chemicals, a category that includes chlorinated solvents used in laboratories, fluidifying agents or anti-adhesive petroleum-based products used at worksites, and petroleum-based or chlorinated solvents used in workshops. Solvents are hazardous to human health when absorbed through the skin (and via the respiratory tract, especially when heated). In addition to maintaining high standards for individual and collective protection equipment and the strict supervision of all products used, Colas has begun a program focused on finding safer alternatives for all solvents in use. Progress in this area is difficult to achieve because possible alternatives may encounter resistance from employees for technical reasons. They may also be more costly, not available in all countries, or require adaptations in working methods due to their lower effectiveness (see indicator below).

Thanks to its network of around one hundred prevention specialists in the field, Colas has raised its employees' awareness and expanded their training on these issues.

Name of indicator ⁽¹⁾	Scope	Coverage	2017	2018
Percentage of warm mix and low-temperature mastic asphalt (as % of quantity)	World	Asphalt mix and mastic asphalt production activity	23	22
Percentage of finishers equipped with a bitumen fume extraction system (as % of quantity)	World	All fleets of equipment	51	58
Percentage of asphalt planers equipped with a dust extraction system (as % of quantity)	World	All fleets of equipment	40	50
Percentage of chlorinated solvents used in closed-loop systems (as % of quantity)	World	All laboratories	82	80

(1) These figures do not take account of information concerning the Miller McAsphalt group.

The "Percentage of warm mix and low-temperature mastic asphalt produced at hot-mix plants and mastic asphalt plants" indicator remained nearly stable between 2017 and 2018. However, the production of warm mixes increased by 1%, whereas that of hot mixes rose by 5%. The Group's target for 2018 was 24%.

The "Percentage of finishers equipped with a bitumen fume extraction system," "Percentage of asphalt planers equipped with a dust extraction system," and "Percentage of chlorinated solvents used in closed-loop systems" indicators were established in 2013 and are intended to measure the number of machines that limit employees' exposure to bitumen fumes, dust and chemicals. The proportion of finishers and asphalt planers equipped with dust extraction systems advanced by 7 points and 10 points, respectively, demonstrating that efforts in this area continue to make progress everywhere as and when equipment is replaced.

The percentage of chlorinated solvents used in closed-loop systems fell by 2 points. However, the quantity of chlorinated solvents bought or taken from inventory counts decreased by 28%. It should be noted that purchases of these products by US subsidiaries have been reduced to extremely low levels. More generally, the risk related to chlorinated and petroleum solvent use has been reduced in workshops, on worksites and in laboratories, both in France and internationally. More than 85% of the Group's parts washers no longer use these types of solvents to clean workshop and laboratory equipment, having replaced them with organic solvents, plant-based solvents or aqueous cleaning solutions. The goal of completely eliminating these uses in an open environment still has to overcome several highly specific applications, the laboratory standards in certain countries and the availability of equipment and alternative equipment in certain locations. Colas continues to invest in refining control methods, but it seems likely that progress will now become slower and harder to achieve.

The collection and consolidation of data for these indicators follow the rules described for environmental and social indicators (see note on methodology).

The "Satin" employee satisfaction survey on quality of life at work was launched in 2014 and run again in 2018 on employees at Colas companies in Mainland France. A questionnaire was sent out to all employees. Based on their responses, each subsidiary has developed an action plan to improve its workplace well-being approach and work-related stress prevention policy.

4.3.2.2. WORKPLACE ACCIDENTS, PARTICULARLY THEIR FREQUENCY AND SEVERITY, AND OCCUPATIONAL ILLNESSES

Name of indicator ⁽¹⁾	Scope	2017	2018
Frequency rate ⁽²⁾ of employee workplace accidents	World	6.41	6.67
Severity rate ⁽³⁾ for workplace accidents	World	0.48	0.46
Number of fatal accidents	World	7	6
Number of employees recognized as suffering from an occupational illness during the year	France	120	122
Percentage of companies outside France providing employee benefits	International	100	100

(1) These rates include data for Miller McAsphalt employees.

(2) Number of lost-time accidents x 1,000,000/Number of hours worked. These are accidents declared and recognized by the competent authorities, e.g. the CPAM in France.

(3) Number of working days lost x 1,000/Number of hours worked, in line with the regulatory definition of "Severity rate": "Working days lost in the current year are taken into account even if the accident occurred in the previous calendar year."

In 2018, the Group's frequency rate for workplace accidents was higher than in 2017. However, this is the second-best frequency rate ever achieved by the Group.

The severity rate improved, dropping from 0.48 to 0.46.

2018 was therefore a year of transition and consolidating the prevention and safety measures implemented over the last few years.

The Safety Culture initiative launched with Dupont at the end of 2018 in Mainland France should enable Colas to take another step forward. The initiative is to be rolled out across all Mainland and Colas Rail subsidiaries until 2022.

Nevertheless, six fatal accidents were reported in 2018.

Also worth mentioning are the instruction on consignment/deconsignment protocols in all countries, concerning primarily production plants, and the safety meeting on degraded situations, which has been included in training for newcomers.

Absences

Name of indicator	Scope	2017	2018
Number of working days lost due to workplace accidents (excluding commuting accidents)	World	51,585	50,780
Absence rate ⁽¹⁾ (%)	France (Mainland + Overseas)	5.1	5.0

(1) Permanent contracts; this indicator measures the number of working days lost due to workplace accidents, commuting accidents, illness or occupational illness, in proportion to the number of calendar days.

Worldwide, the number of working days lost due to workplace accidents was down 1.5% in 2018.

In France, the absence rate declined slightly to 5.0 (down 0.1 points). This is marginally higher than the national rate for the private sector of 4.72 in 2018 (according to the Ayming 2018 absence survey).

The overall rate of 5.0 breaks down as follows: 6.6 for workers; 4.0 for office staff, technicians and supervisors; and 1.7 for managers.

4.3.2.3. OUTCOME OF AGREEMENTS SIGNED WITH TRADE UNIONS OR EMPLOYEE REPRESENTATIVES AS REGARDS WORKPLACE HEALTH AND SAFETY

Colas' agreement on the quality of life in the workplace encapsulates the Group's desire for its employees to achieve a better balance between their working and personal/family life through concrete measures.

The discretionary profit-sharing agreement applicable to 2016, 2017 and 2018 has helped reinforce safety culture awareness among employees. Apart from its positive impact on economic performance, this agreement also aims to strengthen employee adherence to and involvement in the Group's policy to promote occupational health and safety and prevent risks in the workplace.

4.3.3. Environment

The Colas Group's environmental policy is organized in accordance with governance principles that allow the Group's environment department to implement its actions as close as possible to the ground as regards both production facilities and worksites, all over the world. It draws on a network of about 40 environmental representatives at the Group's subsidiaries in France and around the world, in turn supported in the field by several hundred coordinators and internal environment auditors, who often have responsibilities in other areas, particularly safety.

Colas has adopted a structured approach to steering, measuring, managing, monitoring and anticipating its impacts, by assessing the inherent environmental and economic risks of its activities and innovating in order to move forward. The main areas in which it is taking action are the assessment and control of its impact on and into the soil (preventing pollution, replacing hazardous products with non-toxic substances, etc.), on water resources (control of aqueous waste and management of water stress areas) and into the air (fumes, CO₂ emissions, etc.), as well as taking account of biodiversity, the circular economy (recycling, saving resources etc.) and climate change (energy efficiency, green chemistry, etc.). For the overall steering of this approach and its implementation on the ground, Colas relies not only on conventional tools like ISO 14001 certification and relevant indicators, but also internal procedures tailored to its activities such as self-assessments using checklists or the EOCE program, which aims to share knowledge and resolve environmental issues by pooling environmental officers' expertise and setting up cross-departmental working parties as is the case for industrial risk, or even cross-auditing between subsidiaries. The major axes for the deployment of innovation and R&D form a direct part of this policy in terms of both products favoring technologies and the use of substances that are more environmentally-friendly than life-cycle analysis solutions in order to support innovation by means of sustainable design initiatives.

4.3.3.1. ENVIRONMENTAL POLICY PRINCIPLES OF ACTION

The key tenets of the Group's environmental policy are based on issues and initiatives on the ground, which are used to define the policy implemented by the Group, which in turn is subject to action plans applied locally.

The effects on natural resources are detailed in the section relating to the circular economy and recycling, one of the main challenges facing Colas.

The effects relating to pollution, biodiversity and water are discussed in the section on social and regional acceptance.

Lastly, energy and greenhouse gas emissions are covered in a specific section.

4.3.3.2. SYSTEMS IN PLACE FOR STEERING ENVIRONMENTAL POLICY

Colas manages environmental risk and its continuous improvement plan with the support of two tools: certification to ISO 14001 or its equivalent and self-evaluations using Colas checklists. The challenge for Colas relates mainly to permanent facilities and hardly involves its worksites, given their small average size (revenue of around 140,000 euros) and the fact that the overwhelming majority of them are in areas no longer in their natural state (corresponding to about 90% of revenue).

Colas has put in place three indicators to measure progress made under its policy:

1. the environmental certification indicator reflects Colas' regulatory compliance policy as well as its efforts made to analyze environmental risks and control these risks through action plans;
2. the environmental self-assessment indicator reflects the extent to which Colas evaluates its activities using its own checklists. These checklists, which serve as a concrete benchmark for assessing environmental performance, cover the majority of the Group's fixed facilities and are used to determine progress plan priorities. A standard checklist has been prepared for practically every type of stationary facility: R&D laboratories, works center depots, workshops, hot- and cold-mix plants, emulsion and binder plants, bitumen depots, quarries, gravel pits, recycling platforms, ready-mix concrete plants, prefabrication plants, and construction waste disposal sites. This represents around 2,000 production units all over the world. The checklists are part of Colas' internal control system.

The aggregate indicator combining environmental certification and checklists provides an overview of an expanded scope.

Name of indicator ⁽¹⁾	Scope	Coverage	2017	2018
Percentage of materials production activities that have environmental certification (as % of CAE ⁽²⁾)	World	100% of CAE ⁽²⁾ of materials production activities	62	61
Percentage of materials production activities that carry out environmental self-evaluations using Colas checklists (as % of CAE ⁽²⁾)	World	100% of CAE ⁽²⁾ of materials production activities for which checklist is applicable	85	83
Percentage of materials production activities that use a tool to manage environmental impact (environmental certification and/or Colas checklists) (as % of CAE ⁽²⁾)	World	100% of CAE ⁽²⁾ of materials production activities	85	84

(1) These figures do not take account of information concerning the Miller McAsphalt group.

(2) CAE: revenue + intra-Group transactions and disposals. This amount takes into account Colas' upstream activity (essentially construction materials), whereas accounting for Colas' vertical integration results in the elimination of more than 50% of materials production activity from revenue.

The "Percentage of materials production activities that have environmental certification" indicator fell by 1 point but is still at a satisfactory level, given the range of contexts around the world in which Colas operates and the minority interests held by Colas in many of these businesses. Furthermore, in some regions, managers have begun to question the usefulness of this approach, or would like to replace it with more practical and less systemic guidelines. At this stage, the debate remains open, even though there is a strong tendency at subsidiaries to define the certified scope of their activities with greater precision. The consolidated target for the Group's subsidiaries in 2018 was 70%.

The checklist-based environmental self-assessment indicator also declined (a drop of 2 points), but remains at a high level. The decline in this indicator is due to two separate factors:

1. the number of checklists taken into account in calculating the indicator did not increase as sharply as the number of applicable checklists, up 9%, a sign that more and more industrial activities are becoming eligible. This automatically implies a reduction as a percentage of CAE.
2. the breakdown by department reveals a 5-point decline in areas covered by the International department and a 4-point drop in those under the responsibility of the North America department, while the Mainland France department posted a 3-point increase.

