

SUSTAINABLE DEVELOPMENT ACTION PLAN

2015-2020





The Sustainable Development Action Plan 2015–2020 consists of 12 actions, improvement targets and performance indicators. The actions are in line with the company's main business objectives.

For certain actions, the description includes specific initiatives to be taken to reach the target. Every year in our Sustainability Report, we report our performance in carrying out these initiatives and the entire Action Plan.

The actions must contribute to the objectives laid out in Québec's Government Sustainable Development Strategy 2015–2020. To enable quantification of the Action Plan results in relation to the strategy, each action must be linked to a single objective, even if it actually targets more than one. Accordingly, each description indicates only the strategic direction and objective to which the action principally contributes. Two of the actions also promote the implementation of Québec's "Agenda 21 for culture"; these are indicated by the symbol for easy identification.

Under the *Act to ensure the occupancy and vitality of territories*, enacted in 2012, each government department, agency and enterprise must make public its contribution to the objectives of the 2011–2016 strategy to ensure the occupancy and vitality of territories. Hydro-Québec has chosen to incorporate a number of actions from the strategy into its Sustainable Development Action Plan; these are indicated by the symbol of for easy identification, and a corresponding direction and objective in the government strategy are presented.





BUILD HYDROPOWER PROJECTS

Hydro-Québec is responsible for ensuring a secure supply of electricity in Québec. All Hydro-Québec projects must meet the following conditions: they must be profitable, environmentally acceptable and favorably received by the host communities. Each project undergoes rigorous environmental assessment and follow-up. The company also works with Aboriginal and other communities to establish agreements and partnerships related to the projects, thus ensuring that they are acceptable to the host communities.

This action, initiated in the previous Action Plans, consists in finishing work on the Romaine complex. The \$6.5-billion Romaine project involves four new generating stations with a total installed capacity of 1,550 MW and an average annual output of 8.0 TWh. Romaine-2 generating station (640 MW, 3.3 TWh) was commissioned in 2014. Romaine-1 generating station (270 MW, 1.4 TWh) will be commissioned in 2016, followed by Romaine-3 (395 MW, 2.0 TWh) in 2017 and Romaine-4 (245 MW, 1.3 TWh) in 2020.

The Romaine project will generate economic spinoffs of \$3.5 billion for all of Québec, including \$1.3 billion for the Côte-Nord region. It will sustain an average of 975 jobs for each year of construction.

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

 Promote energy efficiency and the generation and use of renewable energies to reduce greenhouse gas emissions

Government objective

Optimize generation from renewables for the benefit of society

CONTRIBUTION TO THE 2011–2016 STRATEGY TO ENSURE THE OCCUPANCY AND VITALITY OF TERRITORIES

Government direction

• Take action to live from our territories

Government objective

Support private and collective entrepreneurship

Corporate objective	Continue developing Québec's hydropower potential
Target	 Increase installed capacity by 910 MW and annual output by 4.7 TWh by 2020
Indicator	Capacity made available by the Romaine project (MW)





INCREASE THE CAPACITY OF EXISTING HYDROELECTRIC GENERATING STATIONS

During generating station refurbishment or refitting projects, replacing certain equipment can lead to gains in output or available peak capacity. This action is a continuation of the one initiated in the previous Action Plans.

The replacement of nine units in four generating stations by 2020 will lead to gains in available peak capacity of 60 MW and average output gains of 72 GWh/year.

- Rapide-2 generating station (three units) (Abitibi-Témiscamingue)
 - Capacity gains of 9 MW
 - · Average output gains of 14 GWh/year
- Rapide-7 generating station (three units) (Abitibi-Témiscamingue)
 - Capacity gains of 9 MW
 - · Average output gains of 10 GWh/year
- Jean-Lesage generating station (one unit) (Côte-Nord)
 - Capacity gains of 30 MW
- Rapides-des-Quinze generating station (two units) (Abitibi-Témiscamingue)
 - Capacity gains of 12 MW
 - Average output gains of 48 GWh/year

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

 Promote energy efficiency and the generation and use of renewable energies to reduce greenhouse gas emissions

