

Financial year 2022-2023

Environmental Society Governance (ESG) Report





Introduction

The Sustainable Development report of **GCM Consultants (GCM)** has been revisited for fiscal year 2022-2023 (F2023: from March 5, 2022, to March 3, 2023) in order to give it a more global tangent bringing together not only environmental aspects, but also social and governance (ESG) aspects. It now aims to analyze **GCM** operations as a whole. This report notably paints a portrait of certain projects carried out with clients in F2023 and which have had a positive impact on society and the environment. The portrait of health and safety at **GCM**, the risks and opportunities related to climate change as well as the achievements of **GCM** in F2023 in terms of sustainable development are also highlighted in this report.

This report is presented with a concern for transparency, both for **GCM** employees and for external stakeholders. It aims to share the company's ESG journey and achievements. It is also intended to demonstrate the constant efforts that **GCM** is making to reduce GHG emissions from its activities, but also to help its clients in their decarbonization and climate change adaptation projects.

F2023 has been marked by the complete elimination of restrictive measures related to the COVID-19 pandemic as well as by the return to the office of certain employees, despite the maintenance of telework for most of our employees. The repercussions of these two elements in F2023 will notably generate an increase in travel to clients, as well as more frequent air travel and office travel.

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Our Company

About us

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Our Mission

Our Values

Subsidiaries

1 Our Company

About Us

GCM is an engineering consulting firm that has been helping clients in all types of industries by offering them engineering, operation, and maintenance services since 1994. An essential company in Canada, **GCM** works in the energy, sustainable development, petrochemicals, metallurgy, and manufacturing sectors. We offer our engineering and construction services for plant projects, supports the industry with its cutting-edge expertise, and carries out major investment projects.

GCM and its subsidiaries have ten offices in four provinces across Canada, seven of which are in Quebec. Its offices in Quebec are located in Anjou, Varennes, Quebec, Sherbrooke, Amos, Rivière-du-Loup, and Trois-Rivières. In Western Canada, **GCM** is present in Calgary and Regina. Finally, the Saint-Jean (New Brunswick) office completes the portrait of **GCM**'s presence in Canada. Figure 1 illustrates the geographical distribution of the offices.

- Anjou
- Varennes
- Quebec City
- Sherbrooke
- Amos
- Rivière-du-Loup
- Trois-Rivières
- Calgary
- Regina
- Saint John



Figure 1: Locations of GCM offices

317 employees were part of the **GCM** team in F2023. Of this number, no less than 101 new employees joined the team in F2023, representing a record hiring rate of 32%.

In addition, **GCM** strongly believes in the importance of hiring interns. The company takes their learning to heart so that they can contribute fully to the various projects and develop both professionally and personally. They bring a fresh perspective and sometimes allow you to find new solutions! After welcoming 14 students in 2018 and 2019 and before being forced to reduce the number with the arrival of the pandemic in 2020, **GCM** is proud to have resumed hiring interns, with 6 in 2022 in order to aim to resume the level of hiring of past years. Table 1 shows the growth of **GCM** in recent years.



Table 1: Employees

	2022	2021	2020	2019	2018	2017
Number of employees	317	263	248	325	270	279
Hired	101 (32 %)	51 (19 %)	31 (13 %)	72 (22 %)	70 (26 %)	37 (14 %)
Permanent	101	50	31	62	66	35
Temporary	0	1	0	10	4	2
Quebec Regions						
Anjou/Varenes	68 (67 %)	36 (70 %)	22 (71 %)	39 (54 %)	41 (59 %)	20 (53 %)
Lévis	15 (15 %)	8 (16 %)	4 (13 %)	16 (22 %)	19 (27 %)	11 (29 %)
Calgary/Regina	9 (9 %)	4 (8 %)	1 (3 %)	10 (14 %)	9 (13 %)	2 (5 %)
Amos	4 (4 %)	1 (2 %)	4 (13 %)	4 (5 %)	1 (2 %)	0
Saint-John	1 (1 %)	2 (4 %)	0	1 (1 %)	0	0
Sherbrooke	2 (2 %)	0	0	2 (3 %)	0	0
Rivière-du-Loup	2 (2%)	0	0	0	0	0
Number of interns	6	2	1	14	14	3

Our Vision

In America, across all industry sectors, **GCM** is recognized as a key leader in engineering and industrial computing. Avant-garde, agile, and efficient, **GCM** stands out and shines in innovative industrial processes, in environment and in sustainable development, as well as in Industry 4.0. **GCM** helps achieve its goals every day by empowering its employees to do what they love, directly supporting local industries, and building trusting relationships with its clients.



Our Mission

Offer high-performance consulting engineering services to the industrial sector thanks to inspired resources from this environment. **GCM** executes projects between 0 and \$200M of investment (studies, preliminary and detailed engineering, project and construction management) in the following areas:

SUSTAINABLE DEVELOPMENT

Renewable energy

Mining and metals

Commercial and institutional

Forest products, pulp and paper

Energy efficiency

MANUFACTURING

Pharmaceutical, biotechnology, and food

TRADITIONAL ENERGY

Chemical industries

Our Values

Mutual Aid

GCM's raison d'être is to help its clients carry out their projects and achieve their goals. Internally, **GCM** is a team that shares its knowledge and experience, as well as a common vision. Its staff reaches out to others, positively welcomes their points of view and recognizes their contribution. At all levels, mutual support and camaraderie stand out.