The consolidated target for the Group's subsidiaries in 2018 was 90%. Self-assessment using checklists continues to be the cornerstone of Colas' policy for addressing environmental risks.

The percentage of materials production activities that use a tool to manage environmental impact remains high, even though this indicator decreased by 1 point in 2018. The target remains 100%. This objective is ambitious considering that other companies sometimes have large and even majority stakes in some Colas entities, which prevents Colas from ensuring complete oversight. (See the Appendix for a presentation of the method used to consolidate non-financial indicators).

4.3.3.3. EMPLOYEE ENVIRONMENTAL AWARENESS-RAISING INITIATIVES

Colas does not use performance indicators to specifically monitor employee training and awareness-raising actions in the area of environmental protection.

However, environmental certification standards (particularly ISO 14001) require that the environmental performance of employees be assessed, that environmental training be provided for employees when necessary, including new recruits, and that contractors be provided with relevant information (pursuant to Section 4.4.2 of ISO 14001).

Colas has not set up a single central model for training and information actions; these actions may take a variety of forms depending on the country, the subsidiary and the activity. However, the environment and Colas' Responsible Development policy in general are covered in a training program offered at Colas University 1. Colas prefers to address this challenge with a decentralized approach and monitor training and information performance in compliance with an environmental standard that is verified by certified auditors, such as ISO 14001.

Furthermore, work meetings and conventions on environmental themes are organized every other year (most recently in Montreal in June 2018, preceded by Lyon in June 2016, with the next to be held in 2020 in a country to be determined) to raise awareness within the network of environmental representatives in France and around the world. Meetings at worksites and production sites make it possible to share experience as well as set up and monitor action plans. The Colas Group's websites and intranet are also ongoing sources of information for all employees. The Colas Campus provides specially designed training courses for employees (works managers, superintendents, engineering consultants, environment managers) in Mainland France. They cover topics such as water legislation, ISO 14001, QSE management for road construction, and the management of soil pollution.

Following the environmental convention held in Brussels in 2014, the EOCE project was launched to give impetus to the network of environmental representatives and enable them to expand their knowledge and share it within their subsidiary and throughout the Group. This EOCE project, which is supported by the CEOs of the participating subsidiaries, has three primary objectives:

- manage environmental risks more effectively while making Colas entities more efficient;
- use a dedicated social network and other tools to establish and sustain cooperative relationships;
- share tools and knowledge to promote the exchange of experience and best practices.

An initial series of pilot tests was launched in mid-2015 with four French-speaking representatives. Six months later, a second pilot group of English-speaking representatives was formed. Each of the pilot correspondents then sponsored two new correspondents in the network.

The project involves three months of intense collaboration based on a common assessment of requirements with concrete action plans at each subsidiary.

Thanks in large part to the engagement of many employees from all departments, the action plans undertaken have facilitated and improved the understanding of environmental issues at our subsidiaries. This dynamic new approach will enable trained correspondents to communicate actively on the Group's social network, discussing plans for progress as well as a wide range of important topics and best practices.

By 2020, all of the currently serving environmental representatives are due to be trained under this program. At the close of the current reporting period, 24 of the 46 environmental representatives had been trained (including eight trained in English), and eight of them had already reached the level required to coach new EOCE trainees.

Working parties are organized in order to make progress in specific themes. For example, a cross-departmental working party was formed in 2018 to look into industrial risk with the Materials, Health and Safety in the Workplace, Audit, Technical, Research & Development and Risk & Insurance departments, as well as with the three operational executive management teams (Mainland France & Rail, North America, International). Its role is to specify a Group industrial risk policy with appropriate tools for the different types of facilities. This approach aims to take account of technical and human factors as well as organizational factors, while also including a review of industrial equipment suppliers.

4.3.3.4. RESOURCES USED AND MEASURES TAKEN TO PREVENT ENVIRONMENTAL RISKS AND POLLUTION

Colas does not use consolidated indicators to monitor spending on the prevention of environmental hazards or pollution, or to monitor preventive actions. This spending is included in normal operating expenditures and it is difficult to allocate purchases or major maintenance costs: for example, replacing a bag filter at an asphalt mix plant constitutes a routine investment for Colas, even though it is of an environmental nature since it serves to prevent particulate emissions.

However, environmentally certified sites have supporting documentation in the form of an environmental analysis on the one hand and budgeted preventive action plans on the other. Colas uses this information during management reviews to analyze and limit the impact of the Group's operations and improve environmental performance, and it is also examined as part of a standard budget monitoring procedure.

Operating licenses for environmentally sensitive facilities subject to special administrative processes ("ICPE" or "ISDI" facilities in France) generally require strict compliance with environmental requirements, irrespective of the country in question. ISO 14001 certification gives Colas a moderate level of assurance that it will meet these requirements. Furthermore, compliance with government requirements is the main criterion for self-assessment by Colas' checklists. These requirements are therefore taken into account through annual self-assessments at sites that are not certified. Lastly, the annual cross-audits of subsidiaries in Belgium, Mainland France and Switzerland by trained internal auditors, also serve to evaluate facilities and tighten up environmental hazard prevention. Audits are carried out at an average of 100 ISO 14001-certified sites per year, representing around 14% of sites in that geographic area. Extending this type of system to countries with different languages, where Colas has fewer locations, is more difficult, but the lessons learned from these cross-audits are shared with the rest of the Group and some geographic areas (Indian Ocean region and the United States, for example) have experimented with similar exchanges, often initiated following the completion of an EOCE program.

Colas wins the 2018 BIM d'Or award for the Dunkirk worksite

The Dunkirk refinery site is a large-scale demolition and decontamination site (95 hectares, 35 kilometers of buried piping, 250 kilometers of ground-level pipelines, around 100 tanks, WWI and WWII-era bombs in the ground, more than a century of history, and so on) faced with the major challenge of managing and cross-checking all of the information needed to develop an acceptable decontamination strategy with a view to returning it to the Port of Dunkirk.

To respond to this challenge, Colas decided to use a BIM model integrating all underground data, including buried structures and their plans from a variety of time periods, aquifer monitoring data, geological data, the results of water and soil pollution tests, bomb impact maps and topographical surveys. The BIM tool was then used to go beyond a simple 3D representation with a large spatial database in order to automatically detect inconsistencies, target additional diagnostics needs, interpolate pollution data, and more.

This development work enables Colas to create an increasingly accurate underground image, take on the remaining uncertainties, study and put forward a number of decontamination strategies, and then over time carry out works and the corresponding volumes. At the end,

Colas will be in a position to provide the owner of the land with a reliable 3D picture in standardized format, which will allow it to bring this intelligent digital object to life during future developments on the site. This gives underground works operators a unique opportunity for better collaboration: facilitating exploration of multiple scenarios and explaining the assumptions made; trade-offs can be made with full transparency, safeguarding negotiations; site supervision and reutilization of sites by means of a chain of operators over the years.

Implementation in three months and the use of this huge digital object (1 terabyte at end-2018) have been possible thanks to the creation of a team combining both Colas' internal expertise (in particular BIMbyCo and Colas Environnement) and external service providers for the management of plans, digitization, topography, site engineering and contaminated soil, etc.

In France, the BIM judging panel decided to award its 2018 gold award to Colas for this world-first application of BIM to underground issues, for the quality of its corresponding technical developments and the collaborative transparency vision that is central to this development.

4.3.3.5. AMOUNT OF PROVISIONS AND GUARANTEES TO COVER ENVIRONMENTAL RISKS

Contaminated land: in line with its management guidelines, Colas makes provisions for clean-up expenses when the amounts have been determined based on an assessment by an independent firm and when a date for site rehabilitation has been set (by the competent authority, for example) or is otherwise known (upon lease termination, for example).

Financial guarantees and provisions for site rehabilitation: a large number of quarries and other sites worldwide are subject to specific regulatory requirements when they are no longer operated and require provisions to cover environmental risks during operation. This entails a wide variety of guarantees and practices (such as performance bonds, insurance, escrow accounts and provisions) that depend on national laws. Colas' provisions on site rehabilitation commitments totaled 175 million euros as of December 31, 2018 (see the section of the management report entitled "Rehabilitation of industrial sites," under "Risks" - "Industrial and environmental risks" - "Environmental risks").

For the closure of the Dunkirk plant, Colas and SRD made the necessary arrangements for the restructuring plan and for the asbestos removal, decommissioning and pollution abatement project (see inset on BIM) prior to the site's return to its owner. MCD, a new company, was set up to run the project, and work began in 2018. The relevant provisions were set aside in Colas' and SRD's financial statements. The size of these provisions is confidential, but it is checked annually by the Statutory Auditors.

As of this date, there is nothing that indicates that any of these measures were insufficient, either during internal or external audits or during the investigation of insurance claims.

4.3.4. Circular economy and recycling

Colas is one of the world's five biggest recyclers across all sectors and types of materials. A leading producer and user of construction materials, Colas recovers and recycles its waste and site demolition materials in its road construction, and more generally also waste and materials from other construction and public works professionals and even other industries (mirror glass waste, broken porcelain, shoe soles, etc.).

Aggregates are the resources most used by human beings, after water. Public works account for the bulk of this consumption, with road construction alone making up more than half of it. Aware of the responsibility that results from this, Colas has been developing its recycling techniques for over 40 years and has disseminated them across all of the regions where it works. Today, 800 Colas sites transform used materials, primarily reclaimed asphalt pavement, to turn them into public works materials. This avoids production of bitumen from a refinery, exploitation of around 20 quarries worldwide and an even larger number of landfill sites.

This approach falls within the wider framework of the circular economy with a reduction in construction costs and savings in materials, transportation and energy (carbon). By taking a "zero waste" approach to its public works activities, Colas makes it possible for each region to rebuild using its own materials.

4.3.4.1. STEPS TAKEN TO PROMOTE THE CIRCULAR ECONOMY

Since most of the materials that Colas uses are relatively heavy, recycling must be optimized at a very local level to minimize transportation requirements. The key environmental aspects are determined from life-cycle analyses and carbon footprint calculations. This local dimension understandably favors an industrial ecology approach and there are many examples of how Colas has successfully brought quarries, recycling centers, asphalt plants, and other facilities on board with this approach.

A more circular economy: Colas Île-de-France Normandie sets an example

For more than 30 years, Colas Île-de-France Normandie has taken account of fundamental issues concerning responsible management of waste and materials from sites of all kinds, as well as their recycling and reuse. The subsidiary has developed a network of around 40 facilities - recycling platforms, sorting platforms for commercial users, inert waste storage facilities - across the region, allowing it to offer its clients its own sorting and recycling services and elimination services for non-recyclable waste and materials.

Premys, Colas Île-de-France Normandie's demolition subsidiary operating across all of Mainland France, is a key player in this sector. It has been recycling building structure waste, comprising mainly concrete, for years, and is also working on optimizing the reuse or recycling of secondary works waste, consisting of materials

from dredging and in particular from selective coating (ferrous and non-ferrous metals, computer floors, wooden flooring, wooden beams, false ceilings, furniture, etc.) so that they become a source of raw materials or equipment.

Through all its activities, including those of its demolition subsidiary Premys, Colas Île-de-France Normandie was able to recycle more than 1.45 million metric tons of materials in 2018, including 275,000 metric tons of reclaimed asphalt pavement from the demolition of former road surfaces.

Thanks to this long-term strategy, Colas Île-de-France Normandie has established itself as a leading proponent of the circular economy in the French construction and civil engineering sector.

Colas' circular economy policy is based on the results of various methodological tools, particularly life-cycle analyses of asphalt mixes. Work in this area began in 2000 through such industrial associations as the European Asphalt Pavement Association (EAPA) and Routes de France. These efforts are regularly intensified and updated.