Government objective

Optimize generation from renewables for the benefit of society

CONTRIBUTION TO THE 2011–2016 STRATEGY TO ENSURE THE OCCUPANCY AND VITALITY OF TERRITORIES

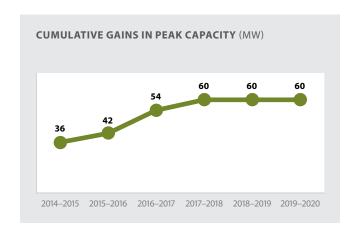
Government direction

Take action to ensure better occupation of our territories

Government objective

 Support local, supralocal, regional and metropolitan bodies that go green

Corporate objective	Continue developing Québec's hydropower potential
Target	 Increase peak capacity by 60 MW and average output by 72 GWh/ year by 2020
Indicator	 Additional available peak capacity (MW)





CONTINUE ENERGY EFFICIENCY INITIATIVES

Hydro-Québec is continuing its energy efficiency efforts by updating its action strategies targeting sustainable energy efficiency gains and by implementing new demand response measures.

- As of 2016, Hydro-Québec will be offsetting a third of the growth in its sales through energy saving initiatives.
- The company will prioritize energy saving initiatives that significantly reduce power demand.

Specific initiatives

- Carry out programs to promote demand-side management
- Offer support in energy management
- Improve online services for residential and business customers and develop a global awareness-raising approach (Customer Space – consumption monitoring, for example)
- Training, education and dissemination of knowledge related to reducing energy consumption aimed at various customer groups (residential, business, and large, small and medium-size industry)

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

 Promote energy efficiency and the generation and use of renewable energies to reduce greenhouse gas emissions

Government objective

Improve energy efficiency

Corporate objective	Continue energy efficiency initiatives
Targets	 Increase energy savings by an average of 500 GWh/year Offer programs to all customer groups to properly cover all markets
Indicators	 New annual energy savings (GWh) Number of initiatives per market





CONTINUE EFFORTS IN THE FIELD OF TRANSPORTATION ELECTRIFICATION IN QUÉBEC

Hydro-Québec is taking an active role in transportation electrification. In the area of personal transportation, we support and coordinate the public charging services offered by companies and organizations by grouping them under one banner—the Electric Circuit—with a common strategy. Each of the partners, with Hydro-Québec acting in an advisory role, makes decisions regarding the number of charging stations and their distribution over the territory.

In addition, Hydro-Québec's research institute, IREQ, plays a major role in advanced battery material research, design and development, and in the commercialization of related patents. Its work includes research on the physical components of high energy and power density lithiumion batteries for ground transportation and other energy storage applications. These storage solutions offer many advantages in terms of environmental impact, safety, cost and performance.

Specific initiatives

- Maintain efforts to promote transportation electrification
- Continue to develop partnerships related to the Electric Circuit
- Continue to support the rollout of charging stations
- Continue R&D and commercialization of leading-edge technologies to support efforts in transportation electrification and energy storage

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

Support sustainable mobility

Government objective

 Support transportation electrification and improve energy efficiency in this area to promote economic development and reduce greenhouse gas emissions

CONTRIBUTION TO THE 2011–2016 STRATEGY TO ENSURE THE OCCUPANCY AND VITALITY OF TERRITORIES

Government direction

Take action to live from our territories

Government objective

 Support efficient, diversified and integrated transportation systems that contribute to greenhouse gas emission reduction

Corporate objective	Contribute to transportation electrification
Target	 Roll out 725 charging stations, including 50 fast-charge stations and stations on major roads and highways, by 2020
Indicators	 Number of Electric Circuit charging stations in service and number of regions served Partnership agreements for R&D and commercialization of leading- edge technologies Number of patents held



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PUBLICIZE THE KNOWLEDGE ACQUIRED THROUGH HYDRO-QUÉBEC ENVIRONMENTAL STUDIES

Over the past 40 years, in the course of its hydroelectric development projects, system growth and asset sustainment projects, and ongoing operation of facilities, Hydro-Québec has conducted numerous environmental impact assessments and follow-up studies as well as many research studies on various environmental issues. The results constitute a large body of scientific knowledge covering Hydro-Québec's practices and know-how in relation to the construction and operation of facilities. Disseminating this knowledge will promote sustainable development.