Authenticity

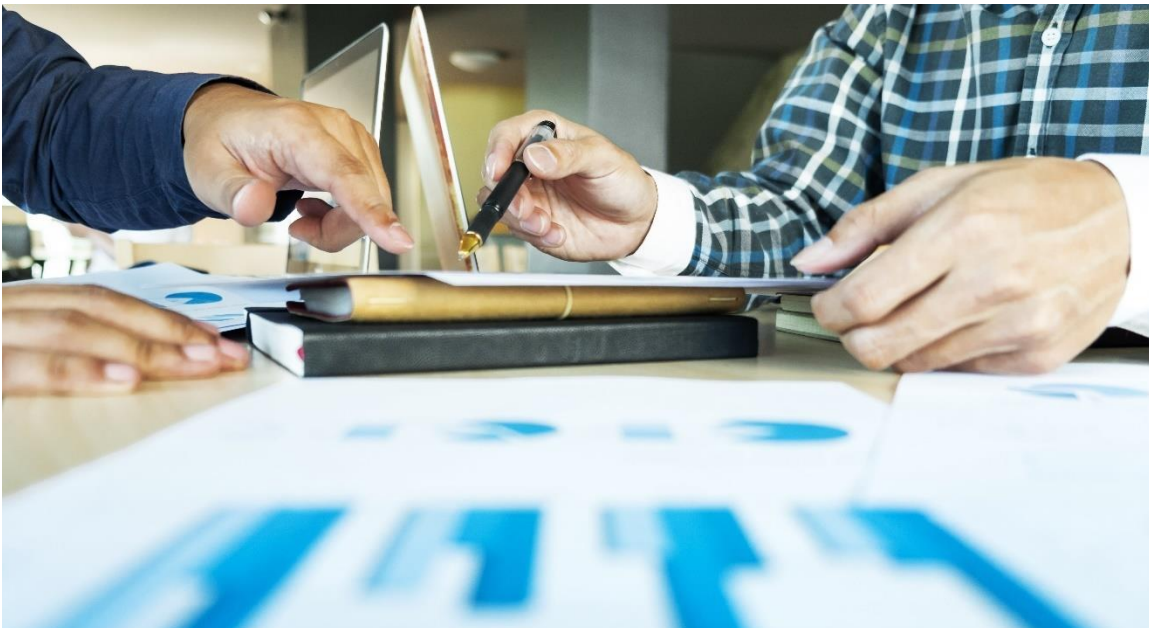
The thoughts, words and attitude of **GCM** staff are consistent as employees are true to themselves and others. Their transparency and attentiveness engender confidence in their professional exchanges and guide them towards new solutions.

Simplicity

GCM employees are people of action who facilitate the progress of each project by spontaneously adapting to clients, providing them with simple, practical, and flexible solutions, as well as anticipating their future needs.

Efficiency

GCM produces quality deliverables within deadlines. But more than that, **GCM** staff are passionate about their work and always on the lookout for new methods, techniques and technologies that allow them to optimize efficiency in project execution.



Subsidiaries

Over the years, **GCM** is proud to have diversified and increased its presence in different areas of activity through several subsidiaries in order to better meet the needs of our clients. In this sense, the **GCM** Consultants group includes four subsidiaries: STRANA, HyperShell, VOLO and VLD. It should be noted that this report and the data presented herein relate only to **GCM** Consultants (the subsidiaries will be gradually integrated into the next iterations of this report).



Volo works in a variety of industrial sectors and offers construction supervision services. In EPC mode (engineering, supply, construction), we carry out lump-sum projects and controlled management. The Volo site team includes several technicians and engineers, some of whom have more than 35 years of industry experience. Volo helps its clients carry out their construction projects with simple and practical solutions, in a friendly and collaborative atmosphere.

Set up by **GCM** in 2019, Strana's mission is to help industrial clients find the best talent on the job market. Due to its industrial focus and proprietary experience, Strana staff understands production issues and challenges, allowing them to quickly find the right quality candidates for the job.



Acquired in 2019 by **GCM**, HyperShell, located in Sherbrooke, has enabled **GCM** to complete its young team in the field of Industry 4.0 with seasoned specialists. HyperShell's strength lies in the contribution of its three areas of expertise: IT development, detailed engineering and technical drawing.

Acquired in 2022 by **GCM**, the VLD Group based in Trois-Rivières allows **GCM** to enrich its expertise in energy efficiency, industrial processes, and the environment.



2

Governance

Management Team
Composition

Wellness at **GCM**

Recognition and
Professional
Development

Shareholders

2 Governance

Management Team Composition



Jonathan Clément, M. Sc.
Finance, CPA, PMP, LSSBB,
PSM, P.Eng.
President



**Philippe Grégoire, P. Eng.,
MBA**
Vice President & Managing
Director Operations



Nathaniel Tiffany, P. Eng.
Vice President
Engineering



Pierre Thiffault, P. Eng.
Vice President
Mining & Metals



Normand Thouin, P.Eng.
Vice President
Major Projects



Réal Dugré, P.Eng.
Vice President
Energy - Eastern and
Western Canada



Michel Bérubé, P.Eng., M. Sc.
Vice President
Manufacturing & Chemical
Industries



**Marie-Claude Dion St-Pierre,
P.Eng.**
Vice President Environment
and Sustainable Development



Marc-André Richer, P.Eng.
Vice President
Corporate Business



François Filion, P.Eng.
Vice President
Project Management



Pierre Simard
Vice President
Operational Effectiveness



Max Kuling, P.Eng.
Vice President
Business



Mélanie Campeau
Finance Director
(GCM Consultants)



Claude Bilodeau, P.Eng.
Financial Director



Sandra Mignacca
Human Resources and
Culture Director



Marc-Antoine Boisvert
General Manager
HyperShell Technology



Isabelle Mainguy
Manager Quality and
Health & Safety



Luise E. Guy
Executive Director
Western Canada

Wellness at GCM

GCM wants its employees to work in a healthy environment free from harassment in the workplace, as defined by the *Labour Standards Act* applicable to all offices. Respect is deeply rooted in the culture of **GCM** and its subsidiaries. **GCM** recognizes that no form of harassment can be tolerated, inside or outside the workplace. In this regard, the workplace harassment policy and a confidential complaint form are communicated and available to all employees. **GCM** is committed to applying the principle of zero tolerance to any form of harassment or violence towards employees or its clients, at all times.

