



MUNICIPALITY OF ABANO TERME

Calendar Year 2022



ENVIRONMENTAL STATEMENT 2021 Updated December 2020

Released in accordance with the requirements of Regulation (EU) 2018/2026 amending Annex IV of Regulation (EC) No 1221/2009.

The environmental policy of the Municipality of Abano Terme

The Municipality of Abano Terme, in the awareness of its political and institutional responsibilities, has been maintaining since the early 2000s an Environmental Management System in compliance with the international standard ISO 14001 and the European EMAS Regulation, as indication of a constant commitment to the continuous improvement of environmental performances, the health of citizens, the safety of public facilities and the protection of the territory. In order to guarantee the sustainable development of the territory and the promotion of spa tourism, the Administration, with an orientation towards continuous improvement, undertakes actions to comply with legislative requirements, to prevent environmental impacts, to reduce the use of natural resources, to evaluate risks and opportunities and to consider the needs and expectations of the stakeholders of its territory. As part of the environmental protection of the Aponense territory (the one of Abano Terme), the Administration firmly believes that the active involvement of citizens, students, tourists, associations and economic operators, is an obligatory path to increase awareness, that respect for the environment is the key to success for the welfare of the community and sustainable development. The constant commitment to the improvement of environmental performance and the reduction of impacts by the Municipality also translates into the implementation of an Energy Management System in accordance with the ISO 50001 standard and the adoption of the Sustainable Energy and Climate Action Plan foreseen by the "Covenant of Mayors" initiative.

These are the main thematic areas in which the Administration's commitment is concentrated:

- ✓ **Safeguard the environment** through specific actions aimed at saving energy, protecting water resources, reducing emissions of climate-altering gases and increasing separate waste collection. In this context, interventions are planned for the efficiency of the public lighting network, for the improvement of the energy performance of public buildings and urban waste management, for the improvement of the water cycle also through careful planning in relation to aquatic ecosystems and networks and for the valorization of thermal resources.
- ✓ **To protect the population** through the monitoring of environmental parameters relating to electromagnetic and ionizing emissions, air and surface water quality, the control and reduction of light pollution and the regulation of the use of hazardous substances in agriculture.
- ✓ **To promote the accessibility of the territory** as a continuous improvement in terms of usability of services, public transport and facilities and better traffic and road management. To promote alternative mobility to that of the car; to encourage the slow mobility of pedestrians and cyclists, thanks to the increase in the cycle network and new forms of urban logistics at the service of citizens, tourists, businesses.
- ✓ **To increase the uniqueness of the territory** through actions aimed at enhancing the unique products of the Euganean thermal area, the recovery of buildings and the start of a cultural process capable of restoring value to the founding elements of the territory: water, springs, ancient thermal baths, mud, biodiversity, the Euganean Hills.
- ✓ **Spreading environmental culture** through the planning and implementation of specific environmental education projects aimed at schools and awareness-raising initiatives aimed at local operators. In this context, actions are planned to constantly monitor the contractual requirements of the Municipality's suppliers, in order to stimulate an involvement that translates into correct behavior oriented towards environmental improvement

Abano Terme, June 11th, 2020

THE MAYOR
Federico Barbierato



The territory of the Municipality of Abano Terme

Abano Terme is the most important spa centre in Europe, located in a position at the foot of the Euganean Hills, a group of hills made up of about a hundred different reliefs in shape and height that occupy an area of 180 km².

The Municipality of Abano Terme, located in the Province of Padua in the Veneto Region, borders to the north with the municipalities of Selvazzano Dentro and Padua, to the west with the municipalities of Teolo and Torreglia, to the south with the municipality of Montegrotto Terme and to the east with the municipalities of Albignasego and Maserà di Padova. The total area of the municipal territory extends for a little more than 21 km² of which about 2 km² fall within the Euganean Hills Regional Park area and 4.2 km² are classified as SCI (Site of Community Importance), established under the Habitats Directive 92/43/EEC to protect and restore natural habitats threatened with extinction.

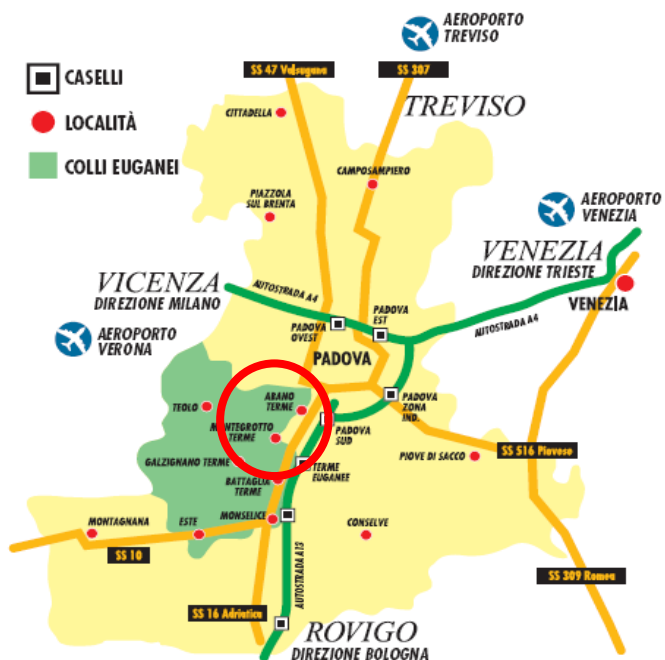
How can you reach Abano Terme?



For those travelling on the A4 Turin - Trieste motorway, the recommended exit is **Padova Ovest**, whether you are coming from Milan or Venice; from here continue along the Tangenziale Ovest (Corso Australia) until the junction of the new link road in the direction of Abano Terme. Those arriving from the A13 Bologna - Padua motorway can exit at the Terme Euganee exit, take the SS Adriatica in the direction of Padua and, at the intersection of Via Catajo and Via Mezzavia, turn left in the direction of Montegrotto Terme; following the road signs after a few kilometers you will reach the spa centre.



The closest train station is Abano Terme, where the Regional trains stop. The Terme Euganee station is in the town of Montegrotto Terme, on the Bologna - Padua line; all the main trains stop there. Equally convenient is the station of Padua, on the line Milan - Venice, where all trains stop. From the station square the buses of the A, AT, ATL, M, T, TL lines to Abano Terme leave every 15 minutes (journey time about 30 minutes). Both train stations have a taxi service.



Even the plane may be the right way to reach Abano Terme. The nearest **airport is Venice (60 km)** where the most important national and international airlines stop off. From here you can get to Abano Terme by taxi, or with the direct bus line Airport - Abano (travel time 1h 30 minutes). Also the international airports of Treviso (70 Km) and Verona (80 Km) are quite close and convenient to reach.



This Environmental Statement has been validated by CSQA Certifications Accreditation Number IT-V-0005 and is available on the website of the Municipality of Abano

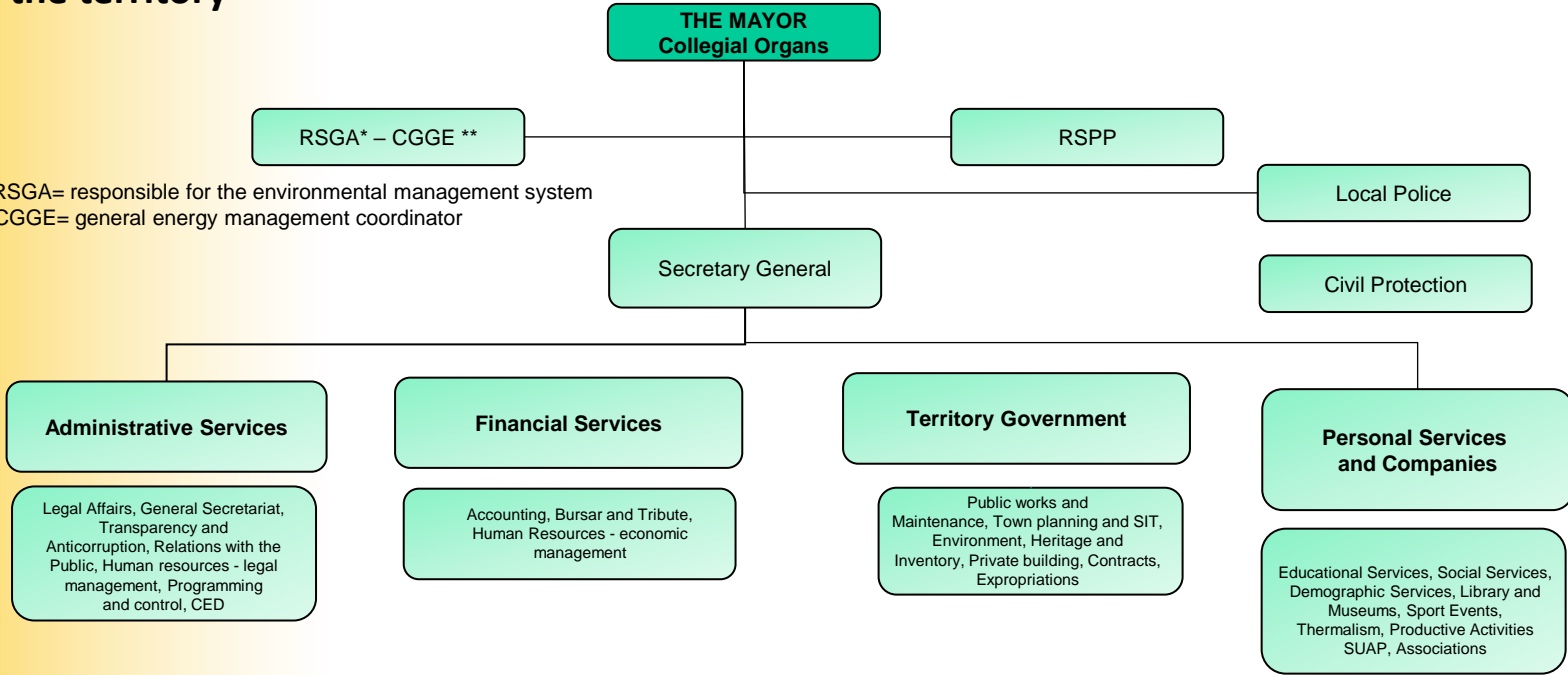
MUNICIPALITY OF ABANO SPA

Piazza Caduti, 1
35031 Abano Terme (PD)
Tel. 049-8245111– Fax. 049-8245301
Website: www.comune.abanoterme.pd.it

RESPONSIBLE FOR THE ENVIRONMENTAL MANAGEMENT SYSTEM

Sandra Zanellato
e-mail: ambiente@abanoterme.net
Tel: 049 8245321

The services for the citizen, the tourist and the operator who lives and operates within the territory



(*) RSGA= responsible for the environmental management system
 (**)CGGE= general energy management coordinator

The training and awareness raising activities on the issues of Environmental Sustainability related to EMAS Registration during the school year 2020/2021 were not carried out due to the Covid-19 health emergency.





