



## 2005-2016 ENVIRONMENTAL REVIEW AND SUSTAINABLE DEVELOPMENT ACTIONS AND COMMITMENTS FOR RSIE

Upon RSIE's request, UQAC's Chair on eco-advising, performed a study in 2017-2018 aiming to release an environmental review of the company's operations and how it relates to sustainable development. Two reports were produced:

- 1) The "2005-2016 Environmental review" showcases RSIE's performance in terms of:
  - **Environmental management system** (ex: wastewater discharges, air emissions, production, treatment, storage and hazardous waste disposal, etc.)

The annual installations audits, performed by an external body, reveal that the company complies with all the regulations and provincial, federal and municipal standards. The Ministry of the Environment and the Fight against Climate Change (MELCC) acknowledges that RSIE's environmental monitoring system is a reference in the field.

- **Soil decontamination**

From 2005 to 2016, RSIE treated 313 981 tons of contaminated soil, ridding the environment of 24 tons of PCBs, 134 tons of PAHs, 1 149 tons of hydrocarbon, 6 tons of pesticides, 785 grams of dioxin and furans and 3 tons of PCPs, all with a much superior efficiency than the standards in effect. 277 406 metric tons of decontaminated soil was obtained and most (77%) could be reused without restriction (A and A-B soil categories).

- **Atmospheric emissions treatment system**

Gaz destruction efficiency remains the same as it originally was, and pollutant emissions can be compared to the content found in the natural environment.

Because of various measures (fuel with better calorific value, biomass, hydrocarbon content in the contaminated soils), RSIE's greenhouse gases' emissions (GHGs) dropped between 2009 and 2016 and became lower than the (10 kT/year) reporting limit of the Cap-and-trade system for greenhouse gas emission allowances (Système de Plafonnement et d'Échange des Émissions du Québec) in 2013. A 32 013 tons drop was observed between 2012 and 2015.

- **Air, soil, water quality around the plant**

Sampling through the years shows that PAHs, dioxins and furans, PCBs and airborne particles' concentrations are all inferior to the MELCC's standards. Comparisons with the results at the control station indicate that RSIE's operations do not impact air quality. On the ground (snow, moss and needles), contaminant concentrations are inferior to the typical values of the residential sector and underground water sampling reveals no trace of pollutants.

2) Upon review of the documents provided by the company and a semi-directed interview with its managers, following and introduction to the Sustainable development goal prioritisation grid of the Chair on eco-advising and Québec's Sustainable Development Act principles, the 'Sustainable development actions and commitments' report states that:

RSIE's mission is to offer "a unique and safe process for the optimal treatment of contaminated matter to be reused" and that the company's values are:

- **Respect:** acknowledge and respect the people and the environment.
- **Commitment:** not to standby, be involved and invest in team members, the community and our business partners.
- **Innovation:** Seek innovations and opportunities to improve and reach our sustainable development objectives.

Through the years, numerous actions and commitments taken by RSIE relating to sustainable development (SD) can be underlined. These are in accordance with the 16 principles of the provincial Sustainable Development Act as well as the 17 Sustainable development goals (SDG) of the United Nations. Most notably, except for those already mentioned, are:

The principles of sustainable development	RSIE's actions
1- Health and quality of life	Fight against job insecurities via exchanges with other organizations (e.g., winter snow removal) to decrease seasonal vulnerability of its temporary workers during winter.
2-Social equity and solidarity	Donated 80 000\$ to the 'Centre de Formation en Entreprise et Récupération (CFER)' of St-Ambroise, which put in place a program for the social and professional integration of the underprivileged.
3-Environmental protection	In 2004, implemented the environmental management system ISO 14 001 which is verified by the 'Bureau de normalisation du Québec (BNQ)' to insure of its performance.

4-Economic efficiency	Currently provides 25 full time jobs and up to 40 during peak periods.
5-Participation and commitment	Participate to the 'zone durable' to work with the community's stakeholders and be involved, diversify its products and services, increase the work period for its seasonal workers and better its knowledge at the municipal and ministerial levels.
6-Access to knowledge	Invest in research in industrial ecology to find new areas of business and diversify its activities, increasing employment season for its employees. Innovation is one of the company's core values.
7-Subsidiarity	Delegate each task according to the people's function, as it is a small team (environmental services require 1 to 1,5 full time resource on its own).
8-Inter-governmental partnership and cooperation	Is part of numerous groups, such as the 'Réseau environnement', the 'Conseil des entreprises en technologies environnementales du Québec (CETEIQ)', etc. that participate to the consultations of diverse levels of government and collaborate to the harmonization of the regulations.
9-Prevention	Recommend the general use of individual protective gear in the presence of contaminants. RSIE deals with industrial hygiene laboratories to identify contaminants and to consequently protect its employees.
10-Precaution	Decrease GHGs emissions, which is part of the precaution principle, as this help in limiting the serious and potentially irreversible effects of climate changes.
11-Protection of cultural heritage	Financially participate to the 'Festival de la chanson de Saint-Ambroise' to encourage talented young singers and promote Quebec culture.
12- Biodiversity preservation	RSIE's mission is to restore contaminated soils so they can be reused without restriction of use. For example, removing persistent organic pollutants (POPs) in the soil contributes to the restoration of degraded soil caused by human activities.
13-Respect for ecosystem support capacity	Substitute part of the non-renewable resources it uses (fossil fuel) with renewable energy stemming from by-products (oil residues) or waste material (wood).
14-Responsible production and consumption	Invested in continuous gaz measuring devices and its lime injecting system to only use what is required for treating the smokes.
15-Polluter pays	Pay in full for the management of its outputs in the appropriate networks.
16-Internalization of costs	Pay in full for its inputs, the necessary personal and equipment for the effective conduct of its activities, the cost of contaminated soil disposal and operation wastes.

	No financial charge is put on a third party to balance the financial report of the company.
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In terms of the SDGs, RSIE exerts a significant and documented contribution to Québec and Canada's performance in reaching 16 targets in 9 goals.

At the end of the exercise, it appears that RSIE, within its capacities, stands as a contributor to the sustainable development of its area, the province of Quebec and the world. Its mission, core values and operations answer to actual needs, without hindering future generations in their capacity to answer to theirs. By having its contribution to certain targets of the Sustainable developments goals of the 2030 agenda recognized, it can serve as an example to be emulated by other companies. In stating its commitment to the principles of sustainable development, RSIE can peak the interest of various levels of government, of its current and potential clients and reinforce social acceptability of its operation.