Always with a view to maintaining a healthy work environment, **GCM** has a code of ethics setting out the guidelines that make it possible to avoid any undesirable situation for its employees as well as for its clients and suppliers. This code of ethics aims to preserve the reputation of the company, a reputation that is based on the exemplary behavior of each employee. With its recent growth, **GCM** is called upon to make quick and informed decisions while ensuring that it is in harmony with its values of mutual aid, simplicity, authenticity and efficiency.

Finally, **GCM** has adopted a very unique policy: the policy of pleasure! To be read by each employee upon arrival, like any other policy, this policy aims to promote happiness in the lives of employees at work. This policy unique to **GCM** makes it possible to put forward three different elements:

- What **GCM** undertakes to offer its employees.
- The way in which employees undertake to act.
- Basic rules for a happy life at work.

At **GCM**, we believe that happiness at work is everyone's business!



Recognition and Professional Development

GCM's approach to performance appraisal and professional development is based on setting S.M.A.R.T. objectives and demonstrating key behaviors as well as corporate values. The approach emphasizes frequent discussions about performance and development, as well as forward-looking mentoring for specific employee development.

A recognition program with several awards and internal initiatives to materialize **GCM**'s commitment to the work satisfaction of its employees is in place. For **GCM**, recognition is a key element that contributes to creating a positive and enjoyable workplace.

Shareholders

GCM is a human scale company where the distribution of shares is 70% held by its employees and at 30% by its partner the *Fonds de solidarité FTQ*. Just over 60 employees were shareholders at **GCM** out of a total of over 300 employees in F2023. It is important to mention that all employees holding shares are also active workers within the company. Indeed, it is essential for **GCM** that access to shareholding is reserved exclusively for employees; employees who are at the heart of **GCM**'s operations on a daily basis.



3

Social Impact

Communication and
Involvement in
Sustainable
Development

GCM Social Clubs

Gender Equity

Health and Safety at
Work

Some **GCM** Social
Impact Projects

3 Social Impact

Communication and Involvement in Sustainable Development

GCM is proud to intensify its approach to sustainable development in recent years. Different systems and activities are in place to ensure that employees are informed and collect their ideas and recommendations.

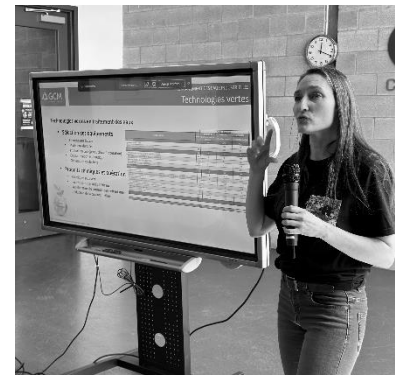
For example, a survey was sent to employees in the last quarter of F2023 to collect their ideas on sustainable development. Whether it's ideas for improving internal operations, ideas for interdisciplinary projects, ideas related to employee travel, and many more, a few dozen employees have taken the time to share their ideas. This survey also aimed to gauge employee interest in getting involved in the sustainable development approach at **GCM**. About fifteen employees have shown interest in getting involved at different levels in **GCM**'s approach.

Lunches are also held every quarter, making it possible to highlight the company's performance, but also the quarter's key projects and highlights in terms of occupational health and safety (OHS) and internal human resources, culture, and IT security updates, as applicable. Opportunities for future projects are put forward for the various business niches.

Finally, **GCM** measured the level of corporate engagement in November 2022 through a survey sent to all employees. This survey, also sent in 2021, aimed to take the pulse of employees, particularly regarding their personal well-being and in relation to their opinion of the company's strategy, their personal workload, diversity and inclusion within the organization, their relationships with their colleagues, their professional development, etc.

The survey responses were then analyzed by the managers of each department to highlight the elements to be worked on in the coming year, specifically for each team.

Actions specific to each department were then implemented with a view to continuous improvement. This fosters a high level of employee engagement, which constitutes the very identity of **GCM**.





GCM Social Clubs

GCM takes the health of its employees, both physical and mental, to heart. At **GCM**, every employee is important. In order to give employees the opportunity to integrate into the life of **GCM**, various internal initiatives have been developed. These initiatives take the form of social clubs in particular. Thus, two social clubs have been set up: the Social Club and **GCM** Contributes.

We at **GCM** thank you for this opportunity to provide our design and drafting services for your project. Following your RFP sent via email on May 9, 2023, we are pleased to send you this mandate letter confirming our services for the above-mentioned project.



The Social Club is a group of **GCM** employees and helps to animate the lives of employees at work by organizing activities for them, but also for their families. When the employee joins the Social Club, the spouse and children are automatically considered members of the club and **GCM** agrees to match the amount paid by employees for their club membership, which reduces the cost of organized activities.

In 2022, multiple happy hour evenings under different themes took place across the offices. In particular, an Oktoberfest-themed evening was held in Anjou, an opportunity to celebrate Halloween with grilled meats and microbrewery beers. In Amos, a day was spent outdoors on a pontoon at Lac Preissac, allowing employees to get to know each other and talk in a context other than that of work. Finally, International Ice Cream Day was also celebrated in the various offices in July 2022 when employees were invited to enjoy a good ice cream with their colleagues!



The objective of **GCM Contributes** is to improve the well-being of society through social and environmental interventions. This club carries out activities such as volunteering for fundraising, participation in charity events and awareness campaigns. Moreover, in 2022, **GCM** participated in the Bromont Ultra, a trail running or mountain bike event that raises donations for various causes by encouraging community and social involvement through physical activity. The company also collected donations for Centraide through various charitable activities with a contribution of \$24,340 for 2022. In addition, through the organization Opération Père Noël/Operation Santa Claus, **GCM** offered 30 gifts to children in need.