4.3.4.2. CONSUMPTION OF RAW MATERIALS AND RECYCLING

Colas' approach to reducing the consumption of raw materials (aggregates and bitumen) is based on the following action plan:

- **optimizing and maximizing the recycling** of all types of excavation material, demolition debris and inert waste produced by construction and public works projects, which reduces the need for disposal sites and to operate quarries and gravel pits. Colas has developed indicators to track the amounts of materials effectively recycled at its industrial facilities in order to compare these amounts to the volume of new materials produced, rather than simply record the amount of waste generated by its worksites or the amount of recycled materials Colas reuses. This decision serves two purposes: it improves data reliability and encourages the subsidiaries to invest in materials recycling equipment. The aim of this approach is therefore not to track total consumption, the interpretation of which has proven too complex to allow proactive action plans to be developed. For example, some totals may increase with revenue while others decrease due to changing market conditions (such as bitumen consumption, the increasing proportion of service and maintenance activities, and the development of new activities);

- **developing new products** at Colas’ R&D laboratories based on a sustainable design approach that seeks to minimize the use of raw materials, particularly non-renewable resources. Research is being carried out to optimize eco-friendly binders by applying the principles of “green chemistry,” notably by introducing bio-sourced components from forest and marine resources, reducing temperatures and limiting greenhouse gas emissions. This work focuses on using waste and renewable raw materials that have no adverse impact on the production of human food resources. In addition, to reduce chemical risk Colas promotes and commissions toxicological characterizations on the products made using these alternative chemical technologies, for example to detect potentially harmful substances like endocrine disruptors;
- **developing and offering low-carbon alternatives:** for many years now, Colas has led the way in offering its customers low-carbon alternatives and in developing “eco-comparison” tools for assessing these alternatives. In France, these efforts have culminated in the SEVE® eco-comparison tool (see inset on page 34), which includes a materials savings indicator. Colas played a key role in developing this software and making it available to its customers and throughout the construction industry. 2016 was marked by further development of this software and the creation of two distinct modules: the Roads & Utilities module and the Earthworks module. These two modules make it possible to distinguish the results of the various environmental indicators for both types of work and thus have a better idea of the distinct environmental impact of earthwork and of road construction. Low-carbon alternatives consume less energy and material and produce fewer greenhouse gas emissions than conventional products and techniques.

Name of indicator ⁽¹⁾	Scope	Coverage	2017	2018
Quantity of materials recycled (in millions of metric tons)	World	Asphalt mix and aggregate production activities, and railroad worksites	9	9
Quantity of reclaimed asphalt pavement (in millions of metric tons)	World	Materials production activities	5.8	6
Number of low-carbon alternatives offered to customers	World	Worksite activities	141	116

(1) These figures do not take account of information concerning the Miller McAsphalt group.

The quantity of materials recycled remained stable in 2018. The quantity of reclaimed asphalt pavement increased by 2%. In total, more than 15 million metric tons of materials are recycled each year by Colas via its 800 installations (asphalt plants, recycling platforms etc.) around the world, making it one of the top five worldwide across all sectors (steel, aluminum, waste, plastic, paper and cardboard, glass, etc.). This positioning is continuing to improve and is particularly robust in that it corresponds to a very fine network of recycling sites across practically all regions where Colas operates.

In today’s challenging economic environment, the drop in the number of low-carbon alternatives reflects the current state of the market, which becomes less open to alternatives every year. The proportion of greenhouse gas emissions avoided by the Group declined by 5% in 2018 while the number of low-carbon alternatives proposed was 18% lower and the number of low-carbon alternatives selected remained stable. Within the road construction industry, Colas is playing an active role in efforts to give new impetus to low-carbon alternatives, especially now that the French SEVE® eco-comparison tool is attracting genuine interest in Europe (see inset below).

Working together, the industry and the European Union have undertaken to promote SEVE® internationally. Colas is actively involved in these efforts. In 2017, the SustainEuroRoad project, 50% grant funded under the EU’s Life program, was audited by the European Commission. It has been noted that there are no other projects of this type in road construction and that it helps make contracting more objective. The European Commission’s Directorate-General for Environment has referred to the possibility of reducing greenhouse gas emissions by more than 50%, energy consumption by 70%, and consumption of natural resources by

similar proportions by using this software. In 2018, “SustainEuroRoad” allowed for the creation of a new pan-European database and demonstrators at worksites and production sites across Europe (Spain, Hungary, Germany and France). Its aim is to support GPP (Green Public Procurement), a European Community organization, in its efforts to introduce environmental criteria into public procurement. The software is changing continually and listens to users’ comments in order to be as in touch as possible with the reality on worksites.

4.3.4.3. WASTE PREVENTION AND MANAGEMENT

The vertical integration of Colas' operations on a global scale means that resources are used and materials inventories and logistics flows are managed according to specific local requirements and characteristics. Colas Île-de-France Normandie, which operates in a highly urbanized region lacking aggregates resources, accounted on its own for 16% of Colas' global production of recycled materials in 2018.

Recycling reduces the need to extract aggregates from the earth (thereby reducing the need for new quarries and gravel pits) while also reducing the amount of material that needs to be disposed of. A "Materials recycled" indicator was implemented in 2004 to measure subsidiaries' efforts in converting waste into construction materials, relative to the total volume of aggregates produced, thus providing an assessment of savings in terms of new materials.

Reclaiming asphalt pavement makes it possible to reduce consumption of bitumen (a non-renewable petroleum resource) by reusing that contained in the asphalt recovered when repairing or demolishing roads. Asphalt mix, the surfacing used for most road systems throughout the world, consists of a mixture of about 5% bitumen with aggregates. Reclaimed asphalt pavement (RAP) comprises the materials recovered from the milling or demolition of roadways before new asphalt mix is applied. Recycling asphalt mix when repaving a road offers three advantages:

- saves energy and reduces greenhouse gas emissions;
- enables the reuse of bitumen, a non-renewable natural resource, and aggregates;
- reduces road construction costs for the customer (often public sector) at identical levels of quality and performance.

In-place road recycling – which involves removing the asphalt mix from a road, adding a binder to it at the worksite and repaving the road with the resulting mix – saves a great deal of energy by considerably reducing the need to transport materials. Substantial amounts of aggregates are also saved since the material removed from the road is recycled in place.

As part of its effort to measure its waste management performance, Colas has developed a specific indicator to monitor the management and disposal of waste oils generated by all its subsidiaries and business lines. In most countries, waste oil is subject to special hazardous waste regulations and is the main hazardous waste generated by Colas' business activities. The indicator is calculated based on the ratio of used hydraulic and motor lubrication oil that is either disposed of by a certified channel or responsibly recovered, relative to total oils purchased.

Name of indicator ⁽¹⁾	Scope	Coverage	2017	2018
Ratio of materials recycled to total aggregates produced (as % of quantity)	World	Asphalt mix and aggregate production activities, and railroad worksites	12	10
Percentage of reclaimed asphalt pavement with bitumen recovery (as % of quantity)	World	Materials production activities	15	15
Surface area of road recycled in place (in millions of m ²)	World	Worksite activities	3.6	3.3
Waste oil recovery rate (as % of quantity)	World	All activities	61	65

(1) These figures do not take account of information concerning the Miller McAsphalt group.

The ratio of materials recycled fell slightly (down 2 points) between 2017 and 2018, due to a sharp rise in aggregates produced (up 12%) and a small drop in the quantity of materials recycled (down 1%). Countries in the International scope saw the most significant increase in the volume of materials recycled (up 26%).

In 2018, Colas recycled and recovered 9 million metric tons of materials. This represents almost 10% of its total aggregate production and worldwide savings equivalent to the average production of 17 Colas quarries.

The "Percentage of reclaimed asphalt pavement with bitumen recovery" indicator remained stable in 2018. The quantity of reclaimed asphalt pavement increased by 2% and asphalt production fell by 5%, but these positive trends were not sufficient to deliver a positive change in the overall indicator. The consolidated target for the Group's subsidiaries in 2018 was 16% for this indicator. The industry consensus holds that the maximum recycling ratio achievable for all asphalt mix excavated or planed off the road is between 20% and 25% in OECD countries, with this rate varying locally in accordance with urban density and the technologies employed by project owners. Colas is therefore situated in the third quartile of this maximum rate overall, with some subsidiaries in Canada, the United States, and Belgium having attained the maximum level in 2018, whereas this progress is more difficult to achieve in less proactive countries.

The surface area of road recycled in place by Colas subsidiaries decreased by 4% in 2018 compared to 2017. The 5% increase in this indicator in the countries where the International department operates was unable to make up for the fall at the Group's Canadian subsidiaries, which accounted for more than one-third of this production in 2017. The reduction seen in Canada this year relates to the completion of construction projects using this technology.

Regarding waste oil, the optimum oil-recycling ratio is considered to be 80% if the oil that is consumed and burned by vehicles and machinery is taken into account. Colas' recycling ratio rose by 4 points in 2018. The management of all types of waste is monitored and evaluated pursuant to ISO 14001 certification requirements and during the annual self-assessments using checklists (see environmental certification and self-assessment indicators in Section 4.3.3.2).

4.3.5. Social acceptance and local regions

The notion of social acceptance allows for the creation of an idea of economic development that takes account of the positive and negative impacts of Colas' activities overall and in a given region. This means taking into consideration the Group's relations with its stakeholders and being able to listen to their expectations. In line with Colas' values and culture, the management of relations with stakeholders is decentralized, but the approach also allows for the identification of subjects that may merit a more global approach.

Due to the nature of its activities, whether in terms of long-term operations and major projects, Colas has a socioeconomic impact on the regions where it operates as regards both job creation and purchasing, by targeting local suppliers or even by forming scientific partnerships or partnerships with start-ups in the area of innovation. In addition to this role, it supports general interest initiatives in the fields of education and humanitarianism, culture and heritage, scientific research etc.

Its social commitments are targeted not only at populations as a whole, in particular with targeted actions as regards human rights, but also infrastructure users and residents local to its production facilities and worksites.

In line with the policy adopted at Group level, Colas manages its environmental impact on a local level in terms of adapting to climate change and sustainable use of resources and pollution, as well as protecting biodiversity. Although the challenges of the circular economy and recycling, as well as energy consumption and CO₂ emissions, are major local concerns, they are handled in two separate parts due to their overall importance for Colas.

4.3.5.1. SOCIOECONOMIC IMPACT ON LOCAL REGIONS

The Group has an impact on employment and regional development through:

- its network of long-standing local operating units which is at the heart of the Group's strategy, in business lines where proximity to the customer is key;
- its 58,000 employees, in businesses where the jobs are local and not liable to be relocated;
- the construction of transportation infrastructure that promotes connections between people, cultural exchanges, and the economic development of regions: streets, roads, highways and railways together form the world's first social network.

4.3.5.1.1. Employment

The Group contributes to employment and development of the regions where it is active through both national and local initiatives:

- in Mainland France, partnership agreements are signed locally with GEIQs (employer groups for integration and training) to help facilitate the employment process for people having trouble accessing the job market or returning to work. GEIQs directly hire individuals within these target groups and then make them available to member companies by organizing their schedules to alternate between theoretical training and on-the job work experience. The system has enabled around 40 people to work at Colas subsidiaries under this type of contract. In addition, Colas subsidiaries have taken part in the HOPE project (which helps refugees secure housing and find work), welcoming a total of around 20 refugees. The aim of this experimental program, developed by the French employment ministry in partnership with FNTP, Afpa, GEIQs and Pole Emploi, was to respond to the specific difficulties encountered by refugees on arriving in France. Each of them has been able to benefit from French lessons, training in worksite prevention and an internship to learn about the company on the ground;
- outside France, various initiatives are pursued across all Colas subsidiaries, including Colas Canada, which has taken steps since 2012 to integrate members of the First Nations within its work crews via its subsidiaries across the country. A nationwide approach is currently being drawn up to introduce a wider-ranging program with the First Nations. For example, this may include setting up partnerships in common areas, establishing training programs (literacy, efforts to combat addiction, etc.) and prioritizing the hiring of indigenous populations.