Therefore, we have undertaken to publish documents, such as reports, summaries and scientific articles, on the environmental knowledge we have acquired since the 1970s during the course of our projects and operations. These publications will improve knowledge transfer and enhance the environmental and social acceptability of our projects and operations. Moreover, the lessons learned from these experiences will fuel the continuous improvement feedback cycle, on which our environmental management systems are based.

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

Strengthen sustainability governance in the public administration

Government objective

 Continue developing knowledge and skills related to sustainability in the public administration

CONTRIBUTION TO OUÉBEC'S AGENDA 21 FOR CULTURE

Government objective

 Take culture into consideration in the development and implementation of environmental protection policies, especially in impact assessments for large projects

Corporate objective	Continue developing Québec's hydropower potential
Target	 Produce two summary documents per year
Indicator	Number of documents published on the Web





CONTINUE TO PROTECT AND ENHANCE THE COMPANY'S BUILT, TECHNOLOGICAL AND INTANGIBLE HERITAGE

Hydro-Québec is the owner of a rich heritage made up of sites, buildings and equipment that bear witness to technological development and a century of industrial and institutional architecture. We therefore take great care to standardize the processes for preserving, protecting and enhancing our extensive heritage. For example, we are conducting inventories of our built and technological heritage, and we own a historical collection of more than 3,500 objects representing the company's activities.

Hydro-Québec showcases its built and technological heritage in several regions of Québec, in some cases by offering tours of its facilities and of jointly operated sites. These activities contribute to regional tourism.

We are also involved in the protection of intangible heritage by producing video recordings of know-how that is becoming obsolete.

Hydro-Québec is committed to continuing these efforts by:

- Producing and disseminating a good-practice guide for intangible heritage to support the work of employees and managers.
- Modernizing the interpretation centre at the Manic-5 development, slated to open in 2016.

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

Strengthen sustainability governance in the public administration

Government objective

 Enhance access to and participation in cultural life to drive social, economic and territorial development

CONTRIBUTION TO THE 2011–2016 STRATEGY TO ENSURE THE OCCUPANCY AND VITALITY OF TERRITORIES

Government direction

Take action to ensure better occupation of our territories

Government objective

Protect and develop the cultural heritage

CONTRIBUTION TO QUÉBEC'S AGENDA 21 FOR CULTURE

Government objective

 Recognize and promote Québec's cultural identity by protecting and developing its tangible and intangible heritage in all its forms throughout the territory.

Corporate objective	Protect and enhance the built, technological, intangible, natural and archaeological heritage
Target	Carry out two heritage protection or enhancement measures
Indicator	 Number of measures carried out by 2020





To strengthen its environmentally responsible management practices, Hydro-Québec has made the following commitments:

Maintain a greenhouse gas emission reduction target of 12% compared to 2009 for the light-vehicle fleet

Unlike the output of most Canadian electric utilities, Hydro-Québec's power generation produces very low levels of greenhouse gas (GHG) emissions. However, other aspects of our operations do produce GHG emissions, including the use of our vehicle fleet, which is the largest in Québec. Although we are continuing our efforts to reduce the emissions of heavy vehicles, this action targets light vehicles, for which more measures can be taken.

Increase the use of videoconferencing to reduce travel

Hydro-Québec has installed several videoconferencing systems in its offices, which can be used to hold virtual meetings and reduce employee travel. In addition to decreasing costs and travel times, this initiative avoids transport-related GHG emissions. We aim to increase the use of such systems within all our business units to reduce the emissions from our operations.