Internally, **GCM Contributes** aims to implement better environmental practices in the office, at home or at clients' premises, by reducing the consumption of consumables, water, energy, as well as reducing the generation of waste and pollutants in the environment. The activity selection process within **GCM Contributes** is based on activity ideas submitted by employees, then a selection is made by the committee based on the number of employees likely to be affected. by the activity or who might participate in it. The higher this number, the better the chances that the activity will be selected and completed by the committee.

Gender Equity

GCM is proud of the appointment in 2022 of Marie-Claude Dion St Pierre to the company's Board of Directors as Vice-President, Environment and Sustainable Development. At **GCM**, equity is paramount at all levels of the company, both in terms of salary and in terms of the representation of women at various levels of the company. A significant increase in the representation of women in management can be observed in recent years, as shown in Table 2. Indeed, by way of comparison, four women were in management positions in 2016, while 11 women were members of management in 2022.

Table 2: Equity and governance

Direction	2022	2021	2020	2019	2018	2017	2016
Number of women	11	9	n/a	9	8	5	4
Number of men	25	30	n/a	33	25	25	23
Average experience (yrs)	25	23	n/a	23.9	22.6	24.3	27

Health and Safety at Work

Objectives

GCM's safety goals are clear. The primary objective is to protect the health and safety of its employees and clients in all its activities and operations: this is the zero accident objective. **GCM** has a Health and Safety Program whose main objective is to identify, eliminate or mitigate all health and safety risks and hazards. The recording and subsequent rigorous analysis of security incidents allows **GCM** to continuously improve its health and safety knowledge and systems.



Commitments

To do this, **GCM** undertakes to act in prevention and training, to assess the risks associated with its operations, to continually review its practices, to implement the changes necessary for the continuous improvement of health and safety, and to respond quickly to any dangerous situation.

In addition, **GCM** is committed to providing first-class sustainable performance in the prevention of injuries, accidents or occupational diseases and damage to the environment. **GCM** promotes its values both internally and externally to positively influence health, safety and environmental behaviors in the communities where its people live and work.

Finally, **GCM** also undertakes to ensure the continuous improvement of its Health, Safety and Environment (HSE) policy, to carry out an annual review of this policy and to make the necessary changes. **GCM**'s commitment to workplace safety is embodied in the following five elements:

- Training and support:
 - Ensure that **GCM** personnel are trained and fit to perform their jobs, and strive to achieve the goal of zero injury, suffering or accidental death caused by their work activities.
 - Ensure the presence of internal HSE experts to provide support to employees.
- Rigorous application of the Health and Safety Program.
- Application of best HSE management practices.
- Understanding and compliance with **GCM**'s client policies and regulations.
- The open and participative attitude towards the continuous improvement of safety.

Mission

The health and safety mission is to provide a healthy and safe work environment, both physically and psychologically. To do this, **GCM** relies in particular on the training of its employees as mentioned above. Table 3 shows the number of hours of technical training, in-house training, and also occupational health and safety training offered by **GCM**.

Table 3: Training hours

Type of training	2022	2021	2020	2019	2018	2017	2016
Health and safety	805	363	124	372	266	392	196
Technical training	2 033	1 041	1 360	2 012	1 002	676	270
Internal training	1 135	796	1 020	507	790	648	523

It is interesting to see in Table 3 the progression over the years of training hours, all training combined, which demonstrates the importance that **GCM** attaches to the training of its employees. However, it should be considered that the number of employees is also increasing.

Ultimately, the OHS measures taken in recent years seem to be bearing fruit. **GCM** aims and will always aim for zero injuries. As shown in Table 4, four employees were on temporary disability due to occupational disease in 2022. Thus, **GCM** is proud to note the downward trend in disability cases since 2016, and is constantly pursuing its OHS efforts.

Table 4: Number of employees on temporary disability for occupational disease

2022	2021	2020	2019	2018	2017	2016
4	3	4	5	8	7	12



Projects carried out by GCM with an Impact on the Community

GCM works with its clients in order to build and carry out projects in a sustainable manner and with a positive impact on society. Here are some examples of projects to which **GCM** is proud to have contributed in 2022. These descriptions are voluntarily anonymized to respect client confidentiality.



Discussion with stakeholders in the context of fish habitat compensation projects

In 2022, **GCM** worked with mining companies to identify and develop fish habitat compensation projects. These activities were carried out in close collaboration with the various government departments, land users and riparian owners to ensure their viability and sustainability. This approach also makes it possible to maximize gains while reducing nuisances and to optimize layout concepts. Discussions, presentations and consultations have taken place with the various stakeholders and will continue to take place throughout the projects. This method used by **GCM** allows better social acceptability and environmental sustainability of projects.



Support for the social component in the context of impact studies

GCM supports its industrial clients, particularly in carrying out environmental and social impact studies. In 2022, **GCM's** team of professionals supported its mining and wood products industry clients in the development of consultation and communication strategies with their stakeholders in order to ensure the harmonious integration of these here in the communities. This process also allows concerns to be taken into account in the optimization of projects and in the development of measures to avoid or mitigate impacts. The analysis of the concerns also makes it possible to highlight the project issues in order to ensure that they are adequately taken into account and addressed in the development of the projects. The projects carried out are thus more sustainable.



Authorization and Replacement of a Water Treatment System

In 2022, **GCM** carried out all the procedures for the authorization and replacement of a sanitary water treatment system for a school located in Abitibi. From field surveys to ecological studies and work supervision, everything has been put in place to ensure that the system in place is brought up to standard and replaced by a functional and efficient treatment unit whose discharge to the environment meets standards. This would make it possible to ensure a healthy and safe living environment for the children as well as for all the school staff.