4.3.5.1.2. Local purchasing within global policy

The overall policy of the Colas Group's Purchasing Department has been reorganized, in line with the following principles:

- the establishment of a specially designed organizational structure and the rollout of clear purchasing processes to guarantee the segregation of duties (the same person cannot fill out the procurement requisition, select the supplier, place the order, accept and pay for the product or service) and compliance with regulations and commitments made to suppliers;
A new purchasing information system, accessible to all participants and ensuring that expenditures comply with process requirements, that purchasing duties are segregated appropriately, and that expenditures are duly authorized (via the validation workflow), is currently being deployed and process performance indicators are being prepared;
- the use of purchase order/contract templates for each product category to ensure that products and services are compliant and that CSR concerns are addressed. These templates must be validated by internal stakeholders in the Purchasing, Legal, Safety and Environment departments;
- get suppliers engaged in CSR by including the Group's CSR charter in all purchase orders and contracts;
- the involvement of internal stakeholders (e.g., Safety and Environment personnel) in the purchasing processes for products and services that are most relevant to them.

Colas' activities are decentralized and in this regard a large proportion of purchasing is done locally via the network of suppliers in each country and each region in which Colas operates. Colas helps preserve local economies in the areas where it operates, also working to improve economic vitality, by adopting several principles:

- framework agreements signed at Group level are with companies represented locally;
- preference is given to local suppliers and contractors in the case of similar offers from several bidders, unless there is a strategic reason to prefer a non-local product or service;
- a minimum proportion of awarded contracts is reserved for small local companies and/or suppliers. The concept of advance orders and gradually increasing order size is favored;
- in France, suppliers that employ people with disabilities (see indicator below) are preferred when they are competitive in terms of quality and price;
- purchasing officers are made aware of the Group's CSR policy and are asked to systematically factor this into their calls for tenders; local initiatives are also implemented.

Colas contributes to the sustainable and efficient use of regional resources by developing models that enable comparisons between proposed solutions (notably by analyzing the total cost of ownership) and also take into account resource conservation, ways to reduce consumption (particularly of energy resources), and the impact on the planet (e.g. reducing GHG emissions). For example, Colas' vehicle purchasing policy takes these considerations into account by opting for vehicles that meet the Euro 6 standard or offer good fuel efficiency.

The project to develop the Group's new work uniforms, launched in 2013, is a significant example of the vigilance exercised by Colas in its relations with its suppliers and service providers. Intended to be worn by 30,000 of the Group's employees, these uniforms are Fairtrade-certified by Max Havelaar and made of organic cotton fiber produced in Mali and grown without any GMOs or dangerous pesticides. The fabric is produced in European ISO 14001-certified factories, and the dyes used are OEKO-TEX® Standard 100-certified. The uniforms are produced in workshops in North Africa where working conditions have been checked by SGS in the course of workplace audits (12 audits have been carried out). These textile workshops were also certified by Flocert. In 2014, Colas received several awards for its work uniforms, including the Trophée des Achats in the Responsible and Sustainable Purchasing category and the Janus de l'Industrie seal of approval. Several initiatives were continued in 2018:

- the improvement of existing models based on feedback from users;
- the creation of a line specifically designed to fit women;
- roll-out to International locations, in particular Morocco and Madagascar, taking into account feedback from worksites and the improvements made since the first run of uniforms.

4.3.5.1.3. Patronage activities, sponsorships and partnerships

Partnerships

Colas continues to develop numerous partnerships across all its subsidiaries in France and around the world, to further build its knowledge and expertise, but also to adapt its business activities to tomorrow's challenges, in two main areas.

Academic partnerships are entered into with universities and schools (including the University of Birmingham in the United Kingdom, the University of Alberta in Canada, and the École Centrale engineering school in France), along with organizations and institutes (such as Ineris, the French Alternative Energies and Atomic Energy Commission (CEA), ChemSuD, and the Foundation for Research on Biodiversity (FRB)) for scientific or research and development projects.

Partnerships in the area of innovation are being developed with:

- with start-up incubators such as Paris and Co or Via ID on issues of mobility and logistics in sustainable cities;

- with startups in connection with the Group's innovation projects. For example, the partnership with RB3D, a robotics (collaborative robotics) specialist, is currently in its industrialization stage concerning the development of the ExoPush, a powered exoskeleton designed to help paving workers with the manual application of asphalt mixes. This innovation, developed in collaboration with Colas, which has around 30 ExoPush systems, is available to the entire public works industry. Other deals have been sealed with start-ups in energy and in the development of innovative solutions for local authorities. For example, an agreement was entered into with the Béthune city authorities to trial online maintenance service offerings. Colas' employees scour the city to detect, catalog and then remedy any issues they spot with its infrastructure using the TellMyCity app. The city authorities obtain a detailed, mapped and real-time overview of the state of maintenance of its infrastructure. with start-ups Apilab et BeeOdiversity, Colas is continuing to work on the ground on protecting the genetic diversity of bees and using beehives as a general bioindicator;
- with business foundations like Ferec (the Collective Research for Construction and Infrastructure Business Foundation), which supports research in the public works sector through its national and pan-European projects.

Patronage activities

The Colas parent company's patronage policy focuses on three main areas:

- cultural patronage: the Colas Foundation (commissioning paintings from artists on road-related themes), Colas on Stage (support for dance performances, young virtuosos and music festivals);
- solidarity patronage: Colas Life (support for educational assistance initiatives);
- scientific patronage: ChemSuD Foundation, FRB.

Colas uses an application to collect data on and approve the Group's patronage and sponsorship activities in France and abroad. All the information collected and validated using this tool is automatically transferred to Xfi (the Group's non-financial reporting application) for consolidation purposes.

Name of indicator ⁽¹⁾	Scope	Coverage	2017	2018
Patronage: Cash donations (in millions of euros)	World	100% of CAE of all Activities	2.6	2.5
Patronage: In-kind donations (value in millions of euros)	World	100% of CAE of all Activities	0.16	0.10
Sponsorship: Cash expenditures (in millions of euros)	World	100% of CAE of all Activities	2.9	3
Sponsorship: In-kind expenditures (value in millions of euros)	World	100% of CAE of all Activities	0.04	0.0052

(1) These figures do not take account of information concerning the Miller McAsphalt group.

The total amount of patronage donations (donations in cash and in kind) declined by 6% between 2017 and 2018, while sponsorship expenditures saw a slight increase of 4%.

For donations in cash or in kind, the most significant changes were seen at subsidiaries in North America (down 13% and 66% respectively). In Mainland France, the fall in donations in kind (down 21%) was accompanied by a reduction in cash donations (down 5%). International subsidiaries did not make any donations in kind, while the amount of cash donations increased by 3%.

Sponsorship in kind expenditures were more or less non-existent for the reporting period. Cash expenditures were down in Mainland France (down 2%) and North America (down 5%) and up in the International department (up 20%).

4.3.5.2. SOCIAL COMMITMENTS TOWARDS NON-CONTRACTUAL STAKEHOLDERS

Issues involved in relations with Colas Group stakeholders are complex, given the diverse range of business activities and regions across which the Group operates. In line with Colas' values and culture, the management of relations with stakeholders is therefore decentralized, except for subjects that may merit a global approach.

4.3.5.2.1. Citizens

Colas cares not only about reducing the negative impacts of its activities, but also about expanding its positive impact on a large scale, thus benefiting society as a whole in addition to its employees. One example of the long-term concrete actions Colas has implemented in this area is its employee first-aid training policy, which has been in place since 2006: Colas places a major emphasis on first-aid training, both in France and abroad. Today, more than a third (35%) of Colas employees have learned life-saving techniques. This training benefits employees as well as everyone around them, including their families and friends.

Name of indicator ⁽¹⁾	Scope	2017	2018
Total number of employees trained in first aid (at end of period)	World	20,809	20,067

(1) These figures do not take account of information concerning the Miller McAsphalt group.

The number of employees trained in first aid remains at a high level, even though a slight drop was recorded in 2018.

In developing countries where it has operated for many years (in Madagascar, West Africa and central Africa, in particular), Colas is involved in health initiatives (to fight AIDS, intestinal infections, and malaria in particular) that cover employees, their families, and local village populations. One of the programs has been led jointly with the ILO (International Labor Organization) for several years.

Principles implemented in the area of human rights

In Article 2 of its Code of Ethics, the Bouygues Group, to which Colas belongs, commits to complying with the United Nations' Universal Declaration of Human Rights and the ILO's fundamental conventions.

The Colas Group operates in more than 50 countries across five continents, and follows a business model centered on permanent operating units that employ local staff. Colas is committed to hiring locally everywhere in the world and as a result has very few expatriate employees: around 450 originating from some twenty countries, out of a total of around 24,200 employees outside France. Relying on local staff and treating employees with respect are part of preserving human rights.

In France and on the international level, the Colas Group is committed to respecting laws and regulations, including the Universal Declaration of Human Rights, and carries out internal audits to verify that it is not complicit in any human rights violations. There is no indication that Colas is particularly exposed regarding this issue. As it mainly operates in OECD countries, where it carries out around 90% of its activity, Colas has virtually no presence in countries listed as at-risk regarding these issues. Furthermore, its vertical integration policy automatically protects it from a systematic reliance on external purchasing and subcontracting.

The field of purchasing and subcontracting is often considered an at-risk subject. Colas is in a special position because the nature of its activity does not allow for outsourcing (concrete and asphalt mix cannot be produced or applied in one country for an infrastructure located in another country). Purchases made in at-risk countries are completed by Colas teams located in those countries; their local presence and management systems enable these teams to limit the risk of working with suppliers that may violate human rights.

The Audit Department is instructed to issue a warning if a problem of this nature is detected during an audit, even if no complaint is triggered. In 2010, an audit and rating report produced by the BMJ ratings agency did not identify any particular weakness regarding these issues.

Within the framework of the French law on duty of care, an approach has been adopted concerning serious risks in terms of human rights. Information about this included in the duty of care plan published by Colas' parent company Bouygues, governing this aspect for the Group as a whole.

4.3.5.2.2. Road users

The Group's end customers are the users of the infrastructures that it builds or maintains. In this area, Colas has very limited freedom to modify its products and its projects since, in most of the countries where it operates, it is prohibited from proposing alternatives to the basic solution described in public tenders. In France and several other European countries, however, it is possible to propose modifications, albeit often limited ones and only for certain contracts.

With the exception of traffic safety issues, transportation infrastructure does not present any direct impact on or risk to the health of users.

Colas' commitment to road safety is reflected in its frequent initiatives, in France and abroad, to raise employee awareness about road risks. These actions include organizing a Safety Week each year, focusing on road safety as well as safety issues relating to Colas worksites, in which all Group employees around the world take part.

These initiatives can also fall within the framework of charters (e.g., in France, charter with the government and CNAMTS - the French national health insurance fund for employees - renewed regularly since 1997) or road safety campaigns (for example, those led by RoSPA, The Royal Society for the Prevention of Accidents, in the United Kingdom).

In accordance with each country's laws and regulations (e.g. CNIL in France, GDPR in the European Union), onboard telematics in vehicles is set to be gradually extended in the future. Positive results, such as a significant reduction in speeds, have already been obtained at Colas Rail Ltd (United Kingdom) following discussion with the drivers concerned about the risks of excessive speed, supported by data collected.

Efforts to reduce losses, a goal shared by all subsidiaries (the Group saw a 45% reduction in road accident frequency worldwide between 2004 and 2018, with a 3% decline between 2017 and 2018), benefit not only the Group's employees, but also their families and friends (through the sharing of best practices), and most certainly all other road users.