Environmental improvement programmes

The implementation of an environmental management system according to the EMAS Regulation supports the Administration in defining and pursuing objectives and programmes for environmental improvement. In this paragraph, a summary is presented of the commitments that have been fulfilled and those planned for the future.

1. REDUCTION OF GREENHOUSE GAS EMISSIONS (ADHERENCE TO THE COVENANT OF MAYORS)

Goal	Target	Activities	Due date
Implementation of the Covenant of Mayors Action Plan SEAP	20% reduction in greenhouse gas emissions and 20% increase in the use of renewable energy resources	Verification of achievement of SEAP objectives	Completed
Development and approval of the Energy and Climate Action Plan (PAESC)	40% reduction in greenhouse gas emissions by 2030	Definition and approval of the PAEC	Feb. 2021 (*)
Development and certification of an ISO 50001 Energy Management System	Internal audit and system implementation deadline	Implementation of Energy Management System	Completed
	Certification audits		Completed

(*) Due to the Covid-19 emergency, activities will be completed by the end of 2020.

2. CONTROL OF THE PRESENCE OF HAZARDOUS SUBSTANCES IN MUNICIPAL FACILITIES

Goal	Target	Activities	Due date
Reducing the possibility of ozone pollution by replacing all systems and air conditioners using HCFC gases (R22 for municipal facilities).	Replacement of 2 systems operating with R22 gas	Replacement of installations with priority to those requiring urgent replacement	Dec. 2022
Reduction and monitoring of materials with asbestos presence in municipal structures	Remediation of asbestos present in municipal facilities	Control of the state of conservation of materials containing asbestos or present in municipal facilities and definition of the remediation program. (Activity completed)	Completed
		Design for replacement roofing and work assignment	Jun. 2021
		Removal and reclamation of materials containing asbestos from the municipal warehouse	Dec. 2021

3. IMPROVEMENT OF THE ROAD NETWORK, SECURING ROADS AND CYCLE PATHS

Goal	Target	Activities	Due date
Improvement of roads and reduction of traffic and air pollution	Increased extension of cycle paths	Cycle path on via Flacco (section between via Romana and via 7 f.lli Cervi) - project assignment - work assignment - execution and conclusion	Dec. 2022
		Cycle path on Via Sabbioni (from underpass to Via Romana) - project assignment - work assignment - execution and conclusion	Dec. 2021
		Cycle path on via Flacco (completion) - design, commissioning and execution of works	Dec. 2022
		Construction of cycle path from roundabout Via Diaz-Romana Aponense to Via Sabbioni (private subject) - executive design (about 3 km.) - works execution	Dec. 2021
		Bicycle path completed on via Pio X and roveri. (from via Matteotti to the Giarre's centre). Commissioning and work execution.	
Improvement of the road network, securing roads and cycle paths	Road safety and reduced waiting times at intersections	New roundabout between the streets Battisti-S. Lorenzo - , commissioning and execution of works	Dec. 2020

4. CONTROL URBAN DEVELOPMENT OF THE TERRITORY

Goal	Target	Activities	Due date
Implementation of the territorial information system	Computerization with the creation of a database that can be consulted online from all offices.	Geo-referenced detection of trees and vertical road signs	Dec. 2018 (completed)
		Processing and return of tree data	Die. 2019 (completed)
		Signage data processing	Dec.. 2021
		Informatization management of the Municipal Cemetery	Dec. 2020



Environmental improvement programmes

5. ENVIRONMENTAL EDUCATION, COMMUNICATION AND PROMOTION

Goal	Target	Activities	Due date
Environmental awareness of stakeholders	Implementation of an annual environmental education project in schools (primary - I and II grade and secondary I grade)	Meetings and theoretical lessons in schools, workshops	Every year(*)
		Distribution in the classrooms of containers for separate waste collection	Every year(*)
	Realization of Environmental Events	Involvement of citizens, through the organization of events (exhibitions, conferences, events) on environmental issues	Every year(*)
		Organization exhibition of the works carried out in the environmental education projects of schools	Every year(*)
	Promotion of EMAS registration	Publication and distribution of the Environmental Statement also in English language	Every year
		Communication and promotion to tourists	Every year (*)
		Positioning in the main municipal parks of adequate posters showing the Environmental Policy, information on EMAS registration and Environmental Statement	Every year (*)

(*) year 2021, 2022, 2023

6. INCREASE SEPARATE WASTE COLLECTION

Goal	Target	Activities	Due date
Increased separate waste collection	Realization EcoCentro for the delivery of waste	design assignment and project approval	Completed
		tendering procedure and awarding of works	Completed
		execution of works, testing and acquisition of authorizations	Dec. 2021

7. REDUCTION IN CONSUMPTION

Goal	Target	Activities	Due date
Reduction in energy consumption in municipal buildings	20% reduction in total consumption at Dec. 2022 compared to pre-intervention	executive design for the energy requalification of the building and installations of 6 school buildings, the municipal library and the Spa Stadium	Dec. 2021
		execution of energy requalification works	Dec. 2022

8. RATIONALISATION OF THE BLACK SEWERAGE NETWORK AND IMPROVEMENT OF THE WATER CYCLE

Goal	Target	Activities	Due date
Rationalization of the sewerage network and wastewater supply to the sewage treatment plant	Separation of the black and white sewerage network in the Pinazza district	drafting technical-economic feasibility and executive design for the network separation of the Pinazza district network	Completed
		assignment and execution of works	Dec. 2022
	Flood prevention in implementation of the Water Plan	Assignment for design and work assignment for via Montegrotto	Completed
		Assignment and execution of works	Dec. 2022

9. NATURAL IONISING RADIATION (MEASUREMENTS)

Goal	Target	Activities	Due date
Assessment of changes in natural ionizing radiation (radon gas)	Measurements	request to ARPAV to carry out a measurement and identification campaign of the buildings	Completed
		fostering, execution of measures (Montirone pavilions - schools V. da Feltre, Busonera, De Amicis and Mago Merlino) and data processing	Dec. 2021

10. IMPROVEMENT OF ROAD AND TRAFFIC MANAGEMENT IN THE TERRITORY

Goal	Target	Activities	Due date
Reduced traffic and reduced air pollution	Rationalization of goods delivery in the LTZ area with the use of low environmental impact vehicles (LPG, methane, hybrids)	Convention scheme approval	Completed
		Subscription conventions - Issue of badges and passes	Every year (*)

(*) year 2021, 2022, 2023



Environmental improvement programmes

11. ENVIRONMENTAL CULTURE (REDUCTION IN THE USE OF PLASTIC PRODUCTS)

Goal	Target	Activities	Due date
Awareness of reducing the use of plastic materials	Reduction of waste	Approval of the project "Abano Terme: plastic free city".	Completed
		Approval plan for the reduction of the use of plastics and for conscious use and sustainable waste management throughout the municipality	Dec. 2021
		Elimination of the use of plastic materials in all public events sponsored by the municipality	To be continued 2021-22-23
		Implement all necessary actions aimed at eliminating the use of plastic in all public offices, schools and in events and exhibitions organized by the City Council.	To be continued (2021-2022-2023)

Below there's a list of the main works for environmental improvement achieved in the year 2020:

Reduction in Consumptions

- Energy requalification were completed on the public schools Manzoni (roof and doors and windows), Pascoli (roof), Giovanni XXIII (roof, door, windows and thermostatic valves) and Monterosso (roof).

Reduction of Greenhouse Gas emissions

- In November the Municipality achieved the ISO 50001 certification.
- Replacement of 4 municipal vehicles euro 2 and 3 for euro 6D .
- Planting 71 new trees and 198 new bushes and 55 previously felled trees have been replaced.

Increase Separate Waste collection

- Complete the work of the new local waste collection center.

Reduction of Light Pollution

- Completed the replacement of 5700 new public lighting led equipment on the total amount of 6749, gained a 62% saved energy consumption.

The Environmental Management System

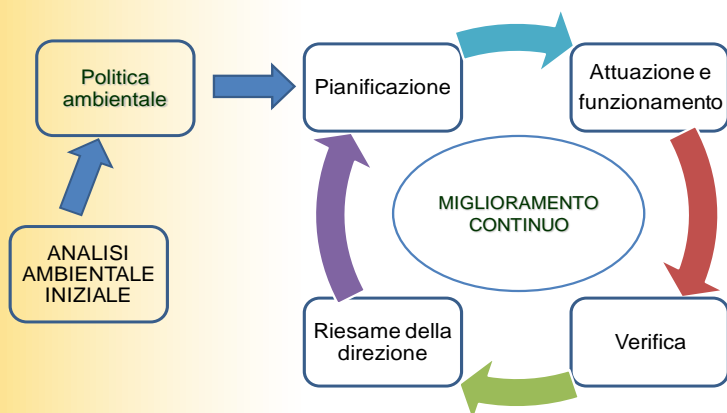
The use of water and energy resources, the production of waste, transport, direct activity aimed at providing services and the execution of public works are actions that have an **environmental impact**. With the aim of measuring and managing it, for several years now, the Municipality of Abano Terme has adopted an Environmental Management System implemented according to ISO 14001 and the EMAS Regulation (EC Regulation no. 1221/2009, EU Regulation 2017/1505, EU Regulation 2018/2026) which represents a fundamental tool to effectively manage environmental aspects from a life cycle perspective and to monitor and improve its environmental performance. Environmental monitoring and continuous improvement is achieved through:

the planning and implementation of an Environmental Management System through which to control and manage the environmental impact generated by its activities;

the periodic verification of the effectiveness of the System;

the participation, involvement and training of personnel in the Environmental Management System;