4

Environmental Impacts

Preventing environmental impacts

Risks and opportunities related to climate change

Waste Management

Impacts related to paper consumption

Electricity consumption

GHG Emissions

Some projects with environmental impacts



4 Environmental Impacts

Preventing Environmental Impacts

GCM has adopted an environmental policy aimed at stimulating employee initiatives and reducing the environmental repercussions resulting from the company's activities. It targets concrete actions to be carried out in sectors such as energy and resources, transportation, management of residual materials and recycling, responsible procurement as well as intervention with clients in order to develop solutions. focused on continuous improvement. These actions make it possible to determine the mode of management and protection of soil, water and the atmosphere in order to prevent any emission or spillage, as well as any neighborhood issue. **GCM's** environmental policy is available on our website.

Risks and Opportunities related to Climate Change

Climate change is a major issue that **GCM** must deal with and which it must consider when carrying out its projects. More and more extreme climatic events are to be expected in the near future, which will require greater vigilance both in terms of infrastructure design and energy supply, as well as for the movement of populations.

For **GCM**, this reality is at the heart of the activities of its environment and sustainable development department. Indeed, this department can help its clients not only to adapt, but to position themselves at the forefront in terms of the environment and sustainable development. The Environment and Sustainable Development group increases its business volume year after year, in particular through the increase in the number of water treatment projects as well as the management and quantification of greenhouse gases. An increase in projects related to adaptation and resilience to climate change is also topical, these presenting multiple dimensions that can affect the plurality of **GCM** departments.

More generally, **GCM** makes sure to further integrate the concepts of resilience, adaptation to climate change, and sustainable development into all of its projects. Ultimately, this will allow **GCM** to better serve its clients based on this current ever-changing environment.

Waste Management

Household Waste Management in Offices

At **GCM**, all offices practice recycling. At the Amos, Anjou, Calgary, Lévis and Rivière-du-Loup offices, the use of disposable utensils and plates is now limited, reusable cutlery is mainly used. In addition, that of Amos was collected thanks to donations and the purchase of second-hand equipment. Reusable capsules for coffee were also purchased to reduce the consumption of disposable capsules. A local plant repotting initiative was taken at the Anjou office, which kept the plants healthy and avoided losses.

The survey highlighted the fact that compost was not collected uniformly across offices. Some local constraints make collection more difficult, especially in Amos and Anjou where the city unfortunately does not serve commercial establishments. In Amos, employees have taken the initiative to collect compost themselves during meetings, but no system is established for ad hoc collection. In Anjou, plastic collection is not served in the industrial district.

As for the sorting of different types of waste, it was mentioned that posters could be installed in each office to explain and make people aware of the different categories of recyclable waste as well as the best practices to adopt. These posters have already been designed and are present in some **GCM** offices. Also, the establishment of the separation of commercial waste such as cardboard and paper in different bins is desired by employees, in order to avoid soiling these materials with other waste and losing their properties. Other objectives were shared, such as the limitation of disposable dishes during events or group meetings, the increase in the number of recycling bins to limit poor sorting and the purchase of reusable coffee capsules in each office.

Electronic Waste Management

For many years, obsolete electronic and computer equipment has been recovered by a company specializing in the field. This partner is responsible for dismantling the equipment while ensuring that the equipment can be recycled and that certain parts have a second life. The same process applies to obsolete batteries of all kinds.

Impacts related to Paper Consumption

According to **GCM** records, just over **0.3 tons of paper** was used in 2022. This demonstrates that, in a context of a return to normal with the lifting of health restrictions, the combination of **GCM's** flexible telework policy and employee paper use awareness has reduced paper consumption per employee by nine times what it was before the pandemic (compared to paper use in 2019). Global paper consumption data is shown in **Table 5**. **GCM** is proud to paint a complete picture of its paper consumption by detailing each of the paper formats consumed starting from 2022, including notebooks and agendas made available to employees in the offices.

Table 5 : Paper consumption in the offices

	2022	2021	2020	2019	2018	2017	2016
Number of sheets 8.5 x 11	5,986	25 620	7 143	310 000	299 775	380 852	265 783
Number of sheets 11 x 17	10,975	64 310	29 194	202 500	232 844	288 126	226 083
Number of sheets 8.5 x 14	15,679	N/A	s.o.	1 000	N/A	N/A	N/A
Number of sheets 9.25 x 7.25*	37,824	N/A	N/A	N/A	N/A	N/A	N/A
Total quantity of paper (ton)	0.3	0.7	0.3	3.3	3.6	4.5	3.5
Equivalence in number of trees	6.1	12.6	5.4	59	66	81	62
Tree used by employees	0.02	0.05	0.2	0.18	0.24	0.29	0.27

*This sheet format corresponds to that of notebooks and diaries purchased in offices.



Electricity Consumption

In order to measure the environmental impacts related to electricity consumption for all **GCM** offices in Canada, the electricity bills of the various offices occupied by **GCM** were consulted. Additional efforts were made this year to obtain a more representative picture of electricity consumption in all offices. In fact, while historically only data for the Anjou and Varennes offices were available, consumption data for the Lévis, Amos, Calgary and Regina offices were added this year. Data collection constraints make it difficult to access data for all offices for 2022, but a representation of all offices is targeted for future reports.

The greenhouse gas emission factors used to calculate the total emissions attributable to electricity consumption are taken from the *National Inventory Report 1990-2021: Greenhouse Gas Sources and Sinks in Canada*. (National Inventory Report of Canada 2022).



Thanks to all the data collected, it was possible to determine the total quantity of GHGs emitted within **GCM** by the electricity consumption of offices for which bills were available. Thus, GHG emissions related to electricity consumption amount to **62.3 tonnes of CO₂ equivalent** for F2023. This marked difference compared to previous years is due to the addition of the Calgary and Regina offices to the 2022 inventory for which the emission factors are respectively 515 and 392 times greater than that of Quebec, which is **0.0013 kg CO₂ eq./kWh**. Considering the natural gas also used at the Regina office for heating during the winter, total emissions reach **83.7 tons of CO₂ equivalent**. Table 6 presents the results obtained.