Colas R&D works in a number of areas to respond to road safety challenges, in particular:

- producing a range of high-performance surfacing that provides better tire grip (textured and/or draining products to limit skidding effects in rainy weather or due to insufficient braking distance);
- improving visibility (work on road markings in cold or wet weather and at night);
- manufacturing road safety equipment (Aximum safety and signaling subsidiary).

Flowell: dynamic signaling for intelligent and modular roads

As part of its innovation strategy, which aims to offer solutions based on road uses for transportation of the future, Colas created Flowell in 2017. This is a dynamic, scalable and modular signaling system that aims to optimize urban space, traffic flows, safety and the coexistence of multiple forms of transport.

Developed by Colas R&D in collaboration with CEA Tech ⁽¹⁾, Flowell makes it possible to organize the shared space of roads and city streets thanks to a device based on dynamic control of light-emitting signaling. Installed on existing roads, Flowell offers a great degree of flexibility and adapts the infrastructure to the needs of both urban and rural communities in real time.

Flowell streamlines traffic on existing roadways by giving priority to certain users over specific time periods. For example, communities can turn parking spaces reserved in the daytime for deliveries into car parking spaces at night. They can also create temporary drop-off spaces around schools, and secure pedestrian crosswalks by enhancing their visibility and that of pedestrians with light-emitting markings. Several trial sites have been deployed to test the solution in real conditions. The goal is to benefit from the experience of communities and users as to the relevance of its applications, ease of use and integration in urban areas. For example, a crosswalk marking a bus stop that lights up when school buses arrive is currently being trialed in the Vendée region of France.

To address noise pollution, Colas is developing products that reduce traffic noise, such as fractal-technology noise barriers, and especially noise-reducing mixes (such as Nanosoft[®], Rugosoft[®] and similar products), which can reduce vehicle rolling noise levels by as much as 9 dB. About 393,600 metric tons of these noise-reducing mixes were produced in 2018, a volume 28% lower than the 544,300 metric tons produced in 2017. The high tonnage in 2017 relates to a contract in Denmark.

This product range reflects the continuing effort Colas has been investing in R&D for many years, with a clear focus on meeting society's expectations, and for which it has received a number of awards.

(1) Technological research unit serving industry of the French Atomic Energy and Alternative Energy Commission (CEA).

4.3.5.2.3. Local populations

Colas identifies and anticipates the risks of blockages at its production facilities and construction sites relating to social and societal contexts (population displacement etc.), cultural contexts (sacred ground etc.) and environmental contexts (protected species, water stress etc.), as well as disturbances (noise, vibration, dust, smells, visual pollution, light pollution, etc.). It is developing a structured and proactive system for listening, working in concert and dialogue with stakeholders in order to take account of their expectations (open days, meetings, raising awareness about recycling, reporting and monitoring indicators for fixed sites, smartphone apps to inform residents about current construction works and collect their opinions etc.).

Colas manages a large number of production sites for construction materials (aggregates, ready-mix concrete, asphalt mixes, bitumen, emulsions, and others). The acceptance of these sites, particularly by local residents, is an increasingly sensitive topic throughout the world. Concerns raised include those relating to nuisances (odors, dust, traffic, noise) and risks of environmental or health impacts. The Colas Group has identified community acceptance as one of its key priorities for Responsible Development and has initiated action plans focused on two areas:

- exemplary production sites: each site must implement progress measures that go beyond mere compliance with administrative or regulatory requirements. Obtaining environmental certification is the preferred approach (under ISO 14001 or 6S, for example). Progress measures are documented and assessed using a system of checklists covering most of the Group's activities in the production of construction materials worldwide. This approach is part of the internal control of operations and covers some 2,000 Colas production units around the world (see indicators in Section 4.3.3.2 on the percentage of materials production activities that have environmental certification and/or carry out environmental self-assessments using Colas checklists);
- dialogue initiatives with neighboring communities, local governments and the relevant authorities: maintaining an open dialogue with local communities makes it possible to better understand their expectations, explain the reality and constraints of production sites, and promote mutual understanding to prevent crisis situations.

Name of indicator ⁽¹⁾	Scope	Coverage	2017	2018
Percentage of CAE from materials production activities with an organization for local dialogue (as % of CAE)	World	100% of CAE of materials production activities	47	47

(1) These figures do not take account of information concerning the Miller McAsphalt group.

A local dialogue indicator was introduced in 2006 to measure the extent of this dialogue with local communities, local elected officials, and the competent government agencies. In 2018, this indicator remained stable, while the consolidated target for the Group's subsidiaries in 2018 was 48%. Furthermore, a working group has been set up to implement the tools that will allow for progress in this area.

At certain worksites of Colas road construction subsidiaries in Mainland France, the Colas & Vous smartphone app provides local residents with worksite information and lets them contact superintendents with any questions or comments.

4.3.5.3. ENVIRONMENTAL IMPACT ON LOCAL AND REGIONAL AREAS

4.3.5.3.1. Adapting to the consequences of climate change

Colas takes account of climate change in its activities. This is done not only at the level of the Group's overall policy (details of which are provided in Section 4.3.7.2) but also at the level of its locations around the globe.

With worksites and production sites around the world, Colas has acquired in-depth knowledge of the particular constraints of designing and building infrastructure in harsh climates. This includes regions with very hot, dry climates (such as southern Morocco and western Australia), extremely high rainfall (French Guiana and Caribbean, and the Indian Ocean region), and extremely low temperatures (at high altitudes and in Canada, Alaska and Greenland).

This experience enables Colas to advise its customers concerning their policies for adapting infrastructure to climate change, whenever possible. For example, in 2009 Colas developed Colclair®, a low-carbon alternative binder to better reflect heat while resurfacing a road in Dawson (Yukon, Canada), where the permafrost base is threatened by increasing temperatures due to climate change. This expertise was once again harnessed for work done at Iqaluit Airport under a public-private partnership signed at the end of 2013 in Nunavut, the northernmost territory of Canada, where work was completed in August 2017. Colas' research efforts thus include developing light-colored paving mixes (instead of the traditional black mixes which reflect less of the sun's heat) to help protect permafrost ground while maintaining flexible road pavements, and studying the effects of extreme thermal shock on crack development. Another illustration is the US-based Colas subsidiary Colaska, which has launched a project in Alaska under extreme weather conditions (up to -35°C) consisting of installing pre-insulated water pipes of different sizes over 55 kilometers. Work crews have managed to prevent the permafrost layer from thawing while also stemming dehydration.

4.3.5.3.2. Sustainable resource use and pollution prevention measures

Land use and discharge treatment

The construction of new infrastructure accounts for a very modest share of revenue (estimated at less than 10%), and Colas often has no control over how land is used since the land for its projects (including concessions and public-private partnerships, or PPPs) is made available by its customers. Given the nature of its worksites, Colas therefore rarely has a direct impact on land use, as the land take of its activities is determined by the project owner.

All quarry and gravel pit sites are restored when they are shut down and many are progressively restored while still being operated. In addition, the amount of materials recycled is equivalent to the production of about 20 quarries or gravel pits and many more landfill sites around the world.

Photovoltaic power generation is considered one of the main renewable energy solutions under the global energy transition, but it requires vast available surfaces exposed to the sun. This problem is particularly acute in densely populated or agriculture-heavy countries: roof surfaces alone are not enough to produce the power levels required, and solar farms, although highly efficient, run up against issues of competition for land use (agriculture, natural spaces, landscapes). With its innovative Wattway solution (see Section 4.3.7.2), Colas is paving the way for the construction of solar energy-generating roads, offering access to a sizable surface area, with the potential to meet some of a country's needs in terms of solar power without impeding other types of land use. Similarly, by optimizing use of existing road surfaces, Flowell® helps share space, and reduce the need to pave open land.

The Colas Group's pollution prevention, reduction and elimination activities are mainly focused on production sites and major projects:

- production sites: all environmentally certified sites prepare an environmental analysis, dashboards, and action plans (particularly for reducing discharges into the environment in cases where this is deemed significant). Colas uses this information during management reviews to analyze and limit the impact of the Group's operations and improve environmental performance. In addition to these measures, Colas' checklists also cover non-certified sites in areas including administrative compliance, site development, waste storage, operations management and monitoring, environmental impact and risk management (water and air pollution, waste, natural and technological risks, noise and vibration), and dialogue with local communities;
- major projects: specific arrangements such as an Environmental Protection Plan are drawn up for each of these projects, including the large Route du Littoral (Coastal Highway) project on Reunion Island. In addition, Colas Projects' QSE team is responsible for analyzing this feedback and raising performance.

During the fiscal year, there were no accidents or incidents to report that seriously affected the environment.

Colas Environnement, founded in 1981, is the longest-standing pollution abatement company in France. It is also the first company to have gained ISO 9001, ISO 14001 and OHSAS 18001 certification in 2001. In addition to this trio of accreditations, it has also been MASE-compliant since 2010. Colas Environnement's staff of around 50 professionals is proficient in the use of most pollution remediation techniques. In particular, it has gained a reputation for the excellence and reliability

of its on-site processing systems, and it also stands out thanks to its policy of full transparency toward its customers. Through its continuous growth, it has been able to broaden its footprint across Mainland France, with locations in Lyon, Paris, Bordeaux and Dunkirk. Outside France, new locations are emerging, notably in Casablanca and Spain, where an initial construction project is in progress.

Water management according to local constraints and the impact of manufacturing facilities on this factor

Water consumption is more important in some parts of the world than in others. In general, Colas subsidiaries must take local water requirements into account. Water management is one of the criteria of the ISO 14001 standard (see indicator in Section 4.3.3.2 "Systems in place for steering environmental policy").

In 2015, Colas introduced new indicators to measure and limit the pressure exerted on water resources by its operations in regions where water is extremely scarce. The methodology used to assess the Colas operating regions concerned is based on the interactive "Overall Water Risk – Baseline Water Stress" map published on the website of the World Resources Institute. The water consumption of Colas' fixed facilities in these areas in 2018 is estimated to be around 909,000 m³.

In order to limit the pressure exerted by Colas on water resources in these regions, action plans aim to increase subsistence consumption of water, encourage recycling and reduce waste.

Name of indicator ⁽¹⁾	Scope	Coverage	2017	2018
Percentage of stationary activities (in terms of CAE) located in areas facing extremely high water stress (as % of CAE ⁽²⁾)	World	100% of CAE ⁽²⁾ generated by stationary activities in areas facing extremely high water stress	5	6
Water self-sufficiency rate of areas facing extremely high water stress (as % of m ³)	World	100% of CAE ⁽²⁾ generated by stationary activities in areas facing extremely high water stress	61	73
Percentage of CAE generated in areas facing extremely high water stress for which an action plan has been implemented (as % of CAE ⁽²⁾)	World	100% of CAE ⁽²⁾ generated by stationary activities in areas facing extremely high water stress	58	76
Percentage of water consumption in areas facing extremely high water stress for which an action plan has been implemented (as % of m ³ consumed)	World	100% of CAE ⁽²⁾ generated by stationary activities in areas facing extremely high water stress	67	82

(1) These figures do not take account of information concerning the Miller McAsphalt group.

(2) CAE: revenue + intra-Group transactions and disposals.

These recent indicators were made more reliable in 2018 in terms of both understanding of the regions where water stress is a major challenge, as well as in terms of water management at these locations.

The Colas Group's fixed facilities in areas facing extremely high water stress are located in Canada (Saskatchewan), the United States (California and Wyoming), South Africa, Zambia, Guadeloupe, Martinique, Ireland, India, Morocco, the Middle East, Chile and Mainland France (Normandy). These facilities, which account for 6% of the CAE of the Colas Group's industrial facilities, consist mainly of quarries and gravel pits but also include workshops, binder plants, depots, asphalt plants, ready-mix concrete plants, and recycling platforms.

Broadly speaking, this geographical analysis shows that the water footprint of Colas' operations is not highly critical, with 94% of its activities located in non- or low water-stressed areas.