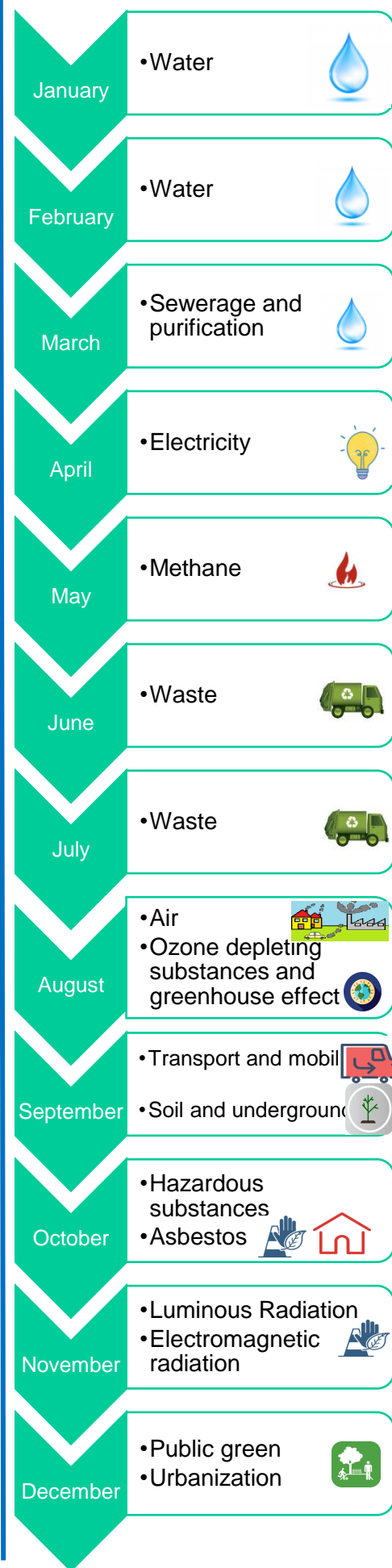
the communication of the goals achieved to all stakeholders.



The **Environmental Statement** is the tool through which stakeholders are informed of the summary of data relating to the environmental impacts generated by their activities and the measures that have been taken to control them. Finally, it presents the planned improvement objectives and the results that are progressively achieved.

PLAN	PIANIFICAZIONE	<ul style="list-style-type: none"> stabilire gli obiettivi e i processi necessari per fornire risultati conformi alla politica ambientale
DO	ATTUAZIONE E FUNZIONAMENTO	<ul style="list-style-type: none"> attuare i processi pianificati
CHECK	VERIFICA	<ul style="list-style-type: none"> sorvegliare e misurare i processi rispetto a politica ambientale, obiettivi, traguardi, prescrizioni e riportarne i risultati
ACT	RIESAME DELLA DIREZIONE	<ul style="list-style-type: none"> consolidare e intraprendere azioni per migliorare in continuo la prestazione del SGA

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Environmental aspects and indicators of the Municipality of Abano Terme

The Environmental Management System of the Municipality allows to have a continuous control on the direct and indirect environmental aspects. Every year the Administration assigns a rating to each aspect in order to evaluate the realized performances, according to the following scale that goes from 1 to 4 and symbolically represented with stars:

- Class 1 (Insufficient):** *Action needs to be taken to resolve the situation quickly*
Class 2 (Sufficient): *Improvement programmes or management procedures need to be defined in relation to this aspect.*
Class 3 (Good): *Operational management and surveillance modes are active for appearance*
Class 4 (Great): *The appearance is not significant. The impact does NOT require intervention.*



Environmental performance assessment – Year 2020

Direct and indirect environmental aspects/impacts	Evaluation and monitoring criteria	Parameters/performance	Rating
Waste Production and Management 	Per capita waste production, degree of implementation of separate waste collection, waste disposal/recovery/valorization methods, control of waste transporters and waste disposers	Separate collection	★★★★
Water cycle 	Water consumption (related to drinking water, thermal water), drinking water and thermal water quality and controls, surface water quality, management and control of the purification plant.	Consumption of municipal facilities	★★★★
		Consumption of school facilities	★
		Irrigation consumption	★
		Fountains consumption	★★★★
		Quality	★★★★
		Thermal water consumption	★★★★
		Surface water quality	★★★★
		Waste water quality	★★★★
Energy resources 	Time trend of consumption divided by type of resource (Electricity, Gas - Methane, etc.), quantity of energy consumed in municipal structures and territory	Municipal water discharges (management)	★★★★
		Electricity consumption of municipal facilities	★★★
		Consumption of school facilities	★★★★
		Public consumption lighting	★★★★
		Methane consumption of municipal facilities	★★★★
Natural Environment and Urbanization 	Extension of green areas (such as Public Green, ...), maintenance, protection and enhancement of the areas, tourist pressure on the territory	Public green extension	★★★★
		Urbanisation structural interventions	★★★★

Environmental performance assessment - Year 2019

Direct and indirect environmental aspects/impacts	Evaluation and monitoring criteria	Parameters/performance	Rating
Air quality 	Series of environmental investigation campaigns for the monitoring of air pollution carried out in collaboration with ARPAV (Regional Environmental Protection Agency of Veneto).	Surveys carried out in 2016	Under monitoring (scheduled annual installations 2021)
Transport and Traffic 	Location and extension of cycle paths.	Structural interventions	★★★★★
Asbestos 	Management of any criticalities of the municipal structures and on the territory	Municipal facilities	★★★★★
		Territory	★★★★★
Soil and underground 	Identification and monitoring of underground tanks and cisterns in the municipal territory and management methods	Land reclamation	★★★★★
Electromagnetic fields 	Number and positioning of mobile phone stations, data related to monitoring carried out by ARPAV with planned measurement campaigns and permanent measurements with mobile control unit by another private company commissioned by the Municipality.	Monitoring and intervention	★★★★★
Substances with a potential greenhouse effect and damaging ozone layer 	Monitoring of air conditioning systems in municipal facilities and related maintenance and control activities.	Controls and interventions	★★★★★
Other local issues (vibration, smell, dust, hazardous substances, etc.) 	Complaints and grievances forwarded to the Municipality, situations that may lead to violations of legal requirements	Hazardous substances (Suppliers and employee training)	★★★★★
		Odours (reports and interventions)	★★★★★
		Light radiation (checks and interventions)	★★★★★



Environmental indicators

Based on the requirements of the EMAS Regulation, environmental performance indicators have been identified to monitor and communicate environmental performance with a view to clarity and transparency. The key indicators cover six environmental matrices (drinking water, energy efficiency, waste, material efficiency, emissions and biodiversity). These indicators are reported in Annex 1 while the following pages dedicated to the different environmental matrices show the relevant performance indicators.

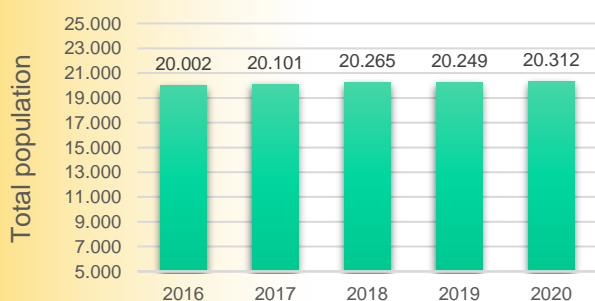
Direct and indirect environmental aspects and performance indicators

In the following months the main environmental issues are described in relation to which the Municipality of Abano Terme, through the Environmental Management System, carries out the control and monitoring. For each topic is described, in addition to the environmental impact, also the methods of control and monitoring and the consequent "performance" achieved.

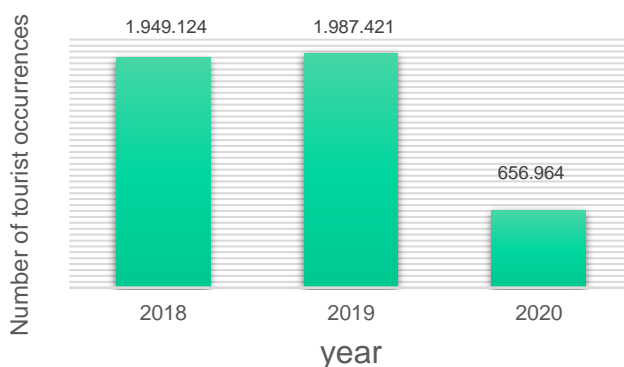
Data considered for the calculation of performance indicators