Tableau 6: Results obtained for energy consumption

	2022	2021	2020	2019	2018	2017	2016
Anjou (kWh)	730,110	663,315	676,170	803,054	902,558	859,782	847,350
Varenes (kWh)	617,400	805,200	715,200	755,444	747,051	683,112	663,600
Lévis (kWh)	24,399	N/D	N/D	N/D	N/D	N/D	N/D
Amos (kWh)	16,644	N/D	N/D	N/D	N/D	N/D	N/D
Calgary (kWh)	39,405	N/D	N/D	N/D	N/D	N/D	N/D
Regina – Electricity (kWh)	60,259	N/D	N/D	N/D	N/D	N/D	N/D
Natural Gas (m ³)	8,862.1						
Total GHG emissions excluding natural gas (tCO ₂ eq)	62.3	2.2	2.1	2.3	2.5	3.1	3.0
Total GHG emissions including natural gas (tCO ₂ eq)	83.7	N/D	N/D	N/D	N/D	N/D	N/D

GHG Emissions

Impacts related to Ground Transportation

At **GCM**, there are two types of car use: trips made by employees from their homes to the office where they work, and those by **GCM** office employees visiting their clients. A transportation survey is submitted each year to all **GCM** employees to measure the impact of employee car travel between work and home.

The answers obtained from **217 employees** made it possible to extrapolate the kilometers entered by the respondents to all **317 employees** for F2023.

The fuel consumptions per 100 kilometers used according to the different types of vehicles were estimated at the values indicated in Table 7.

Table 7: Fuel consumption per 100 km depending on vehicle type

	Hybrid	Small car	Small SUV	Van	Electric
Carburant consommé par 100 km (L)	5.7	7	8.6	10	0

With the emission factors listed in Canada's National Inventory Report 2022, it was possible to calculate GHG emissions for both categories of **GCM** employee travel. A calculation of GHG emissions per person was also performed.

Commuting

Table 8 summarizes the results obtained for total GHG emissions for employees' home-office transportation.

Table 8: Results obtained after extrapolation of the responses to the GCM home-office transport survey

	2022	2021	2020	2019	2018	2017	2016
Fuel consumed (L)	45,024	21,457	36,227	253,491	220,579	239,109	195,600
Distance travelled (km)	587,777	254,459	444,545	2,913,686	2,535,396	2,748,377	2,248,000
Number of round trips	15,362	3996	6 532	68,385	59,786	62,500	44,500
Number of employees	317	263	248	325	270	279	228
Total GHG emissions (tCO ₂ eq)	104	50	84	587	511	550	450
Total GHG emissions per person (tCO ₂ eq/p)	0.33	0.19	0.34	1.8	1.9	2.0	2.0

The survey provided the number of employees who do not use the car, or who use it only occasionally. Among the **217 respondents** to the survey, **170** only use their car and **9** others carpool. The other respondents alternate between public transport, motorcycle, bicycle, car, and walking. Table 9 shows these results. The column " Not responding to the job " represents the number of new employees who responded to the survey, but who were not employed by **GCM** in the year concerned (not yet hired).

Table 9: Means of transportation used by survey respondents for employee travel from their homes to GCM offices.

	2022	2021	2020	2019	2018	2017	2016
Car only	170	82	80	112	152	187	129
Public transport	4	5	9	12	13	16	4
Motorbike	4	4	3	3	4	3	2
Bicycle	8	1	2	10	14	17	16
Carpooling	9	5	7	6	9	16	14
Market	1	1	1	2	1	2	0
Respondent not employed	2	38	23	N/ D	N/D	N/D	N/D

The portrait of the situation of electric vehicles among **GCM** employees is such that **15** of the **200** vehicle owners who responded to the survey own a hybrid or electric vehicle. With regard to charging stations for electric vehicles, only the Varennes office had four in 2022.

Client Visits

The second category of impacts related to car use concerns travel between **GCM** offices and clients. Using the number of kilometers reimbursed to employees for trips made, it was possible to obtain an estimate of the quantity of fuel consumed and, therefore, of the resulting GHG emissions. The amount of fuel consumed was calculated on the basis of the same assumptions as for home-office transport (commuting).

The total distance traveled for trips to clients in F2023 is **621,835 km**, which is equivalent to **54,839 L** of fuel for 4,536 trips. These results lead to GHG emissions amounting to 113 tonnes of CO₂ equivalent. These figures reflect an overall increase in client trips compared to recent years, not only in quantity, but also in distance. The increase in business volume and the resumption of in-person activities are the main causes of this increase.

This therefore raises the relevance of internally reviewing policies for travel to the client, to determine to what extent they are necessary, but also which means of transport is best suited and potentially the least damaging to the environment according to needs.

It should be noted that car rentals during business trips are not taken into account in the figures presented in this section. This data should be added to the next report.

Table 10: Impacts of car use for travel between GCM offices and clients

	2022	2021	2020	2019	2018	2017	2016
Fuel consumed (L)	54,839	38,254	22,914	47,242	36,800	41,100	35,100
Distance travelled (km)	621,835	445,171	263,378	555,280	443,000	473,000	403,900
Number of round trips	4,536	4,069	1,881	3,017	2,983	2,996	2,618
Total GHG emissions (tCO ₂ eq)	113	89	53	109	85	94	81
Total GHG emissions per person (tCO ₂ eq/p)	0.40	0.34	0.21	0.34	0.32	0.34	0.35



Impacts related to Air Transport

Although the GHG emissions generated by the use of the car represent a significant part of the GHG emissions in the environment, the air transport used by **GCM** for travel to project sites or to clients also generates emissions of Notable GHGs. The data for trips made in F2023 were obtained thanks to the accounting department. It was thus possible to calculate the number of round trips made, the total distance traveled and the GHG emissions in tonnes of CO₂ equivalent for each trip.