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

Strengthen sustainability governance in the public administration

Government objective

• Strengthen environmentally responsible management practices in the public administration

CONTRIBUTION TO THE 2011–2016 STRATEGY TO ENSURE THE OCCUPANCY AND VITALITY OF TERRITORIES

Government direction

Take action to live from our territories

Government objective

Support private and collective entrepreneurship

Corporate objective	Improve environmentally responsible practices
Targets	 Maintain a GHG emission reduction target of 12% compared to 2009 for the light-vehicle fleet By 2020, increase the number of videoconferences by 10% compared to 2014 By 2020, increase the proportion of print-release enabled printers in the company to 15%
Indicators	 Annual GHG emissions from the light-vehicle fleet (t CO₂ eq.) Number of videoconferences held annually Percentage of company printers that are print-release enabled

Strengthen environmentally responsible management practices (continued)

Continue rolling out the print release service

A print release system is one where employees must use an access card to print documents. In addition to saving paper and supplies, the use of this service increases confidentiality and optimizes a company's printer pool.

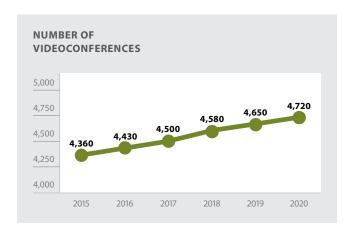
Continue responsible procurement

Responsible procurement is a process for acquiring goods that takes into account environmental and social criteria to reduce environmental impacts, increase social benefits and enhance the economic sustainability of organizations throughout the life cycle of products.

Hydro-Québec began this practice several years ago and plans to increase the proportion of its purchases that incorporate responsible procurement criteria.

Specific actions

- Continue the vehicle fleet environmental program for both light and heavy vehicles
- Offset the business travel of senior management through the purchase of carbon credits
- Develop a tool or method for:
 - Calculating the GHG emissions avoided by the use of videoconferencing or other communication means, such as audioconferencing and virtual classrooms
 - Estimating the time and money saved thanks to the travel avoided by the use of videoconferencing
- Promote the use of videoconferencing and other communication means that reduce GHG emissions
- Continue the responsible management of IT equipment (acquisition criteria, end-of-life management, etc.)
- Determine responsible products and purchasing criteria and develop a monitoring tool
- Identify the social economy organizations likely to provide goods and services to Hydro-Québec and make sure procurement applicants and consultants know about them







CONTINUE MEASURES THAT TAKE INTO ACCOUNT AND PROTECT BIODIVERSITY AND ECOSYSTEM SERVICES

When carrying out its activities and projects, Hydro-Québec takes into account the physical, biological and human aspects of the environment. In the coming years, we will continue our efforts to take into account and protect biodiversity and ecosystem services, in line with government directions in the area of biodiversity.

For example, climate change must be considered when we conduct vegetation control activities under our distribution lines since it affects vegetation in many ways (stimulates growth, increases the presence of non-native invasive species, etc.).

Hydro-Québec will be implementing many biodiversity protection measures, including some innovative ones. We will also encourage collaborations with other biodiversity stakeholders, such as research groups and municipalities.

Specific actions

- Protect and restore ecosystems
- Develop tools that help maintain biodiversity
- Acquire knowledge
- Raise awareness, inform and educate

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

Manage natural resources responsibly, while protecting biodiversity

Government objective

 Ensure efficient and concerted management of natural resources to support economic vitality and maintain biodiversity

CONTRIBUTION TO THE 2011–2016 STRATEGY TO ENSURE THE OCCUPANCY AND VITALITY OF TERRITORIES

Government direction

• Take action to live from our territories

Government objective

 Support local, supralocal, regional and metropolitan bodies that go green

Corporate objective	Protect biodiversity
Target	 Annually implement measures designed to take into account and protect biodiversity and ecosystem services, including five innovative measures
Indicator	 Number of innovative measures implemented annually to take into account and protect biodiversity and ecosystem services



OPTIMIZE THE APPLICATION OF SUSTAINABILITY PRINCIPLES TO PROJECTS AND ACTIVITIES

In line with the Sustainable Development Act, the Administration considers the principles of sustainable development when framing its actions, in order to better integrate the pursuit of sustainability into its areas of intervention. For several years now, Hydro-Québec has been applying sustainability principles to its projects and activities, including its construction and refurbishment projects and its operation and maintenance activities. In fact, all Hydro-Québec projects must meet the following conditions: they must be profitable, environmentally acceptable and favorably received by the host communities.