	2017	2018	2019
MUNICIPAL EMPLOYEES	114	118	115
SCHOOL USERS	1.962	1.776	1.643
LIGHT POINTS	6.822	6.777	6.749

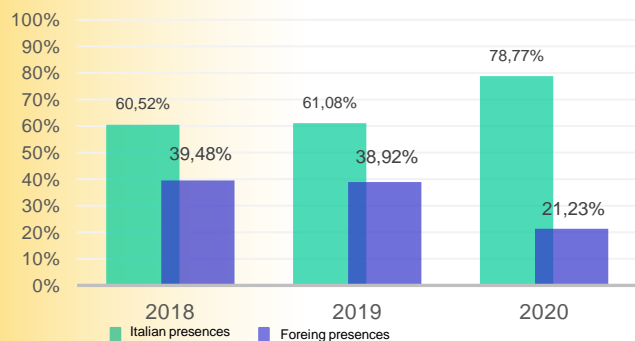
Total residents



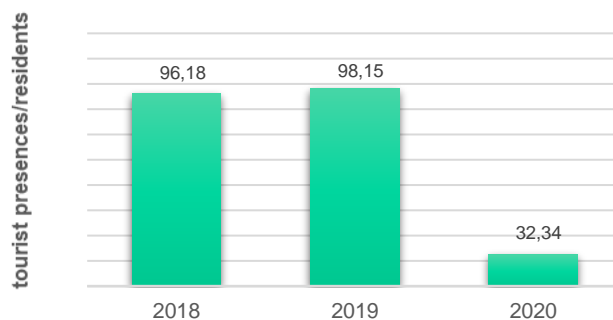
Tourist occurrences



Percentage presences in tourism



Tourist pressure







Drinking water

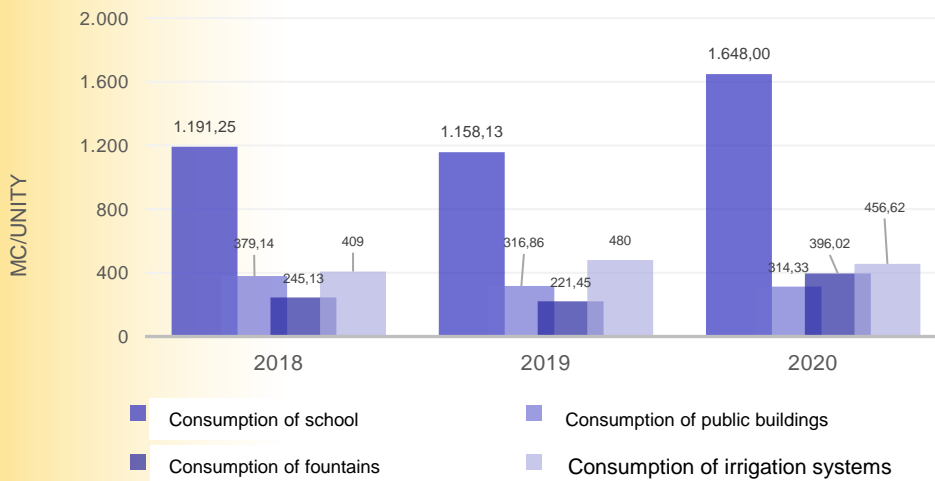
THE DRINKING WATER OF ABANO TERME

The water supplied in the municipality of Abano Terme is taken from the naturalistic oasis of Villaverla. The oasis covers an area of about 260,000 square meters placed along the resurgences line where resurfaces the underground groundwater that comes from the area from the plateau of Asiago and Lavarone. Rainwater and snow fallen in these areas infiltrates deep into the rocks and takes about 10 years to arrive and resurface in the oasis of Villaverla. During its journey, the water, which crosses the gravelly layers of which the subsoil of the Vicenza foothills is composed, "acquires" the mineral salts that give the characteristic of oligo-mineral water and is purified becoming drinkable.

Drinking water consumption assessment year 2020 :

Consumption in public buildings - slightly decreasing
Consumption of school buildings: severe increase due to two big losses occurred in the waterworks of the Pascoli public school.
Consumption of irrigation systems used for park areas and flowerbeds in the area: severe increase due to the extremely hot summer season and the lack of rain for the fields.
There were some losses in the waterworks with water depletion.
Fountains consumption slightly decreasing.

Drinking water consumption



Drinking Water Quality

The territory of the Municipality of Abano Terme was included with the resolution of the G.R. Veneto No. 2133/2016 "Surveillance plan on the population exposed to perfluoroalkylic substances (PFAS)"; today no surveillance activities have been started on the resident population. Considering that pollution by PFAS in the Region is important and represents a source of concern for many citizens who often express doubts about the quality of drinking water, for the PFAS, PFOA and PFOS group have been included in the analyses that are carried out during 2019 by the Municipality. All the samples taken and analyzed (nursery school Mago Merlino, sc. Manzoni, V. da Feltre and water house in via Previtali) are below detection levels. The monitoring of the quality of water intended for human consumption is carried out daily by the managing body and the results of the analysis can be consulted on the Acegasapsamga website

www.acegasapsamga.it/attivita_servizi/acqua_ciclo_idrico/qualita_controllo/qualita_acqua_padova

Water House:

- 2012: installation of the water house in via Previtali
- 2016: installation of the water house in the green area called "Giardino dei Liriodendri"
- 2020: installation of water house in P.zza Mercato

January	
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PFAS



Annex I - INDICATORS



No.1 - Environmental indicator Drinking water consumption



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Thermalism in Abano Terme

The healing and beneficial properties of the mud and thermal water of the Euganean thermal baths have been known since Roman times.

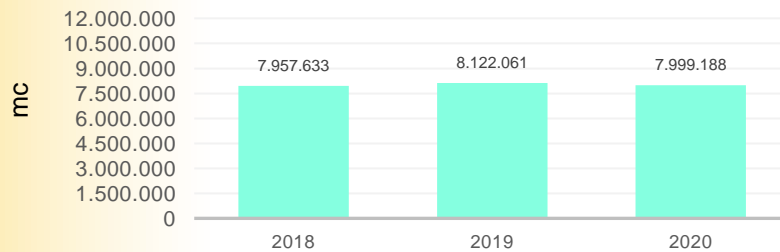
The hot water that flows naturally in the thermal area is the result of a geothermal heating phenomenon of fallen rainwater, many years before in the area of the pre-alps of Veneto (small dolomites and Lessini mountains). The water fallen in these areas goes down to a depth of about 3/4.000 mt. and, along the path that then leads it to rise naturally thanks to a particular geological system present in the area of the Euganean Hills, it is enriched with mineral salts and heats up. The thermal water is taken at a temperature of about 85° and is classified as salty-bromine-iodine hyperthermal. It is used for curative purposes in balneotherapy and inhalation therapies, it is also used in the maturation of thermal mud which is then used in the treatment of osteo-articular diseases and skin alterations thanks to the anti-inflammatory effects characteristic of the thermal mud of Abano Terme.

Thermal water consumption

The data relating to consumption for the year 2020 demonstrates and confirms that the withdrawals of thermal water are not exclusively linked to tourist presences, but are also closely linked to access to "daily" thermal treatments or to therapies or wellness treatments carried out by customers who access to the "same-day" plant whose presence is not registered, a phenomenon that has strongly increased in recent years.

The data is also closely linked to the maintenance of the establishment which, regardless of the presence and services provided, draws thermal water for the maintenance of the swimming pools and the maturation of the muds.

Thermal Water extract



Surface water quality

Since 2006 the Municipality has been monitoring the surface water flowing through the municipal territory every year. This monitoring is carried out by an accredited chemical laboratory and consists in carrying out some samples for the subsequent chemical-bacteriological analysis.

The water courses monitored in 2020 are:

- Fossa Mala drain (upstream and downstream drain of purification plant)

The analyses received do not reveal any excesses with respect to the environmental quality standards required by the Environmental Code (Table 1/A and 2/B of Legislative Decree 152/06, part III, at 1, par A.2.6). During 2019, the samples taken were analyzed for PFAS - PFOA and PFOS, falling within the prescribed limits. Monitoring of the environmental quality of surface water will continue in 2020.

February	2
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Sewerage and waste water treatment

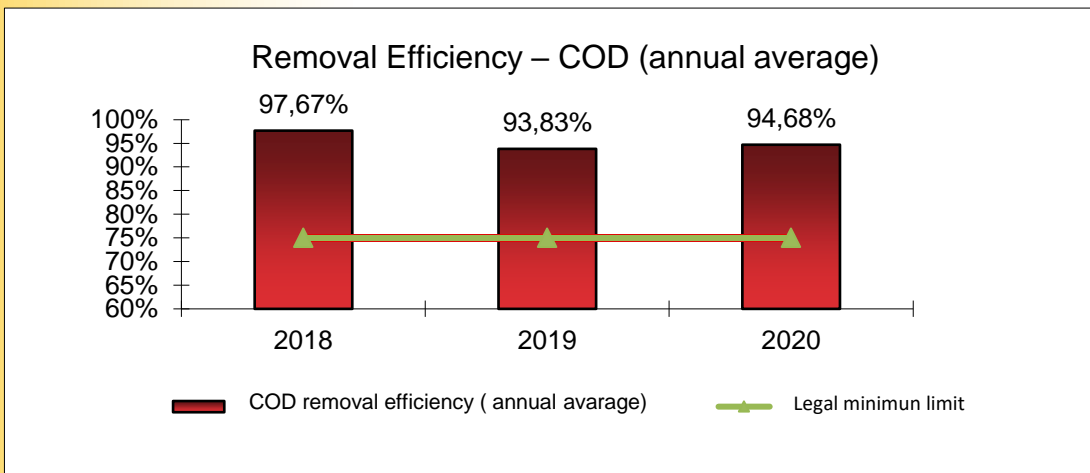
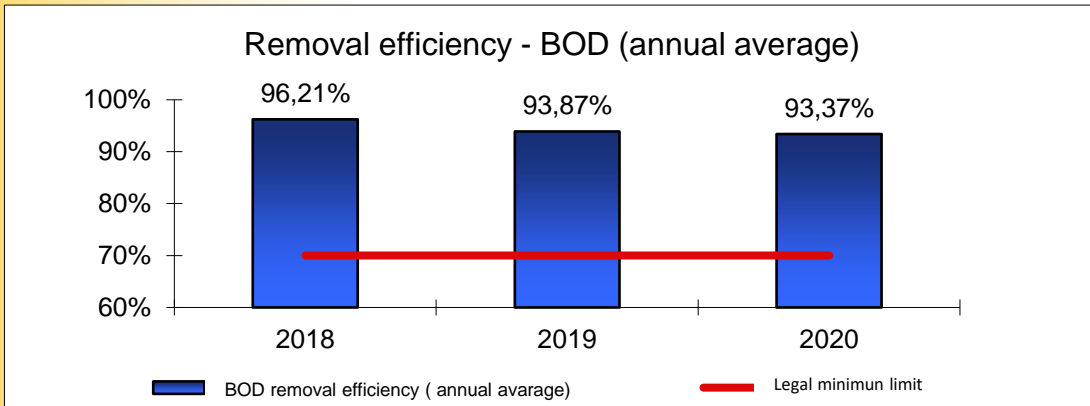
The Municipality is the owner of the purification plant located south - west of the territory, on the border with the municipalities of Torreglia, Teolo and Montegrotto Terme and of the black sewer network connected to it. Since 2002, the management of these two infrastructures has been entrusted to the company AcegasApsAmga S.p.A., which also carries out the technical administrative investigations and the consequent granting of authorizations for public and private discharges into the separate sewer network. The waste water treatment plant is regularly authorized by the Province of Padua with provision no. 3213/DEP/2017 of 08/25/2017 expiring on 08/23/2021. As of today, the investigation procedure relating to the request for renewal of the authorization has started.

BOD5 The BOD5 is one of the parameters through which it is possible to indirectly measure the degree of biodegradable organic pollution of a water discharge.

COD Chemical Oxygen Demand (Chemical Oxygen Demand): measures the amount of oxygen used for the oxidation (oxidation-reduction) of organic and inorganic substances contained in a water sample following treatment with compounds with strong oxidizing power (mg/l of O₂).