In addition to reducing water consumption in these localities, a key objective for Colas is to increase water self-sufficiency so as to minimize disruption of the water cycle and downstream water use. The water self-sufficiency indicator for 2018 is 73%, which means that most of the water consumed was obtained internally and not from the local water system. This preserves access to water resources for other local users. This indicator saw a sharp increase this year (up 12 points).

By tracking its action plan progress indicators, as part of a continuous improvement process, Colas is able to monitor and reduce pressure on water resources in areas facing extremely high water stress. The trend of introducing action plans made significant headway between 2017 and 2018, both for the indicator calculated as a percentage of CAE (revenue + intra-Group transactions and disposals) generated in areas facing extremely high water stress and the one relating to the percentage of water consumption in these same areas (with improvements of 18 and 15 points, respectively).

The main environmental risk for Colas' materials plants is generally considered to be the risk of gradual pollution resulting from accidental spillages into the aquatic environment, via rivers, sewage drains, aquifers, and other water systems. To monitor progress in addressing this risk, a specific and stringent performance indicator (see the "Percentage of materials activities with procedures in place to manage wastewater discharges" indicator below) has been derived from the environmental checklists.

Name of indicator ⁽¹⁾	Scope	Coverage	2017	2018
Percentage of materials activities with procedures in place to manage wastewater discharges (as % of CAE ⁽²⁾)	World	100% of CAE ⁽²⁾ of materials production activities	22	27

(1) These figures do not take account of information concerning the Miller McAsphalt group.

(2) CAE: revenue + intra-Group transactions and disposals.

Colas has implemented a surface water and groundwater protection policy to guard against the impact of accidental or everyday pollution at its fixed production and maintenance sites. This policy follows strict guidelines, backed by Colas checklists, which require that these sites be (or may be) completely isolated from the surrounding environment. 27% of CAE from global materials production activity meets all these requirements (up 5 points from 2017). It should be noted that the criteria involved are very difficult to meet completely at a single site, especially at older or very large facilities. But it is still an excellent indicator of the vulnerability of Colas' sites and illustrates the need for its environmental risk management systems, and makes the improvement seen this year all the more impressive. The consolidated target for the Group's subsidiaries in 2018 of 23% was exceeded by 5 points.

4.3.5.3.3. Protecting biodiversity

Because Colas is aware that biodiversity on a global level is in danger, it has based its approach on concrete action rather than conceptual commitments. Its aims are to protect and develop biodiversity at its own level. Its efforts are based on two main tenets:

First cornerstone, by actively participating in biodiversity research and innovation:

- Colas is one of the few companies to have been a member of the strategic steering committee set up by the FRB (the Foundation for Research in Biodiversity) since 2011 and recently awarded a prize to a young researcher in the category “Biodiversity and the fight against invasive species”;
- Colas is an unintentional local propagator of invasive exotic plant species in its minor earthworks. It has initiated dialogue with scientific communities to make progress in analyzing and preventing this problem and is taking its considerations further with a growing number of subsidiaries around the world;
- in 2016, Colas created a conservatory for black bees in southern France in partnership with Apilab, a laboratory specialized in environmental biomonitoring using bees. This scientific project uses a protocol for the genetic analysis of mitochondrial DNA that was developed by the French national research institute CNRS. The conservatory, which comprises 20 hives and is the first of its kind in France created by the private sector, is located at the Cozzi quarry, near Norante, in the French administrative department of Alpes-de-Haute-Provence. This social and collaborative project is conducted in partnership with local beekeepers and the mayors of the neighboring towns. Similarly, an initiative to protect stingless bees is being launched in French Guiana, also in partnership with Apilab.

Colas aims to develop an educational component targeting the general public, such as lecture series, projects for students and programs geared to younger audiences with its biodiversity initiatives. This is important because genuine solutions to the challenges posed by biodiversity will be found only if people take ownership of them on a local and global scale.

Second cornerstone, through targeted projects that are directly related to its operations. Colas’ efforts relate to its quarries and gravel pits and consist in implementing and monitoring actions to enable and facilitate the presence and survival of a notable animal or plant species, installing beehives in collaboration with local stakeholders (beekeepers, naturalists, nature reserves, NGOs and others), and informing local communities through an educational awareness-raising campaign.

Name of indicator ⁽¹⁾	Scope	Coverage	2017	2018
Percentage of CAE from aggregate production activities that take action to promote biodiversity (as % of CAE)	World	100% of CAE of permanent aggregate production activities	51	51

(1) These figures do not take account of information concerning the Miller McAsphalt group.

Around 70 protected species currently live at the Group’s extraction sites, in addition to some 50 sites that are home to beehives. Even though there was no movement in the biodiversity indicator in 2018, real progress has been made since this policy was rolled out in 2012, on the occasion of the Colas environmental convention. This effort remains varied according to cultural contexts, enjoying strong support in France but less in the United States, for example. The EOCE program has played a major role in securing subsidiaries’ collaborative commitment to advancing this policy. The consolidated target for the Group’s subsidiaries in 2018 was 55%.

Additionally, in Madagascar, since December 2008, Colas has offered an educational and awareness-raising program on protecting biodiversity, providing its support to a private lemur reserve and a botanical garden. Thanks to this program, over the last 10 years, 32,166 children and 1,129 teachers have learned about the importance of their country’s natural heritage, particularly the protection of lemurs through habitat conservation.

4.3.6. Ethics

Acts of corruption or complicity in corruption (falsifying prices, money laundering, paying bribes or offering gifts to obtain contracts, fraud, etc.) are major economic and financial risks (loss of contracts, fines, insolvency) and a risk to the company’s reputation. Colas identifies all risks of corruption or conflicts of interest, particularly in sensitive countries, draws up and displays rules of ethical conduct (code of ethics and gifts policy) and implements measures concerning prevention (monitoring training), warnings (warning procedure and system for protecting whistleblowers) and penalties in the case of fault (provisional dismissal, redundancy, etc.).

4.3.6.1. ACTIONS TAKEN TO PREVENT CORRUPTION AND ENCOURAGE FAIR BUSINESS PRACTICES

The ethical guidelines, introduced many years ago, are included in a summary of the management guidelines contained in the Code of Ethics of the Bouygues Group (of which Colas is a subsidiary). Since late 2014, this has been supplemented by a compliance program built around four topics: competition, conflicts of interest, preventing corruption, and financial disclosures and stock market transactions. In 2017, the compliance program was overhauled to take into account changes arising from the enactment of the Sapin II Act on transparency, efforts to combat corruption and the modernization of business life and the Act of March 27, 2017 on parent companies’ and lead contractors’ duty of vigilance. A new compliance program was also introduced concerning export embargoes and restrictions.

Considering how decentralized our businesses are, the broad cultural diversity that is inherent in the Colas Group, and the very large number of employees involved, the programs have been deployed progressively since 2016, beginning in France.

A Chief Legal and Compliance Officer was appointed on September 1, 2018. He is supported in his work by a Compliance Manager as well as a network of compliance officers appointed in each of the Group's significant entities around the world.

A whistleblowing system open to all Colas employees was introduced in early 2017.

The Colas Group's Ethics and Corporate Sponsorship Committee, which was expanded in 2015 to four directors (two of whom are independent), met in February 2018. Patronage and sponsorship initiatives in amounts exceeding 20,000 euros were presented to the committee, as was progress made on the rollout of compliance programs for the past year and the actions scheduled for 2018. The cases reviewed by the Business Ethics Commission were also presented to it.

In a clear and public commitment, a model position statement by Colas senior executives, pledging to abide by and champion the Group's Code of Ethics and compliance programs, was agreed by the Executive Management Committee.

By the end of December 2018, all of the Colas Group's managing directors, department heads and business unit managers had signed up to this clear undertaking. As part of the renewal campaign scheduled for 2019, employees, department heads and works managers will also be invited to sign up to this undertaking.

All the Group's companies with employee representative bodies were also consulted about the code of ethics and compliance programs to ensure they are embedded in their internal rules and regulations.

In 2018, the training campaigns continued and were stepped up:

- the Business Ethics and Responsibility training module, also covering the Group's compliance programs, continued in 2018 both in France and internationally. It was offered at all subsidiaries for operational and functional managers and team leaders. This training systematically includes business ethics and the implementation of compliance programs. The topic of ethics is also discussed at subsidiaries' executive management committee meetings, regional meetings and business unit managers' meetings. Since the training was introduced in 2016, close to 5,000 employees have been trained, including 1,636 in 2018, with a continued focus on subsidiaries outside France;
- the Ethical and Accountable Leadership training program delivered for the first time in 2016 to promote discussions about business ethics and the individual and collective accountability of Group subsidiary leaders, also continued throughout 2018 in France and around the world. To date, nearly 700 managers have completed this training;
- the subsidiaries in North America continued their rollout of a specific communication and training program on ethics:
 - In the United States, classroom training sessions for Colas USA and the subsidiary's staff and managers have been organized on topics such as anti-competitive practices, workplace conduct, conflicts of interest, gifts and third-party invitations. Two ethics training modules have been offered at Colas University in the United States. In parallel, all of the US subsidiaries regularly hold training sessions on ethics-related topics, some of which have been amply documented in their in-house magazines. The online ethics training program also continued in 2018. As part of this program, all employees of subsidiaries in the United States with an email address are allocated various online modules relating to information security and behavior in the workplace. All employees have been invited to view online the Bouygues Code of Ethics and the Colas USA Code of Conduct and to confirm that they have read them carefully. Furthermore, all Colas USA employees are required to confirm each year in writing that they have received the Code of Conduct and comply with it. All offices and recruitment centers advertise the dedicated hotline for ethics alerts that can be accessed anonymously by anyone. Fold-out cards listing the phone numbers and the website for ethics issues were also distributed. In 2018, 51 alerts were received and handled in the United States. Around 4,000 employees have taken part in various training programs and campaigns on ethics in the United States (live training, Colas University, online training). Lastly, the head of ethics at Colas USA has sent 12 Ethics Alerts to all Colas USA employees. Each Ethics Alert concerns a topical event relating to ethics/legal issues in the United States such as corruption, antitrust legislation, fraud and behavior at work.
 - In Canada, Ethics and Compliance Program training had been delivered to 550 employees by the end of 2018. As a reminder, a new whistleblowing system for employees was introduced across Canada in June 2017. A major communication campaign informed all the employees of the Canadian subsidiaries about this bilingual service run by an independent third party. In addition, the overhaul of the Colas Canada intranet provided an opportunity to reiterate the obligations with regard to commercial intermediaries, corporate patronage and sponsorship, gifts and hospitality.

Internal training on compliance programs and instructions for the application of "ethics and compliance documents" are due to begin in 2019 for the Miller McAsphalt group.

The Fair Play e-learning ethics training, which takes the form of a serious game, was rolled out during the second half of 2017 across all the French subsidiaries. Of the nearly 3,500 eligible employees, 92% have completed this e-learning session to date. Other training sessions are scheduled for subsidiaries outside France and new hires.

A project for the mapping of corruption risks, and specifically risks of bribery and influence peddling, was carried out for Mainland France. It will be presented to the Executive Management of Colas for discussion and approval. Corruption risks are mapped and presented to the Group's Executive Management for all high-risk and very high-risk countries where Colas subsidiaries do not currently operate, but have plans to set up locations or to go ahead with a major project. Corruption risk mapping will be carried out in 2019 for all countries where the Group operates.

Checks of the ethical standards of third parties are primarily performed by means of internal resources and ethical standards questionnaires. In relation to the main risks identified, these checks concern suppliers, partners, intermediaries, benefits of patronage and sponsorship actions and potential major clients.

These actions will be continued and expanded in 2019.

4.3.6.2. CODE OF ETHICS FOR THE PURCHASING FUNCTION

Colas' responsibility in its relations with suppliers allows for a win-win collaboration during all stages of the supply chain.