To support the government's intention to strengthen the application of sustainability principles to structural initiatives, Hydro-Québec will undertake a gradual analysis of its significant projects and activities through the lens of sustainability principles. Our strategic planning and the execution of some of our major construction projects will be among the activities analyzed.

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

Strengthen sustainability governance in the public administration

Government objective

 Increase application of sustainability principles by government departments and public bodies

Corporate objective	Integrate sustainability principles more fully in decision-making
Target	 Analyze one project or significant activity per year, based on sustainability principles
Indicator	 Number of projects or activities analyzed each year





PROMOTE THE INTEGRATION AND FAVORABLE RECEPTION OF HYDRO-QUÉBEC'S SYSTEM EQUIPMENT

Following the review of the government's directions on land use, Hydro-Québec will be launching an information program aimed at municipal authorities (land-use and urban planners), with details on the electrical system and its impact on land development. We hope to improve knowledge and the recommended approaches for developing land-use and planning tools, such as land-use and urban development plans, to promote the harmonious integration of system equipment.

For some 30 years, Hydro-Québec has been contributing to the analysis and adoption of metropolitan and landuse plans, for example. These documents become an important source of information when the time comes to design new electrical equipment. Because they include an area's development and conservation guidelines, they are a solid reference that helps us improve the integration of the equipment with the environment and achieve a favorable reception by local communities.

In addition, Hydro-Québec has developed a public participation process for its projects, primarily aimed at municipal authorities (local, supralocal and regional). Community relations teams communicate with these authorities about the company's activities and projects carried out on their territories.

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

Ensure sustainable land-use planning and support the vitality of communities

Government objective

Promote the implementation of good land-use planning practices

CONTRIBUTION TO THE 2011–2016 STRATEGY TO ENSURE THE OCCUPANCY AND VITALITY OF TERRITORIES

Government direction

Work in synergy

Government objective

Modernize land-use and urban planning mechanisms

Corporate objective	Promote the integration of facilities with the environment and contribute to improving quality of life
Target	 Design an information program and distribute it to 90% of regional county municipalities (MRCs) to help improve consideration for system equipment in the development of land-use and planning tools
Indicator	Percentage of MRCs who have received the information program



OF LIFE CYCLE IN OUR INNOVATION EFFORTS

Hydro-Québec relies on its research institute (IREQ) to innovate in its core business and to forge its technological future. We are already working on making the power grid smarter and more automated through digital technologies, and on improving the performance of our generating facilities. We will also continue our work on renewables and transportation electrification.

IREQ is at the forefront of innovation in power generation, transmission and distribution. With technological innovation playing a key role in all Hydro-Québec's areas of activity, our research institute works closely with all our divisions.

This action aims to integrate the notion of life cycle to our innovation efforts, in order to reduce Hydro-Québec's environmental footprint and increase the social acceptability of our technological innovations.

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

 Develop a green, responsible and prosperous economy based on sustainability

Government objective

 Support the development of green industries and environmentally responsible goods and services produced in Québec

Corporate objective	Continue technological innovation efforts and support technological development and partnerships
Target	 Apply sustainability and eco-innovation principles to one of IREQ's innovation projects per year
Indicator	 Number of projects to which sustainability and eco-innovation principles have been applied



KEEP UPDATING THE STATE OF KNOWLEDGE ON THE LIFE CYCLE ASSESSMENT OF THE ELECTRICITY DISTRIBUTED IN QUÉBEC

The goal of the new Québec life cycle inventory (LCI) database is to make it easier for Québec businesses to determine the environmental footprint of their goods, services and processes.

The inventory data on the electricity distributed in Québec is very important since it is used in almost all the life cycle assessments carried out in Québec. In addition, the low environmental impact of the electricity distributed in Québec may give businesses a significant competitive advantage.