COD, like BOD (Biological Oxygen Demand), is mainly used to estimate the organic content and therefore the potential pollution level of natural and waste water. A high COD value in a discharge is negative from an environmental point of view: it causes the reduction of dissolved oxygen in the receiving water body, and therefore the reduction of the self-purification and sustenance capacity of living organisms. (Source: ARPAV)

The data of the Environmental Management System show excellent levels of purification efficiency of the plant.



The sewerage network

In 2020, the black sewerage network connected to the sewage plant did not increase. Overall, the separate sewerage network (black, white and thermal) has a length of about 160 km on an area of 21.75 square kilometers and a population of 20,249 inhabitants and is divided as follows: - about 55 km of black sewerage network connected to the purification plant, - about 74 km of white sewerage (data updated following the surveys for the drafting of the Water Plan), - about 31 km of white/thermal sewerage.

Month	Day	Value
March		3
Ma	1	
Me	2	
Gi	3	
Ve	4	
Sa	5	
Do	6	
Lu	7	10
Ma	8	
Me	9	
Gi	10	
Ve	11	
Sa	12	
Do	13	
Lu	14	11
Ma	15	
ME	16	
Gi	17	
Ve	18	
Sa	19	
Do	20	
Lu	21	12
Ma	22	
Me	23	
Gi	24	
Ve	25	
Sa	26	
Do	27	
Lu	28	13
Ma	29	
Me	30	
Gi	31	





Electricity



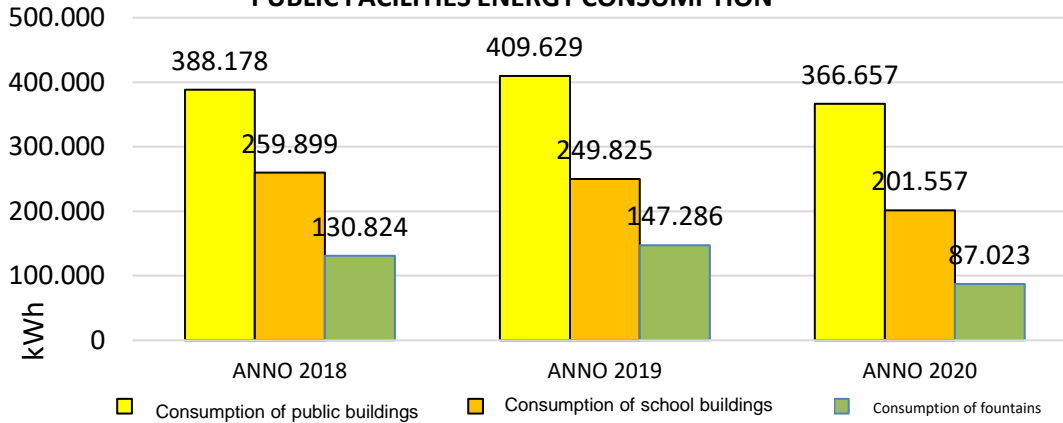
Goals 1,7

In 2020, all the electricity purchased according to the specifications for municipal structures is 100% from renewable sources: we are waiting to receive the certificate of certification (purchase not included of energy for public lighting). To date, the energy mix relating to energy for public lighting relating to the year 2020 has not been received from the supplier despite the requests sent.

Electricity consumption of municipal facilities

In the 2020, electricity consumption recorded a reduction, more marked for school structures and fountains, less for public structures; this reduction is mainly due to the health pandemic emergency which saw the closure of schools for about 4 months and a delay of 4 months relating to the lighting of the fountains.

PUBLIC FACILITIES ENERGY CONSUMPTION



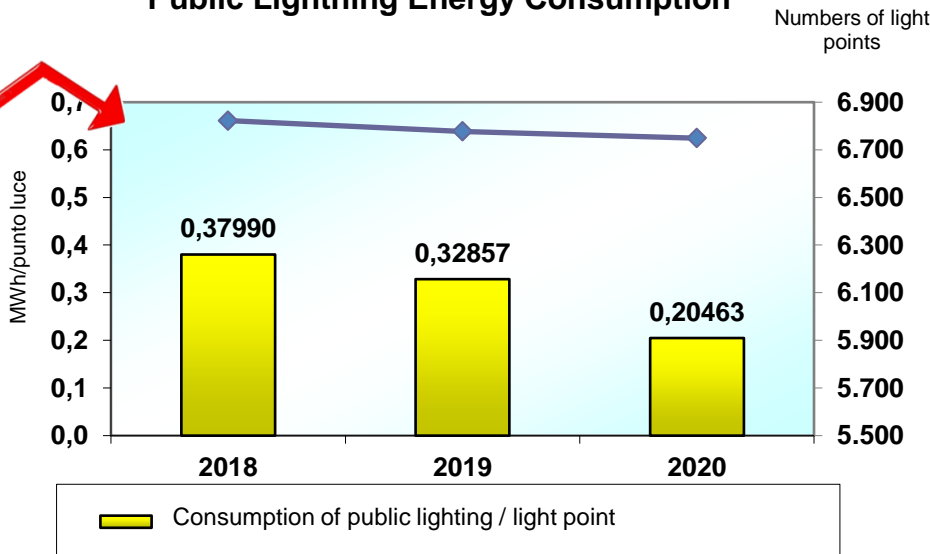
Public lighting consumption

In 2017, the maintenance and management of public lighting installations was entrusted by CONSIP agreement for a duration of 9 years. The service provides, in addition to the ordinary maintenance with the supply of electricity, also important interventions of compliance, extraordinary maintenance and energy requalification of most of the systems.



At the date of april 2021, all the works of the 5 sections relating to extraordinary maintenance, adaptation and redevelopment of the systems were completed, intervening on over 85% of the existing appliances. The significant reduction in consumption recorded in 2020 is certainly generated by the interventions carried out.

Public Lightning Energy Consumption



April		4
Ve		1
Sa		2
Do		3
Lu	4	14
Ma		5
Me		6
Gi		7
Ve		8
Sa		9
Do		10
Lu	11	15
Ma		12
Me		13
Gi		14
Ve		15
Sa		16
Do		17
Lu	18	16
Ma		19
ME		20
Gi		21
Ve		22
Sa		23
Do		24
Lu	25	17
Ma		26
Me		26
Gi		28
Ve		29
Sa		30





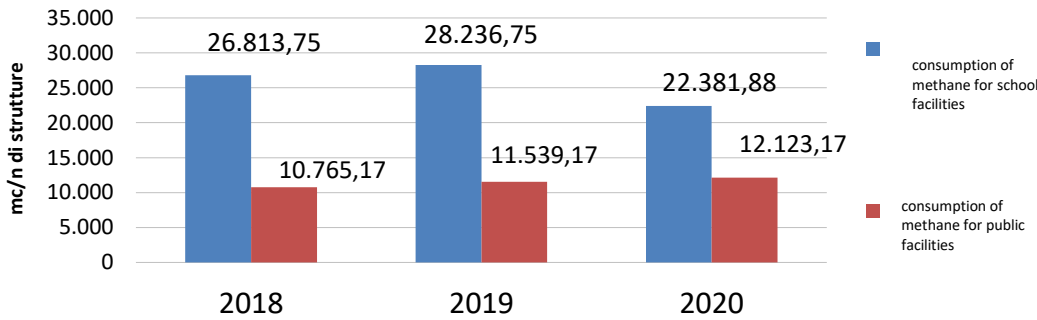
Methane

The municipal territory is 99% methane and only a few dozen users are not reached by the network and therefore methane because they are burdened by constraints, such as Via Levante Ferrovia and Via Guazzi which, in some stretches, are contiguous to the railway line, or Via Lungo Argine which runs on top of the embankment of the Canale Battaglia.

All municipal structures and buildings, including schools, are powered by methane and all boilers in the winter period are constantly monitored by carrying out regular maintenance, combustion tests and burner performance checks. All systems have been tested by INAIL (formerly ISPESL) and comply with fire prevention regulations.

Consumption of methane gas recorded a slight increase for public facilities, while for schools there was a significant reduction as the plants operated in anti-freeze mode during the months of closure due to the pandemic.

METHANE AVERAGE CONSUMPTION FACILITIES



The Municipality's initiatives on saving energy resources

- ❑ The Municipality joined in 2008 the Covenant of Mayors (Covenant of Mayors), an initiative launched by the European Commission which voluntarily involves public administrations. the Administration has decided to continue this commitment by joining the "new" Covenant of Mayors proposed by the European Commission in 2015, which sees the integration of the previous SEAP with the aspects concerning adaptation to climate change and the drafting of the SECAP - Covenant of " Action for Sustainable Energy and Climate, whose goal is to reduce CO2 emissions by 40% in the municipality by 2030 by including policies that increase the resilience of the territory in the strategies for the mitigation of emissions and the community with regard to the ongoing climate change.
- ❑ Implementation and certification of the energy management system (ISO 50001) aimed at containing energy consumption

The Municipality's works on saving energy resources

- ❑ Refurbishment of roof with insulation: Giovanni 23 ° school (carried out in 2020) - V. Da Feltre and De Amicis school (in progress) Window replacement: Manzoni and Giovanni 23 ° school (executed and completed in 2020) - De Amicis schools (in progress)
- ❑ Construction of external coat: Pascoli School (in progress) - Manzoni and Busonera school (in progress)
- ❑ Installation of thermostatic valves: Giovanni 23 ° school (performed in 2020) - De Amicis school (in progress)
- ❑ Most of the interventions carried out in the school buildings and related to energy efficiency have benefited from the incentive of termic Account by the GSE. In the same time, an incentive request will be also be made for new works currently underway or planned.

Environmental indicator - Energy efficiency

For the calculation of the overall indicator is considered the use of electricity, methane and fuel at the facilities and vehicles owned by the municipality. As far as energy produced from renewable sources is concerned, the value is equal to zero, since the only structure that currently uses thermal energy obtained from the exploitation of thermal waters and on which a photovoltaic system is installed is the Palazzetto dello Sport whose management is entrusted to a private company.