Several organizational initiatives were undertaken in 2017, such as the distribution of a specific ethics charter for purchasing staff. This charter was distributed worldwide in French and English in September 2018.

The main principles set out in the charter are as follows:

- demonstrate exemplary personal behavior;
- comply with legislation and regulations;
- adopt transparency criteria in selecting suppliers and fair treatment regardless of the size or type of services to be provided;
- avoid any conflicts of interest or corruption with suppliers and subcontractors;
- respect the confidentiality of information provided by a supplier;
- issue an alert when compliance rules are breached.

On receiving this document, each purchasing officer must acknowledge and sign it.

4.3.7. Energy and greenhouse gases

To help make its production facilities and equipment more energy-efficient and less carbon-intensive, Colas measures its energy consumption and CO₂ emissions, invests in more energy-efficient equipment (asphalt plants, etc.), offers its clients techniques with lower CO₂ emissions (warm mix, etc.) and favors the use of short supply chains thanks to its extensive regional coverage. As far as possible, Colas favors non-road transport (rail, water transport), minimizes its dependency on fossil fuels in favor of renewable energies (wind, solar, hydraulic power) and factors this concern into its products and services (solar roads).

4.3.7.1. ENERGY CONSUMPTION AND MEASURES TAKEN TO IMPROVE ENERGY EFFICIENCY

Colas' information systems are designed to allow for decentralized management, which is better adapted to the diverse range of regions and activities it covers. Energy consumption is expressed in very general terms in these systems, with no distinction between, for example, fuel purchased for machinery and electricity consumption at quarries. Some of this data is extracted from accounting data, while other information comes from production data, if only to monitor improvements in energy efficiency. The aim of the cLEANergie (Colas Lean in energy) program, which was rolled out between 2014 and 2017, was to enable all Colas activities to reduce the energy they consume for construction, production, building operation, and logistics. This work revealed that the energy consumed by three uses – asphalt plant burners, construction equipment, and vehicles – together accounted for three-fourths of Colas' direct energy consumption in almost equal proportions.

Colas is also focusing its efforts on:

- measurement tools: to assess improvements in energy efficiency, Colas must be able to measure its fossil fuel consumption, since electricity is only a small portion of the Group's total energy footprint. To monitor the production and energy consumption of asphalt plants, Colas has developed software for the different types of plants that are operated in central Europe, France and North America. These energy coordination and monitoring tools, which are now entering their second generation, allow for real-time tracking of energy consumption and mix temperatures, with alerts sent over the Internet and to smartphones, plus reporting capabilities. These applications are currently being used by about 28% of the Group's asphalt plants (up 2 points from 2017), accounting for 33% of CAE (revenue + intra-Group transactions and disposals). This data will be used to help make the Group's asphalt plants more energy-efficient. To record and analyze the energy consumption of some 50,000 vehicles and construction machines at about 2,000 production units and 800 construction business units, Colas has equipped these vehicles and machines with energy consumption monitoring systems (see energy consumption indicators in the table below);

- increasing employee energy awareness: Colas is conducting an information campaign to get its truck drivers and equipment operators to reduce their fuel consumption by 20% by adopting environmentally friendly driving habits and switching off engines when equipment is idling. This program highlights the three advantages of environmentally friendly driving: it reduces costs, increases safety and helps preserve the environment. Although these advantages are nearly impossible to measure at this stage, the level of commitment is clear and there is a good appreciation of the issue's importance. All continuing vocational training provided to drivers includes an environmentally friendly driving component, as well as specific training sessions on this subject developed for heavy-vehicle drivers and machinery operators.

Name of indicator ⁽¹⁾	Scope	Coverage	2017	2018
Energy consumed per metric ton of mix produced (kWh per metric ton)	World	Asphalt mix production activities	78	78
Percentage of warm mix and low-temperature mastic asphalt (as % of quantity)	World	Mastic asphalt and asphalt mix production activities	23	22
Number of metric tons of materials transported by rail or waterway (in millions of metric tons)	World	All Activities	8.9	8.5
Total energy costs (in millions of euros)	World	All Activities	375	427
Total energy consumption (in millions of MWh)	World	All Activities	7.4	7.6
Ratio of total energy costs to IAV ⁽²⁾ (as %)	World	All Activities	3	3
Percentage of vehicles with on-board telematics	World	All Activities	21	25
Percentage of machinery with on-board telematics	World	All Activities	26	25

(1) These figures do not take account of information concerning the Miller McAsphalt group.

(2) IAV (Internal Activity Volume): the purpose of this performance indicator is to establish an accounting scope reflecting direct energy consumption by Colas, in order to calculate a ratio of direct energy intensity. It is equivalent to CAE (revenue before eliminations) less operating profit margin and revenue from subcontracted work.

Colas systematically and carefully measures and monitors the fuel consumption of asphalt plant burners at more than 400 plants. Although both the production of asphalt mix and energy consumption by asphalt plants increased slightly in 2018, greenhouse gas emissions remained stable.

Warm mixes require about 15% less energy to produce than hot mixes (see the explanatory comment on the indicator in Section 2.1.2). Despite a slight decline in warm mix production this year, all employees remain committed to expanding the use of these products across all regions, adapting production tools and conducting ongoing research to develop new technical solutions that enable lower product temperatures, with the knowledge that the health-related benefits are also substantial. In 2018 as in 2017, the US subsidiaries achieved the highest levels, with the fine example of Branscome Company, where warm mix accounted for 100% of production during the year.

The quantity of materials transported by rail or waterway is equivalent to nearly 3,100 freight trains (with each train containing 44 freight cars), which avoids deploying more than 280,000 dump trucks, each with a haulage capacity of 30 metric tons. The average distance traveled (227 km in 2017, 233 km in 2018) rose by 3% while the tonnage of materials transported fell by 5%.

The Colas Group's total energy costs are estimated at about 427 million euros. Energy consumption totaled 7.6 million MWh and as may be expected is more or less proportional to revenue in each country. In 2018, the Group's energy bill and energy consumption increased by 14% and 3%, respectively. These upward movements must be considered in light of the 6% increase in CAE for materials production activities as well as the rise in energy costs.

Measures have been taken to reduce Colas' overall energy costs, which relate primarily to work on consumption taxes, optimizing electricity consumption and carrying out tests to adapt to future constraints relating to consumption production peaks.

To implement an energy intensity indicator, Colas looked at establishing a relationship between these energy costs and a relevant denominator, such as revenue or added value. This work helped to reveal the complexities involved in this regard. Selecting revenue, for example, would encourage energy-intensive business activities to be outsourced via subcontracting: revenue would remain unchanged, while direct energy consumption would go down, without actually making progress in this area. For this reason, Colas defined IAV to express the volume (in euros) of business activity that truly constitutes the basis of energy costs. IAV is equivalent to CAE (revenue before eliminations) less operating profit margin and revenue from subcontracted work. No change in this indicator was recorded between 2017 and 2018.

The number of site machines and vehicles equipped with energy consumption monitoring systems rose by 4 points for vehicles and declined by 1 point for site machines in 2018: 25% of site machine and vehicles are now equipped with such systems. The replacement of equipment contributed to this trend, since the data for each individual item of machinery can be downloaded directly from manufacturers' websites for most of the latest models. This complex indicator points to the most substantial avenue for potential progress.

4.3.7.2. CARBON FOOTPRINT AND REDUCTION MEASURES

The first is to play its part in curbing climate change by reducing its carbon footprint and delivering solutions that reduce the footprint of its customers while accommodating their specific requirements. The second is to adapt to climate change by pursuing its research efforts into the formation of urban heat islands, both in buildings (such as insulated facades and green or reflective roofs) and in transportation infrastructure by drawing on its extensive knowledge of the complex equations involved in this phenomenon, and by offering techniques and materials protecting existing infrastructure and scaling new infrastructure projects to cope with a broader range of climate scenarios. For Colas, these two goals are not so much risks for its business activities, but rather opportunities for competitive differentiation, since the threat to vehicles running on fossil fuels does not preclude demand for infrastructure for carbon-free modes of transport.

Colas has launched a program of academic discussions concerning the formation of urban heat islands to factor in the complex interactions and retroactions characterizing this phenomenon, which is a concern for all the world's major urban centers. Concurrently, Colas continues to pursue a rigorous experimental program to characterize the thermodynamic properties of building materials and is ready and willing to participate in the full-scale measurement and experimental programs launched by several municipal authorities. This is an area in which collaborative solutions spanning water management, big data, urban planning, materials science, human and social sciences can be developed – it represents one of the key building blocks of tomorrow's sustainable cities.

Significant sources of greenhouse gas emissions generated by the Group's business activities

Name of indicator ⁽¹⁾	Scope	Coverage	2017	2018
Greenhouse gas emissions (in millions of metric tons of CO ₂ equivalent)	World	All Activities	12	12
Greenhouse gas emissions per metric ton of mix produced (in kilograms of CO ₂ equivalent per metric ton)	World	Asphalt mix production activities	18	18
Carbon intensity (in kilograms of CO ₂ equivalent per euro of revenue)	World	All Activities	1	1
Greenhouse gas emissions avoided by the Group's actions (in metric tons of CO ₂ equivalent)	World	All Activities	153,000	156,000

(1) These figures do not take account of information concerning the Miller McAsphalt group.

Changes in the Group's CO₂ levels are generally not significant given the uncertainty inherent in calculating the carbon footprint. To calculate its carbon footprint, Colas observes Scope 3a of the ISO 14064 standard and the guidelines of the GHG Protocol. The scope of calculation includes activities that are upstream from its business operations. The impact of road traffic on the infrastructure that Colas maintains or builds is considerable, non-quantifiable and beyond Colas' control. Therefore, Scope 3b has not been applied.

This calculation necessarily involves a margin of uncertainty (over 30%), particularly for Scope 3a, due to discrepancies between national and international data, the difficulty of estimating carbon costs related to certain suppliers and subcontractors, and data collection and conversion issues, etc. Consequently, the carbon footprint is a good way of establishing an order of magnitude, but it cannot be considered a reliable indicator for monitoring annual performance, given these factors of uncertainty.

In 2018, carbon footprint figures remained stable.

The breakdown by scope of Colas' carbon footprint may be estimated as follows and is unchanged from 2017:

- Scope 1: 1.7 million metric tons of CO₂ equivalent;
- Scope 2: 0.3 million metric tons of CO₂ equivalent;
- Scope 3a: 10 million metric tons of CO₂ equivalent.

Although the carbon footprint cannot be used to assess a reduction in greenhouse gas emissions based simply on a comparison of annual results, the greenhouse gas emissions avoided by specific actions to reduce them can be more accurately measured. Colas reduces GHG emissions in two ways:

- by reducing the amount of energy it requires for its operations and the GHG emissions these operations generate. This involves improving energy efficiency (see above) through actions that aim to:
 - manage fuel consumption by site machines and vehicles; this has included introducing systems that measure fuel consumption and raising drivers' and operators' awareness of the need to adopt environmentally friendly driving practices and switch off engines when equipment is idle,
 - measure and reduce the amount of fuel consumed by asphalt plant burners. Fuel consumption per metric ton of asphalt mix produced is monitored worldwide;
- by reducing the energy and GHG content of the products and techniques that Colas offers its customers. To reduce its carbon footprint and that of its customers, Colas pursues an active R&D and innovation policy to develop alternative solutions that help preserve the environment. Below are some examples:
 - warm mixes and mastic asphalts: mixed at temperatures that are tens of degrees lower, these products reduce energy consumption by 10% to 30% while reducing emissions of bitumen fumes by 70% to 90%.