Emission factors used to calculate emissions attributable to air transport were taken from studies carried out by Transport Canada, or by the *Department for Environment, Food and Rural Affairs (DEFRA)*, in the United Kingdom. In F2023, **GCM's** air transport generated GHG emissions amounting to **59 tonnes of CO₂ equivalent**. A total distance of **300,078 kilometers** in **177 trips** was covered.

Travel distance by air, however, remains significantly lower than before the COVID-19 pandemic. In 2019, almost three times as many kilometers were traveled compared to 2022. This reduction can be explained by the questioning of the need for air travel to visit a project site or a client for the benefit of a virtual visit. The results obtained for the impacts of air transport are grouped in Table 11.

Table 11: Results obtained for the impacts of air transport

	2022	2021	2020	2019	2018	2017	2016
Total distance travelled (km)	300,078	284,409	151,362	858,373	778,000	621,000	812,700
Number of flights	177	162	86	492	532	292	324
Total GHG emissions (tCO₂eq)	59	40	21	126	117	81	102
Total GHG emissions per person (tCO₂eq/p)	0.19	0.15	0.08	0.39	0.43	0.29	0.45

The emission factors used are broken down into three different types, i.e. types 1 to 3 depending on the length of the flights. A type 1 flight is a flight of less than 785 km, a type 2 flight is a flight of 785 to 3,700 km and, finally, a type 3 flight is one of more than 3,700 km. It is therefore interesting to analyze the distribution of flights according to these types. According to the most recent data (2022) from DEFRA in the UK, the total GHG emission factor for type 1 flights is the largest, followed by that for type 3 flights, then the emission for type 2 flights is the smallest. These differences in factors are explained by the varying importance of fuel consumption at take-off compared to fuel consumption during cruise. For F2023, it is possible to notice a breakdown of predominantly Type 1 flights, as shown in Table 12.

Table 12 : Breakdown of flight types

	2022
Number of Type 1 flights	95
Number of Type 2 flights	70
Number of Type 3 flights	12
Total number of flights	177

The means of transport used for domestic travel can therefore be further questioned in order to minimize the environmental impacts of **GCM** resulting from business travel.

Summary of GHG Emissions

Table 13 summarizes GHG emissions from **GCM** operations for F2023.

Table 13: Total GHG emissions attributable to certain GCM activities (tCO₂eq)

	2022	2021	2020	2019	2018	2017	2016
Energy, Including natural gas	83.7	2.2	2.1	2.34	2.5	3.1	3.0
Car – trips from home to GCM	104	50	84	587	511	550	450
Car – trips between GCM and clients	113	89	53	109	85	94	81
Air Transport	59	40	21	126	117	81	102
Total GHG emissions	360	181	160	825	716	728	637
GHG emissions per person	1.1	0.7	0.6	2.5	2.7	2.6	2.8
Number of employees	317	263	248	325	270	279	228

Ultimately, the context of a return to normal following the COVID-19 pandemic highlights two key elements. On the one hand, it is possible to observe a slight increase in the number of employee trips to the offices, which suggests that some of them want to work in the office sporadically and that measures for the movement of employees to offices could be put in place to reduce the carbon footprint of these trips. On the other hand, the use of air transport is regaining strength compared to the pandemic period of 2020-2021, but still remains well below the level of pre-pandemic use.

In general, travel has decreased considerably following the end of the pandemic. The manners and customs of employees have been changed significantly. This suggests that, among employees and managers, the relevance of such trips is questionable considering in particular the emergence of videoconferencing platforms and **GCM's** flexible work policy.



Some Projects with Positive Impacts on the Environment

Whether it be for the realization of large investment projects or support to the industry for continuous improvement projects, the **GCM** team is mindful about the impacts that these could have on the host society. Several projects have been carried out this year with a positive impact on the environment, projects related to:

- Energy saving
- Restoring natural environments
- Reducing industrial waste
- Reducing climate impacts
- Reducing the carbon footprint

GCM is thus proud to support its clients in their efforts to improve sustainable development, in addition to putting forward its own internal sustainable development policies. The following section presents some concrete examples of projects carried out in F2023.

Electrification of a Gypsum Board Factory

GCM contributed to an energy transition and electrification project for a gypsum board factory in 2022. Thanks to this conversion, the factory has become one of the most energy efficient in the world. The electrification project consisted of completely eliminating the use of natural gas and replacing this source of energy with hydroelectricity. **GCM's** contribution to the project is divided into two parts.

First, at the engineering level, **GCM** was responsible for the infrastructure and development works, the new electrical entrances and distributions as well as the engineering for the new production buildings and electrical substations. Secondly, **GCM** worked in partnership with its subsidiary VOLO to oversee the construction works for the whole project. The decarbonization of the plant will eliminate more than 40,000 tonnes of CO₂ equivalent emissions per year, in addition to stopping combustion gas emissions of nitrogen oxide and carbon monoxide. As the first, zero-carbon, wall panel factory in North America, this project is proving to be a global showcase for the electrification of heavy industry.

GHG accounting

GCM produced GHG reports during the year, in particular for clients in the agri-food sector and for biomethanation facilities. These reports aim to count the greenhouse gas emissions resulting from the activities of a site. Among other things, **GCM** worked with a client whose biomethanation project consisted of transforming part of the putrescible organic residual materials into biogas and digestate. This report was produced specifically to monitor the site's GHG emissions in 2021 to ensure compliance with the criteria of a commitment made in the context of obtaining a subsidy. **GCM** is proud to collaborate with clients concerned about their GHG emissions.

Production of a pilot unit for Pyrolysis Technology

In 2022, **GCM** worked on a decarbonization in collaboration with a research and development company as well as with a ferroalloy company to achieve the scaling up of a forest residue pyrolysis technology. Pyrolysis is a process of chemical decomposition obtained by heating which aims to produce biochar. The biochar replaces the carbon of fossil origin normally used in the metallurgical industry. **GCM**, in collaboration with its subsidiaries, contributed to the project by carrying out all the engineering phases, from procurement support to construction, including pre-operational checks and commissioning. This initiative allows the recovery of forest waste into value-added products to replace a part of the fossil fuels typically used.