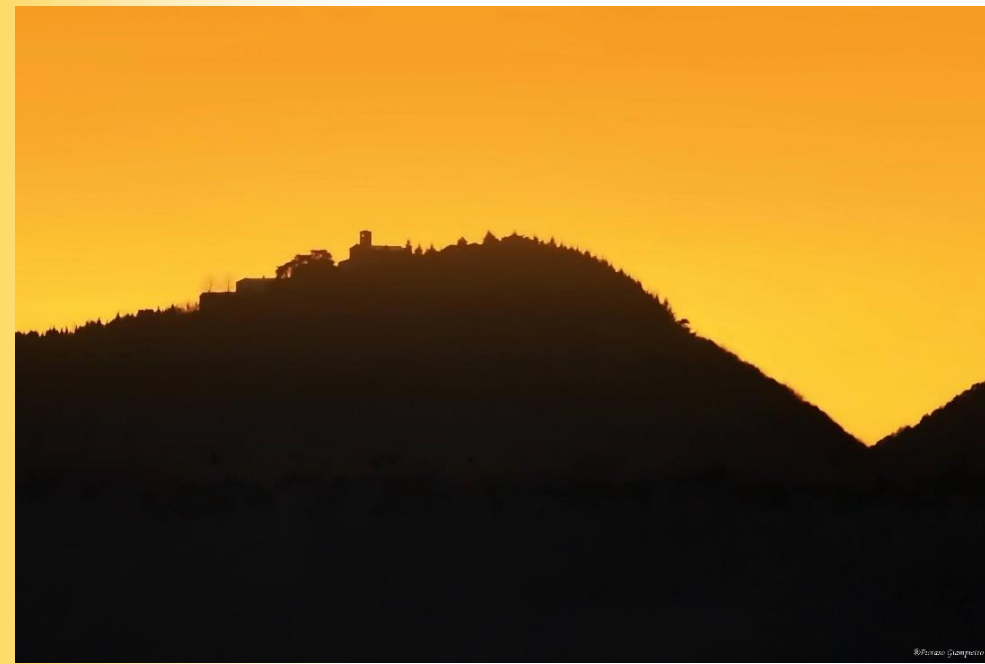
Goals 1,7

May	5
Do	1
Lu	2 18
Ma	3
Me	4
Gi	5
Ve	6
Sa	7
Do	8
Lu	9 19
Ma	10
Me	11
Gi	12
Ve	13
Sa	14
Do	15
Lu	16 20
Ma	17
ME	18
Gi	19
Ve	20
Sa	21
Do	22
Lu	23 21
Ma	24
Me	25
Gi	26
Ve	27
Sa	28
Do	29
Lu	30 22
Ma	31



Annex I - INDICATORS

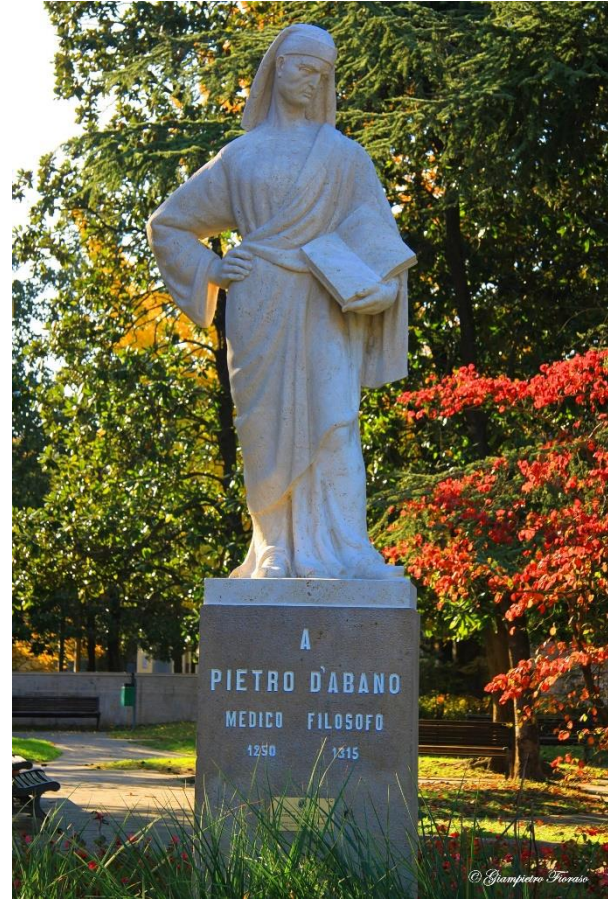
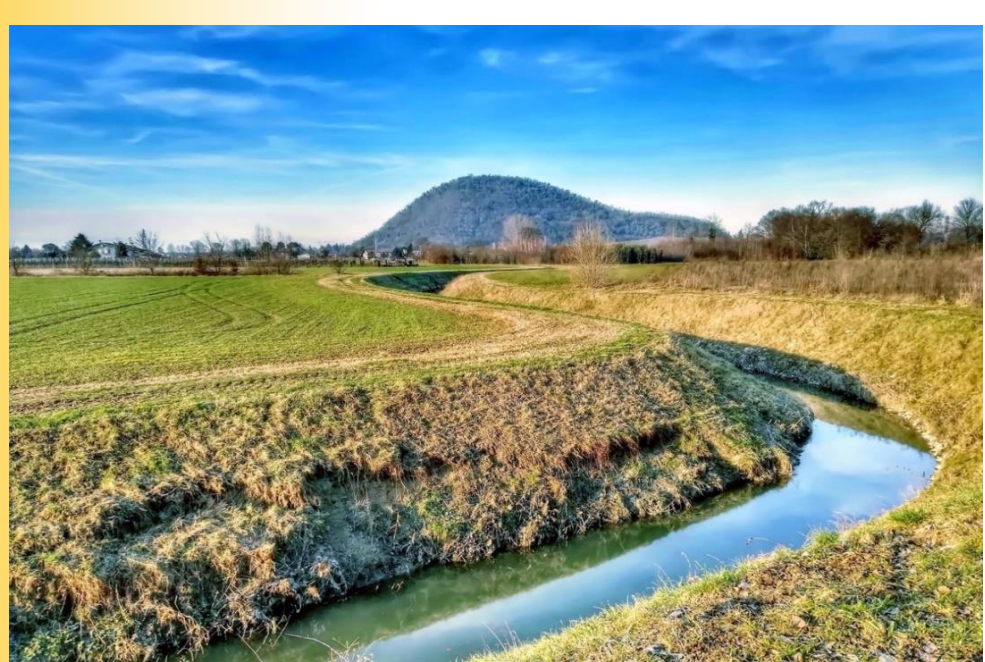
No.2 - Environmental indicator - Energy consumption



© Brian Danyew



© Flight Drone



© Giampietro Fiorani



During 2017 the new "waste removal, disinfestation and deratization service, cleaning public parks and sidewalks, cleaning ornamental fountains and refreshment fountains in the municipality of Abano terme - years 2016-2020" was fully activated.

The current service provides for the division of the territory into two zones, the "belt" area and the "central" area with different methods of waste collection.

In the "belt" area (hamlets of Giarre, Monterosso, Feriole and other small areas), the service has been active since December 2016 and is provided for "door-to-door" collection. All utilities are equipped with five bins: glass, paper and cardboard, plastic packaging and cans, organic wet and dry non-recyclable with annual collection scheduling.

In the "central" area, the most urbanized of the territory, there are about 162 basic ecological islands (IEB) where there are new containers for the different types of waste. Users in this area have "CartAmbiente" magnetic cards for the delivery of dry waste because the container for this type of waste is equipped with a cap with a slot that can only be opened with CartAmbiente.

WHY DOES EDIBLE OIL POLLUTE AND HOW IS IT REGENERATED?



The damage we cause when we throw used frying oil or canned goods into the sink is really huge. At best, it ends up in a sewage treatment plant, causing an overload. Disperse in the soil prevents oxygenation and the correct intake of nutrients by the flora. Today it is possible to regenerate this oil and obtain lubricants with characteristics similar to crude oil, but less polluting. They can be used for operating machines or as components for the production of biodiesel and soap. Italy holds the European record for the regeneration of used oil with a percentage of about 88% of the quantities collected, which is about 16% of the total disposed of.

Within the territory the equipment for the delivery of vegetable oil has been implemented with the new stations in

- p.zza Mercato
- via S. Pio X (further to the one already present in via Moroni)
- new equipment has been laid for the delivery of small WEEE
- in p.zza Mercato
- in Giarre
- in Monterosso

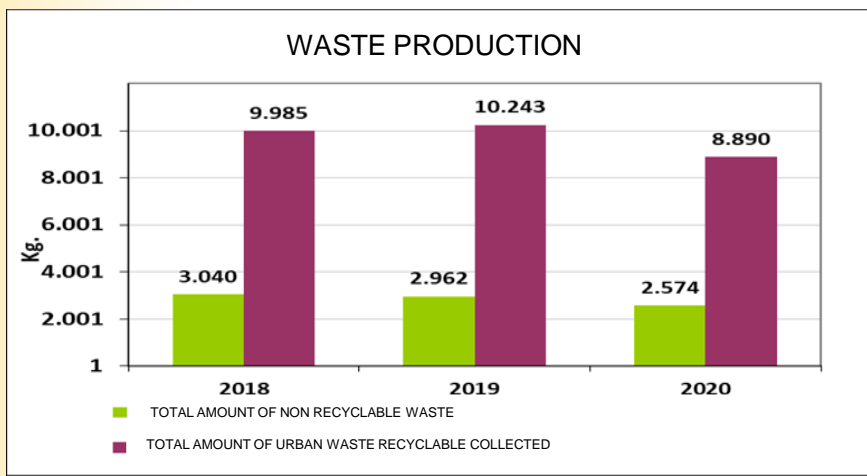
Active the service with the EcoSelf consisting of a mobile equipment that periodically stops in the areas indicated below and where citizens, with the CartAmbiente that has been delivered and active only for this service also to citizens served by the collection "door to door", can deliver, in addition to traditional materials such as organic, paper, plastic and batteries, also special waste such as car batteries, edible oils, neon, small household appliances (WEEE) and containers contaminated with substances.

The EcoSelf stops according to the calendar available on the Municipality's website at the following locations:

- Parking at the "Terme Stadium"
- Via Leoncavallo
- via S. Pio X

The green harvesting is carried out throughout the territory with a door-to-door system on pre-established weekly days and is carried out weekly in the period from 03/01 to 11/130 and monthly in December, January and February.