- in-place road recycling: this technique reduces greenhouse gas emissions by reducing materials production and transport requirements,
- recycling RAP and bitumen: recycling old asphalt pavement enables the recovery of bitumen, which is made from petroleum, a limited natural resource. In 2018, the Colas Group recycled 299,000 metric tons of bitumen, the equivalent of the annual bitumen production of a medium-sized refinery,
- Vegeoute® products (e.g. Vegecol® plant-based binder, patented in 2004; Vegeflux® fluxing agent, patented in 2006; Vegemark® road marking paint, certified in 2010; Ostrea®, a hot road marking product certified in 2006; Ekoflux®, a plant-based bio-fluxing agent which entered the development phase in 2014). Developed in Colas' R&D laboratories, these products contain plant-based materials instead of petroleum-based components. These alternative materials not only serve as carbon sinks but also enable lower production and application temperatures, and can even reduce overall materials requirements in some cases,
- Colas has developed Ecologiciel®, the first software tool for calculating and selecting low-carbon alternatives for road building projects, and has also played a key role in developing the SEVE® eco-comparison tool, which is used throughout the road construction industry in France and provides customers and contracting authorities with an approved and common framework for selecting low-carbon alternatives. The number of low-carbon alternatives selected by customers was the same as in 2017 (39 selected), but the number of metric tons declined by 5%. A total of 2,657 metric tons of CO₂ emissions were thus avoided in 2018. Recycling bitumen recovered from demolition or the milling of road surfaces is currently the main means of reducing CO₂ emissions (111,000 metric tons of CO₂ equivalent in 2018). In most countries, low-carbon alternatives cannot be proposed in public contracts, with the exception of France, where they are less and less frequently proposed and are rare in private markets due to the growing rigidity of purchasing processes. Colas is working to promote these products internationally, which has proven difficult within the current economic context faced by project owners. Nevertheless, the SustainEuroRoad project subsidized by the European Union is currently under way, under the aegis of Routes de France (formerly USIRF, a French road industry association), in which the Colas Group is playing a major role,
- Wattway: a major innovation in the road sector, the fruit of five years of research and development by teams at Colas. In partnership with INES, the French national institute for solar energy, this innovative technique gives roads a new purpose alongside their traditional function as facilitators of mobility: locally producing clean, renewable energy. The principle behind Wattway involves gluing specially designed solar panels directly to road surfaces, without requiring any civil engineering work. Despite being just a few millimeters thick, these panels can generate electricity while safely withstanding vehicle traffic - even heavy trucks. Wattway will be able to power public lighting, illuminated signs and trams as well as homes, offices and more. By way of example, one kilometer of surfaced road can generate enough electricity to power the streetlights in a town of 5,000 inhabitants. Around 30 small-scale projects have been launched in France and around the world since 2016. A number of applications have been tested: vehicle recharging; information board power supplies in the United Kingdom; street lighting in Mainland France and on Reunion Island; supplying power to buildings in Canada, the United States, France, Japan and Luxembourg; and the sale of generated electricity to local power grids in Monaco, France and the Netherlands.

In 2018, the quantity of greenhouse gas emissions avoided as a result of Colas' actions rose from 153,000 to 156,000 metric tons of CO₂ equivalent, as a result of the increase in quantities of reclaimed asphalt pavement around the world, excluding North America.

Some Colas asphalt plants, as combustion facilities with a rated thermal input exceeding 20 MW, are concerned by the European Union's emissions trading system. The asphalt plants in question are located in Belgium (five plants), Denmark (two plants), and France (eight plants). Compared with other manufacturing facilities concerned by this system, asphalt plants are minor CO₂ emitters. For example, the 8 French plants totaled 20 thousand metric tons of CO₂ in 2017 (reported in April 2018) for a production of about one million metric tons of asphalt mix. Following the closure of Société de la Raffinerie de Dunkerque, Colas SA picked up surplus quotas, allowing it to transfer 28,272 CO₂ quotas to unprofitable subsidiaries in 2018 in respect of 2017 without calling on the CO₂ market. At the same time, Colas SA received 734 quotas from an entity with a surplus. Thanks to these transfers, each subsidiary had a quota balance following the April 2018 report corresponding to the free quotas allotted in February 2018, which will have to be used in the April 2019 report. The final figures for the 2018 activity report for submission in April 2019 will be available in the first quarter of 2019.

Specific information regarding the Non-financial Performance Statement

NOTE ON METHODOLOGY

With Ministerial Order No. 2017-1180 of July 19, 2017, and Decree No. 2017-1265 of August 9, 2017, France has implemented the EU directive of October 22, 2014, relating to the disclosure of non-financial information, and amended Articles L. 225-102-1 and R. 225-104 to R. 225-105-2 of the French Commercial Code accordingly.

Specifically, the “Article 225” system under the Grenelle II Act has been replaced, for fiscal years beginning on or after September 1, 2017, by the obligation to prepare a “Non-Financial Performance Statement”.

Colas' 2018 Non-Financial Performance Statement reflects the principles set out in the new legislation. As part of the Group's continuous improvement process, changes to this document are planned in fiscal year 2019. It includes sections covering:

- the Group's business model;
- the main challenges facing Colas in terms of non-financial information on the basis of risks updated following materiality analysis;
- policies, performance indicators and their development in the following areas: human capital, health and safety, environment, circular economy and recycling, social acceptance and local regions, ethics, energy and greenhouse gases.

Indicators monitored by the Human Resources Department

Indicators monitored by the Human Resources Department are calculated on the basis of a calendar year from January 1 to December 31. The scope of companies considered in their calculation is a subgroup of the scope of financial consolidation.

For 2018, the calculation rules for employee indicators were the following:

- fully consolidated companies are 100% consolidated;
- proportionately consolidated companies are 100% consolidated if the percentage owned is above 50%, while the remainder are excluded from the scope;
- equity-accounted associates are excluded.

The indicators cover all business activities of Group companies in France and around the world.

Colas' workforce-related reporting system is based on the indicator definitions used in the Bouygues Group's workforce-related reporting protocol.

The application including these indicators interfaces with the payroll management system in France (which is in the process of being rolled out to International entities) and has access to data provided by the global consolidation process managed through the financial information system.

Performance categories: 1. Human capital – 2. Health and safety

In 2018, 50% of the indicators were consolidated on a worldwide basis:

- Workforce by geographic location
- External hires by status and number of leavers
- Workforce by age bracket
- Workforce by gender
- Representation of women in the Group
- Number of hours worked
- Existence of a formal training plan
- Number of employees trained
- Number of days of training
- Workplace accident frequency rate
- Workplace accident severity rate
- Number of fatal accidents
- Number of consecutive lost-time days following workplace accidents

38% of the indicators correspond to definitions that come from the French Labor Code and are therefore consolidated under the “France (Mainland and Overseas)” scope:

- Number of employees with disabilities, Number of new hires with disabilities, Revenue with companies that employ people with disabilities (ESAT or EA in France)
- Employee working time arrangements
- Number of collective bargaining agreements negotiated, including mandatory yearly negotiations
- Average annual wages by status
- Number of apprenticeship contracts
- Number of vocational training contracts
- Number of employees recognized as suffering from an occupational illness
- Absence rate

12% of the indicators apply to companies incorporated under French law and those with more than 300 employees outside France:

- Turnout for latest works council elections; existence of an employee representative body
- Percentage of companies outside France providing employee benefits

CSR indicators

The indicators listed below are strictly defined. They are collected across the world using Xfi – a BFC (BusinessObjects Financial Consolidation) application – and calculated over a non-calendar year from October 1 of year Y-1 to September 30 of year Y (to allow sufficient time for precise data collection, verification, processing and analysis). Following the structural changes made in 2013 and new features added in 2014, the Xfi application has undergone extensive maintenance work since fiscal year 2015.

In 2018, the scope of consolidation for the Group’s environmental and social indicators was the same as that of 2017.

In accordance with the rules set by Colas, the Miller McAsphalt group in Canada and the rail activities of Alpiq in Switzerland, acquired in 2018, will be integrated into the reporting scope for fiscal year 2019.

For environmental and social reporting, the following rules apply to companies that are acquired, merged, created, abolished or sold in the course of the year:

- *the company is taken into account for reporting for the same period only in Magnitude, the Group’s financial consolidation reporting system;*
- *companies that are too small to be taken into account in financial consolidation (revenue of less than €2m) may or may not be included in non-financial reporting for the first fiscal year depending on the specific requirements of their ERT (head reporting entity);*
- *as Colas produces indicators in the form of ratios and percentages, there is no pro forma adjustment of non-financial figures for the previous year to compare them with the current year if the scope is amended.*

If for technical reasons an exception is made to one of the three rules listed above, Colas shall state the reasons for this and provide details in a report to this effect in its Non-Financial Performance Statement.

For several years, the indicators used for materials production activities have also applied to companies held with partners outside the Colas Group, and for which Colas does not always have control over environmental aspects (as is the case for example with sites in which Colas has a minority interest). The broad scope of Colas’ responsibility and risk exposure may have a negative impact on indicator results.

In addition, this scope includes small materials production companies, even when their consolidated revenue is lower than the threshold for financial consolidation (€2M). The total volume of materials produced by these companies can be significant, even though their revenue is often subject to a high rate of restatement, due to Colas’ vertical integration.

The rules of consolidation, which were changed in 2013 to more closely resemble those of the financial consolidation, are presented in the table below and have not changed since then.

	Financial consolidation	Xfi consolidation	≠
Exclusive control = full consolidation	100% (between 50% and 100% control)	100% (between 50% and 100% control)	=
Joint control = proportionate consolidation <i>(for GIE consortiums in France, partnerships or joint ventures)</i>	Application of percentage of control	Application of percentage of control	=
Significant influence or joint ventures = equity method <i>(for partnerships or joint ventures)</i>	Application of percentage ownership (application of percentage ownership to income rather than revenue)	Application of percentage ownership (application of percentage ownership to all data)	≠

Performance category: 2. Health and safety

- Percentage of warm mix and low-temperature mastic asphalt
- Percentage of finishers equipped with a fume extraction system
- Percentage of asphalt planers equipped with a dust extraction system
- Percentage of chlorinated solvents used in closed-loop systems

Performance category: 3. Environment

- Percentage of materials production activities that have environmental certification
- Percentage of materials production activities that carry out environmental self-evaluations using Colas checklists
- Percentage of materials production activities that use a tool to manage environmental impact

Performance category: 4. Circular economy and recycling

- Quantity of materials recycled
- Quantity of reclaimed asphalt pavement
- Number of environmentally friendly alternatives offered to customers
- Ratio of materials recycled to total aggregates produced
- Percentage of reclaimed asphalt pavement with bitumen recovery
- Surface area of road recycled in situ
- Waste oil recovery rate

Performance category: 5. Social acceptance and local regions

- Corporate patronage: Cash donations; In-kind donations
- Sponsorship: cash expenditures, in-kind expenditures
- Percentage of CAE from materials production activities with an organization for local dialogue
- Percentage of stationary activities (in terms of CAE) located in areas facing extremely high water stress
- Water self-sufficiency rate of areas facing extremely high water stress
- Percentage of CAE generated in areas facing extremely high water stress for which an action plan has been implemented
- Percentage of water consumption in areas facing extremely high water stress for which an action plan has been implemented
- Percentage of materials activities with procedures in place to manage wastewater discharges
- Percentage of CAE from aggregate production activities that take action to promote biodiversity

Performance category: 7. Energy and greenhouse gas emissions

- Energy consumed per metric ton of mix produced
- Percentage of warm mix and low-temperature mastic asphalt produced at hot-mix plants and other asphalt plants
- Number of metric tons of materials transported by rail or waterway
- Total energy costs
- Total energy consumption
- Ratio of total energy costs to IAV
- Percentage of vehicles with on-board telematics
- Percentage of machinery with on-board telematics
- Greenhouse gas emissions
- Greenhouse gas emissions per metric ton of mix produced
- Carbon intensity
- Greenhouse gas emissions avoided by the Group's actions