Also in terms of decarbonization, in 2022, **GCM** worked in collaboration with a research and development company as well as with a ferroalloy company to achieve the scaling up of a forest residue pyrolysis technology. Pyrolysis is a process of chemical decomposition obtained by heating which aims to produce biochar in order to replace the carbon of fossil origin normally used in the metallurgical process. **GCM** contributed to the project by carrying out all the engineering phases, from procurement support to construction, including pre-operational checks and commissioning. This initiative allows the recovery of forest waste into value-added products to replace fossil resources.

Feasibility study and support for the installation of a clean water treatment technology

GCM worked during the year 2022 in partnership with the *Fond Écoleader* and with a client in the food industry to carry out a feasibility study and support the client for the set up of a water treatment technology for a new plant. From a circular economy perspective, the client wanted to set up a water treatment system to comply with the standards while recovering discharges and minimizing the impact of operations on the environment.

This project was divided into five different phases, all handled by **GCM**: clarification and planning of water management, selection of treatment technology, selection of a supplier and preparation of detailed plans, the drafting of an application for authorization and, finally, the development of an operations manual. The water treatment system is now in operation and residual materials are recovered in the form of animal feed. **GCM** is proud to have taken part in this circular economy project.





Sustainable Development Action Plan and Goals

Actions taken so far
Action Plan for the
Future

5 Sustainable Development Action Plan and Goals

Actions Taken So Far

GCM is keen to make the necessary efforts to reduce GHG emissions from its activities, but also to help its clients in their decarbonization and climate change adaptation projects. To do this, **GCM** strives to lead by example and that is why its approach to sustainable development has intensified over the past year and will continue to grow in the coming years. Concretely, the actions undertaken by **GCM** for the 2022 fiscal year are:

- The first complete overhaul of this ESG report formerly focused mainly on environmental impacts (GHG) and now more inclusive in terms of social and governance aspects.
- Resuming activities of **GCM's** social club activities both internally with the Social Club through the organization of several happy hour and theme evenings, but also externally with the involvement of **GCM Contributes** to various charitable activities such as the Bromont Ultra.
- Surveying employees to collect their ideas on sustainable development, but also to inquire about their desire to get involved and take charge of different projects in order to support **GCM's** approach in this direction.
- For the second consecutive year, conducting a survey to measure employees' level of commitment within **GCM** and allow the various department managers to set in motion actions to ensure well-being and engage employees in their respective teams.
- Creating a Teams banner representing the UN Sustainable Development Goals (SDGs) in order to exchange with internal employees;
- Implementing measures to eliminate the use of disposable utensils and plates in all **GCM** offices.
- Offering more vegetarian options: an idea shared by an employee who underlined the fact that few vegetarian options were offered in the context of **GCM** activities.
- Putting battery recovery points in all **GCM** offices in Quebec: verifications and adjustments were made in order to ensure a recovery system for obsolete batteries in each office.

The actions presented on the previous page are some of the concrete initiatives considered by employees and implemented during F2023. This is just the beginning for **GCM**, a firm that is committed to doing more and more for sustainable development. Indeed, an action plan has already been identified and is underway for 2023. The following section sets out the guidelines of this action plan.



Action Plan for the Future

The elements presented below represent the directions and objectives towards which **GCM**'s efforts will be directed in terms of sustainable development in the coming year. A follow-up of these elements will be carried out in the 2023 report. Thus, the next elements of the sustainable development approach are:

- **GCM Active:** set up an internal committee whose mission is to get **GCM** employees moving and organize sporting or outdoor events to stimulate healthy lifestyle habits and offer the opportunity to socialize between colleagues.
- Update **GCM**'s environmental policy: this policy, available on **GCM**'s website, was established a few years ago and needs to be reviewed to better reflect **GCM**'s current vision on environment and development sustainable.
- Include a " Sustainable Development " item on the agenda of meetings of the Committee of Office Managers to ensure follow-up of actions undertaken in the offices, to pool ideas and to encourage discussion on the subject.
- Complete the hiring of a sustainable development and decarbonization team leader: **GCM** is aware of the paramount importance of ESG criteria as well as the transition to a low-carbon economy and is keen to hire a new leader team building allowing it both to better meet the needs of its clients, but also to review and support its approach regarding sustainable development.
- Establish an environment and sustainable development week: this week will aim to raise awareness and educate employees in this area of engineering practice. Presentations highlighting the projects carried out by the environment and sustainable development team will be made to all employees in addition to creating a dedicated Teams channel for the thematic week offering a new subject each day and generating trades.
- Create a new advertising sheet proposing **GCM**'s service offer in terms of decarbonization and sustainable development: this sheet will present **GCM**'s eco-design services and will encourage our clients to think about the tools available to them in order to ensure a green turn in which **GCM** is able to help them.
- Improve the system for collecting employee ideas on sustainable development and validating their interest in getting involved in the implementation of new measures.
- Purchasing carbon credits: these credits will make it possible to offset GHG emissions from employee travel to clients.
- Integrating gradually **GCM**'s subsidiaries into the next iterations of the ESG Report.
- Eliminate paper business cards and transform them into digital cards with a view to reducing paper consumption.
- Eliminate the use of disposable coffee capsules at the Lévis office. It is desired to eliminate the consumption of these disposable coffee capsules by 2023.

Conclusion

GCM is looking straight ahead and is aware that the future must be focused on decarbonization, the integration of environmental, social and governance criteria in its activities both internally and externally. This is why **GCM** intends to work hard on the actions of the 2023 plan. The work is already underway. **GCM** is enthusiastic to offer a work environment in which its employees and collaborators are proud to work while offering services adapted to current issues in a constantly changing world.