June		6
Me	1	
Gi	2	
Ve	3	
Sa	4	
Do	5	
Lu	6	23
Ma	7	
Me	8	
Gi	9	
Ve	10	
Sa	11	
Do	12	
Lu	13	24
Ma	14	
Me	15	
Gi	16	
Ve	17	
Sa	18	
Do	19	
Lu	20	25
Ma	21	
ME	22	
Gi	23	
Ve	24	
Sa	25	
Do	26	
Lu	27	26
Ma	28	
Me	29	
Gi	30	







Waste production and management



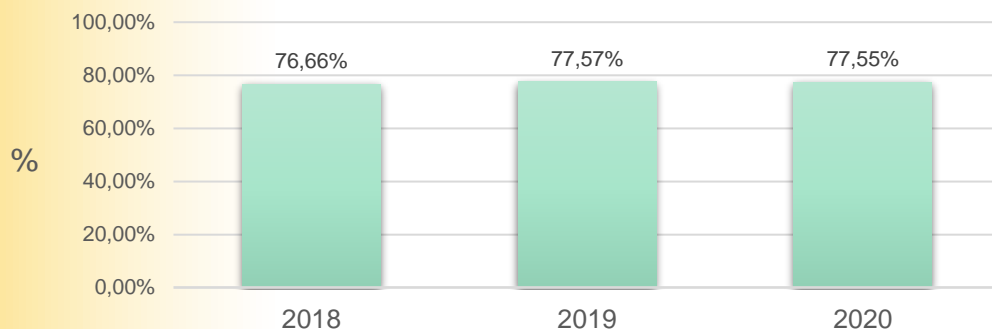
Goal 6

In addition to the waste collection service, the company AcegasApsAmga also performs:

- the home collection of bulky waste,
- the mechanical sweeping of the streets,
- cleaning up the parks and emptying the bins,
- the mechanical treatment for weeds growing on sidewalks,
- the service of pest control and deratization of public areas,
- the micro collection of asbestos-containing materials from households,
- the training and information activities of citizens through the periodic sending of brochures.

Below is the percentage of separate collection carried out in the Municipality of Abano Terme (the data takes into account the results of separate collection of both local users and hotels). ARPAV data for 2019 are not yet available, for this reason we report the percentage of separate collection.

% recyclable waste collection



The initiatives in the territory

The control service carried out by Local Police officers on the correct delivery of waste continues. At www.ilrifutologo.it you can download the app that allows you to know, by typing the name of the waste, the exact delivery of each material.

The executive project for the construction of the new municipal waste collection center in the area adjacent to the Warehouse has been finished and will be available during the second part of 2021.

With a resolution of the City Council No. 65 of 2019, the proposal to join the Abano Terme initiative: plastic free city was approved, which provides, in addition to the approval of a plan aimed at reducing the use of plastic, for a conscious use and sustainable waste management, a series of actions to be implemented for the reduction of the use of plastic in offices, facilities and municipal schools and in events and exhibitions organized by the municipality or which it grants sponsorship.

Environmental indicator - Waste and material efficiency

The production of waste from municipal facilities, which is delivered to the collection service, is considered not significant as it can be attributed solely to the administrative activities carried out in the various facilities. Since the territory is affected by a considerable tourist flow, the data relating to the production of waste in the territory have been compared to the number of inhabitants added to the number of tourist presences.

The data concerning the efficiency of the materials as required by the EMAS Regulation are also attached: the main material purchased by the Municipality is the paper used by the offices.

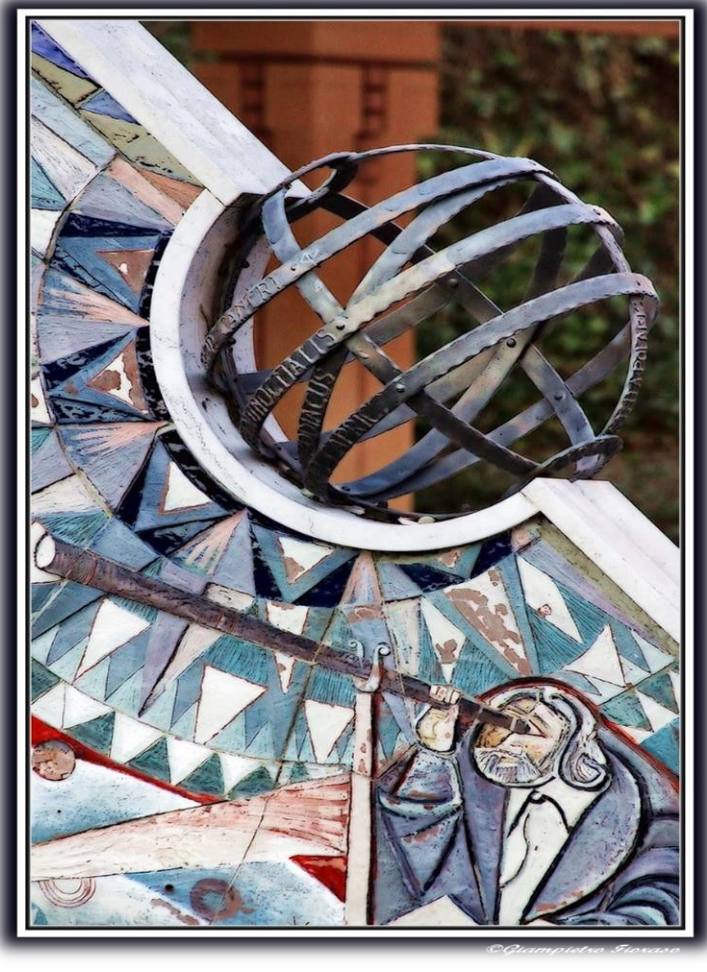


No.3 - Environmental indicator - Waste production



No.4 - Environmental indicator - Material Efficiency

July	7
Ve	1
Sa	2
Do	3
Lu	4 27
Ma	5
Me	6
Gi	7
Ve	8
Sa	9
Do	10
Lu	11 28
Ma	12
Me	13
Gi	14
Ve	15
Sa	16
Do	17
Lu	18 29
Ma	19
ME	20
Gi	21
Ve	22
Sa	23
Do	24
Lu	25 30
Ma	26
Me	26
Gi	28
Ve	29
Sa	30
Do	31





Air Quality - Monitoring

In June 2021, the summer air quality monitoring campaign in the territory of the municipality of Abano began, carried out by ARPAV.

The winter measurement campaign took place in the period from 21/01/2021 to 18/03/2021 and the partial data of this first monitoring confirmed some criticalities due to the exceeding of fine dust; to the detailed analysis of the results in necessary to wait at the end of the campaign.

Air pollution

It means the presence of solid, liquid, gaseous substances that alter the natural conditions of the atmosphere, with harmful effects on humans, animals and vegetation. There are two causes: natural (e.g. volcanic eruptions) or anthropogenic. The latter represent, in recent decades, the larger source of air pollution and are mainly caused by the use of fossil fuels for the production of electricity and heat. In the Po Valley, air pollution is further aggravated and amplified by the geomorphological conditions of closure of the territory.

Ozone layer depleting and greenhouse effect potential substances



The Municipality is continuing the gradual replacement of the old air conditioning systems with new ones that contain gases that have less impact on the environment and has activated a system for the control and maintenance of the systems installed in the municipal buildings that pays particular attention to the detection of any leaks and leaks from the refrigerant circuits. New gases such as R32 have zero ODP (Ozone Elimination Potential) values and a low GWP (Global Warming Potential) index.

Refrigerant gasses

The main gases used in refrigeration plants are hydrocarbon compounds containing chlorine and fluorine, CFCs (ChloroFluoroCarbons) were banned already in the early 1990s, HCFCs (HydroChloroFluoroCarbons) are banned from 2015. As of 24 January 2019, the Database was established (article 16 of Presidential Decree No. 146/2018). For HFCs there is a reporting to the database on the collection and storage of information on leakage control activities as well as on installation, servicing, maintenance, repair, dismantling of equipment containing fluorinated greenhouse gases. The certified company or, in the case of companies not subject to the certification obligation, the certified natural person communicates, by electronic means, to the database the information referred to in paragraphs 4, 5 and 7 of article 16 of Presidential Decree No. 146/2018.

No.5 - Environmental indicator - Polluting agent emissions

Annex I - INDICATORS

Attachment 1 provides data on emissions into the atmosphere from municipal activities: emissions from air conditioning systems, direct emissions into the atmosphere from the use of fossil fuels for heating and municipal vehicles, and indirect emissions from the production of electricity consumed have been taken into account.

For the year 2020, as for the previous years, following the signing of the new contract starting from August 2017, the electricity purchased for public lighting comes from MIX Energetico (last update relating to 2019), while the electricity purchased according to the specifications for municipal structures is 100% from renewable sources.

August	8	
Lu	1	31
Ma	2	
Me	3	
Gi	4	
Ve	5	
Sa	6	
Do	7	
Lu	8	32
Ma	9	
Me	10	
Gi	11	
Ve	12	
Sa	13	
Do	14	
Lu	15	33
Ma	16	
ME	17	
Gi	18	
Ve	19	
Sa	20	
Do	21	
Lu	22	34
Ma	23	
Me	24	
Gi	25	
Ve	26	
Sa	27	
Do	28	
Lu	29	35
Ma	30	
Me	31	



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Transport and mobility



Goals 1,3,10

The problem of traffic and mobility in the municipality is very important as it is crucial for the production of noise, air quality, odors and nevertheless energy saving.

Over the years, interventions have been made with the aim of making the transit of vehicles smoother by limiting the allocation with the engine running, in fact, many traffic lights have been removed with the inclusion of roundabouts and changed the directions of some streets.

With the aim of developing synergies with neighboring municipalities in order to develop a wider mobility planning favoring an alternative to the individual car, encouraging the slow mobility of pedestrians and cyclists, evaluating new forms of urban logistics for the distribution of goods with a view to protecting and caring for the environment was adopted in February 2020 the Urban Plan for Sustainable Mobility (PUMS) of the City of Padua and Co.Me.Pa. In this direction also the approval in March of the Cycle Mobility Plan (Biciplan).

Objectives:

- To connect the various public structures (schools, parks, administrative buildings, protected areas, buildings of historical and environmental value, pedestrian and tourist areas);
- identify the various types of routes, in the different activities (daily or tourist) and in the different areas and territorial zones;
- propose an improvement in the efficiency, safety and sustainability of the routes;
- propose links with other municipalities;
- relate to other means of transport (trains, public buses);
- identify exchange areas (velostations, bike-sharing).