The electricity mix broken down in the Québec LCI database is the mix from 2012. It includes the output from Gentilly-2 generating station and from 58 of the 61 hydroelectric generating stations operated by Hydro-Québec Production. The electricity purchases and imports are the ones from 2010 to 2012. Moreover, by 2020, three new generating stations will be commissioned as part of the Romaine complex.

This action calls for annually updating the data on the electricity distributed in Québec available in the Québec LCI database, which is integrated into the international ecoinvent database.

CONTRIBUTION TO THE GOVERNMENT SUSTAINABLE DEVELOPMENT STRATEGY 2015–2020

Government direction

 Develop a green, responsible and prosperous economy based on sustainability

Government objective

 Support the development of green industries and environmentally responsible goods and services produced in Québec

Corporate objective	Contribute to advancing knowledge on life cycle assessments
Target	 Annually update the data on Québec's electricity mix in the Québec LCI database
Indicator	Number of updates of inventory data on the life cycle of Québec's electricity mix per year



GROUNDS FOR OMITTING GOVERNMENT STRATEGY OBJECTIVES FROM THE ACTION PLAN

The Sustainable Development Action Plan 2015–2020 consists of 12 actions. To facilitate the quantification of results in relation to the Government Sustainable Development Strategy 2015–2020, each action must be linked to a single objective, even if it actually targets more than one. Our Action Plan does not contribute to all 27 objectives of the government strategy, for the following reasons:

- **A.** The government objective is less related to the field of activities or responsibilities associated with Hydro-Québec's mission. We have therefore not planned a specific action for that objective in our Action Plan.
- **B.** Because of our existing priorities for the Plan period, we are unable to contribute to this objective.
- **C.** The objective is already covered by another action in our Plan.

GOVERNMENT OBJECTIVE	REASON	ADDITIONAL INFORMATION
Strengthen sustainability governance in the public administration		
Promote the adoption of public participation processes for determining and implementing government policies and measures	Α	
Enhance access to and participation in cultural life to drive social, economic and territorial development	С	Action 6 contributes to achieving this objective
Cooperate on sustainable development both nationally and internationally, particularly with the French-speaking world	В	
Develop a green, responsible and prosperous economy based on sustainability		
Support the development of green and responsible business practices and models	С	Action 7 contributes to achieving this objective
Promote investment and financial assistance that supports the transition towards a green and responsible economy	С	Action 7 contributes to achieving this objective
Develop and promote the skills needed to support the transition towards a green and responsible economy	С	Action 7 contributes to achieving this objective
Help consumers make responsible choices	С	Action 3 contributes to achieving this objective

GOVERNMENT OBJECTIVE	REASON	ADDITIONAL INFORMATION
Manage natural resources responsibly, while protecting biodiversity		
Conserve and enhance biodiversity, ecosystems and ecological services by improving society's actions and practices	С	Action 8 contributes to achieving this objective
Promote social inclusion and reduce social and economic inequality		
Support the recognition, development and maintenance of skills, particularly for the most vulnerable populations	Α	
Support and enhance the activities of community organizations and social economy organizations that contribute to social inclusion and the reduction of inequalities	Α	
Support and promote the development of social and economic measures for persons living in poverty and for disadvantaged neighborhoods	C	Action 3 contributes to achieving this objective
Improve population health through prevention		
Promote the adoption of healthy lifestyles	Α	
Act to improve the health and safety of living environments	Α	
Ensure sustainable land-use planning and support the vitality of communities		
Strengthen the capabilities of communities in order to support the economic and social vitality of territories	C	Action 1 contributes to achieving this objective
Support public participation in the development of communities	C	Action 1 contributes to achieving this objective
Strengthen the resilience of communities through adaptation to climate change and prevention of natural disasters	C	Action 8 contributes to achieving this objective
Support sustainable mobility		
Increase accessibility through practices and the integrated planning of land-use and sustainable transportation	C	Actions 4 and 10 contribute to achieving this objective
Promote energy efficiency and the generation and use of renewable energies to reduce greenhouse gas emissions		
Promote the use of energies that minimize GHG emissions	В	

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