To this date, the task has been entrusted for the design of the completion and safety works of the cycle path, that connects the hamlet of Giarre with the historic center of Abano while the procedure for expropriations necessary for the construction of the two sections of the cycle path on via Flacco and Via Sabbioni.

Work is also underway on the construction of the roundabout at the intersection of C streets. Battisti, S. Lorenzo and Monte Santo, while the roundabout between Via Santa Maria and Ponte della Fabbrica is undergoing a feasibility study.



Soil and underground

In March 2011, the characterization plan for the former landfill in Via Guazzi, an area owned by the Municipality and used as a landfill between 1950 and 1960, was approved. During 2019, following further investigations carried out at the site that made it possible to exclude a state of spread of contamination in the environmental matrices surrounding the area, a Monitoring Plan was drawn up and submitted for approval by the Services Conference which, at its November meeting, requested further investigations to determine the degree of mineralization of the waste. This activity was carried out in February 2020 confirming the absence of environmental criticalities and following a new meeting of the Services Conference, with determination no. 388/2020 the proposed Monitoring Plan was approved; activities are underway to entrust the environmental monitoring service.

In 2020 the remediation plan environmental monitoring relating to a fuel distribution plant was approved, while the remediation plan for an industrial plant is still being approved.

September

9

Gi	1	
Ve	2	
Sa	3	
Do	4	
Lu	5	36
Ma	6	
Me	7	
Gi	8	
Ve	9	
Sa	10	
Do	11	
Lu	12	37
Ma	13	
Me	14	
Gi	15	
Ve	16	
Sa	17	
Do	18	
Lu	19	38
Ma	20	
ME	21	
Gi	22	
Ve	23	
Sa	24	
Do	25	
Lu	26	39
Ma	27	
Me	28	
Gi	29	
Ve	30	



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Hazardous substances

In the workplace of the warehouse and cemetery there are information sheets on substances, instructions for use and the behavior to be adopted in the event of accidental spillage or contact with body parts: these are in any case small quantities of products used for minor maintenance work (white spirit and solvents).

Cleaning in public facilities.

The use of products with the ECOLABEL brand is foreseen in the normal activity of the cleaning and sanitation of the Municipality's facilities. Within the specifications for the cleaning service of municipal facilities, in addition to the use of Ecolabel products, the use of products that meet the requirements of the CAM (Minimum Environmental Criteria) approved by the Ministry of the Environment with DM 05/24/2012.

The Municipality's staff and the Environmental Management System Manager carry out periodic checks to verify the availability and use in the various municipal offices.

***ECOLABEL** is the European environmental certification label for products and services (Regulation EC No. 66/2010) that comply with ecological and performance criteria established at European level, using the approach of assessing the impacts of products on the environment during all phases of their life cycle, from extraction of raw materials, to processing, distribution, use and disposal of the product. The following are considered: energy consumption, air and water pollution, waste production, saving natural resources, environmental safety and soil protection and limits are set for each. The use of substances that may be harmful to human health is excluded. (source ISPRA).*



Goal No. 2

Asbestos

In public facilities

In December 2018, an assessment of the ID degradation index was carried out for the coverage of the municipal warehouse according to the guidelines of the DGRV n. 265/2011, which highlighted the need to proceed with the removal of the roofing sheets containing asbestos by the end of 2021 (this activity results with the council resolution no.11 of 28/01/2021 included in the three-year program of public works 2021 - 2023 in the year 2021

The presence of asbestos in the municipal area affects all citizens who reside there. The contract for the urban hygiene service signed with AcegasApaAmga S.p.A provides for the free collection and disposal of slabs and other material containing asbestos up to 30 m2 for a maximum of 30 domestic users per year. However, asbestos remains a sensitive and particularly controlled aspect both in the moment in which the removal request is made by private individuals, and when it is acquired the reporting of situations in the territory that may be prejudicial to public safety and environmental pollution. .



October	10	
Sa	1	
Do	2	
Lu	3	40
Ma	4	
Me	5	
Gi	6	
Ve	7	
Sa	8	
Do	9	
Lu	10	41
Ma	11	
Me	12	
Gi	13	
Ve	14	
Sa	15	
Do	16	
Lu	17	42
Ma	18	
ME	19	
Gi	20	
Ve	21	
Sa	22	
Do	23	
Lu	24	43
Ma	25	
Me	26	
Gi	27	
Ve	28	
Sa	28	
Do	30	
Lu	31	44

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Light radiation



Goal 11

Regional Law no. 17 of 2009 "Regulations for the containment of light pollution, energy saving in outdoor lighting and for the protection of the environment and the activity carried out by astronomical observatories" has provided for the obligation for the Municipality to equip itself with the lighting plan for the containment of light pollution (PICIL), which was approved by resolution of the City Council No. 21 of 04/20/2016. This document is currently being updated, also following the numerous interventions carried out on public lighting systems.



Natural ionizing radiation



Goal 9

Radon is a colorless and odorless natural radioactive gas, produced by the radioactive decay of radium, which in turn is generated by the decay of uranium, elements that are present, in varying amounts, everywhere in the earth's crust. The main source of radon release into the environment is the soil, together with some building materials and, in some cases, water. Radon escapes from the soil, building materials and water: if it is dispersed in the open air it can accumulate in closed environments, reaching high concentrations. In these situations, when inhaled for a long time, radon is dangerous and is considered the second cause of lung cancer after cigarette smoke. You can protect yourself from Radon by determining how and in what quantity you are exposed to the pollutant. (source ARPAV)

From september 2020 to August 2021, a new radon gas measurement campaign is underway in 5 municipal buildings (Montirone pavilions and schools in Monterosso, V. da Feltre, Busonera and De Amicis). The last was carried out in 2004 in all school buildings and nursery schools without detecting values exceeding the regulatory limits



Electromagnetic radiation - antennas

The Municipality of Abano Terme has two important tools for the management of the installation of Mobile Radio Base Stations (S.R.B.):

The Antenna Location Plan (the last update of which was approved by the Municipal Council Resolution No. 63 of 11/14/2018).

Municipal Regulations for the installation and operation of mobile telephony S.R.B. (approved by the Municipal Council No. 55 of 07/19/2012 and subsequently updated by resolution of the City council No. 2 of 01/19/2016).

Both are intended to ensure the proper installation of the facilities by minimizing the exposure of the population to electromagnetic fields and radio electrical coverage to mobile phone operators, as required by the Electronic Communications Code.

During 2020, the Municipality continued the campaign of controls carried out to monitor the electromagnetic fields produced by various S.R.B. (Italian National Broadcasting Corporations). Four monitoring campaigns were carried out with ARPAV in which the data collected can be read in the table below. The "continuous" monitoring by means of a mobile control unit that rotates throughout the entire municipal territory also remains active; all the monitoring data are made available on the Municipality's website at <https://www.comune.abanoterme.pd.it/ambiente-2/>.

2020, a new multi-manager infrastructure was installed in the via Pacinotti car park. In 2021, in addition to the implementation, on some existing infrastructures, of new plants or the reconfiguration of existing ones, the doubling of the existing plants in the area of the Municipal Warehouse is planned.

To date, all the surveys carried out on the electromagnetic field emissions of the mobile phone antennas located in the municipal territory have not shown any exceedance of the legal limits.

CEM PRODUCED BY S. R. B. LOCATED IN PUBLIC AND PRIVATE SITES

Address	Installations within 350m	Period	E_{medio}^*	E_{max}^*	Legal limit
Via Claudiano	ILIAD	25.1.2021 /22.2.2021	1,0	1,5	6 V/m
Via Galileo Galilei	ILIAD, WINDTRE	25.1.2021 /22.2.2021	0,7	1,2	
Via Monte Altore	ILIAD	25.1.2021 /22.2.2021	1,8	3,6	

* Electric field strength (daily average, maximum).

November

11

Ma	1	
Me	2	
Gi	3	
Ve	4	
Sa	5	
Do	6	
Lu	7	45
Ma	8	
Me	9	
Gi	10	
Ve	11	
Sa	12	
Do	13	
Lu	14	46
Ma	15	
ME	16	
Gi	17	
Ve	18	
Sa	19	
Do	20	
Lu	21	47
Ma	22	
Me	23	
Gi	24	
Ve	25	
Sa	26	
Do	27	
Lu	28	48
Ma	29	
Me	30	





Natural environment: public green

In 2019 the extent of public green areas was 31.85 m2 per inhabitant, in line with last year's figures.

By resolution no. 5 of 03/02/2020 of the Italian Civil Code, the regulation for the use of plant protection products in the vicinity of residential areas and homes was approved with the aim of progressively reducing the quantity of plant protection products used, promoting the spread of more environmentally friendly systems and techniques of use such as integrated or biological control.

PUBLIC GREEN				
DATA	YEAR	2018	2019	2020
public green per resident (sm/person)		31,83	31,85	33,04

Urbanization



Goal 4

The Municipality of Abano Terme has a General Regulatory Plan approved by DGRV No. 4004 of 1999. During 2020 the variant No. 60 "Green variants for the reclassification of building areas" (29/09/2020 – DCC num 46) was approved for the removal of building areas and their urban reclassification without building.

In 2021 the variant number 61 (19/02/20201 DCC number 3) was approved for the removal of building areas and their urban reclassification without building.

URBAN AREAS		
Specific data name	measure unit	2018-2020
Extension of urban area	ha	506
Limited traffic area extension	km	0
Extension of pedestrian areas	m ²	15.000
Extension of municipal road network	km	131
Extension of the provincial road network	km	8
Extension of state road network	km	0
Total road network extension	km	139
Bicycle path extension	km	30,3

During 2019, due to the lack of ownership of the documents previously prepared for the PAT, the administration is regenerating this document by commissioning a new company to revise the PAT; the measure will be adopted within the last part of 2021.

The PAT project masterplan is currently being developed, and it summarizes the approved sector planning and the training phase (Biciplan, Water Plan, Green Plan, Plans for Abano Civitas and Abano Salus for Aquam), and provides a programmatic vision of political direction, for the territory, in objectives and strategies, identifying the tools and the disciplinary and methodological framework of reference for the drafting of the PAT.

By resolution of the City Council no. 59 of 12/23/2019, the Municipal Water Plan was approved as a preparatory tool for the drafting of future urban planning tools and a fundamental tool for identifying critical hydraulic issues at local level and consequently directing the urban development of the territory in an appropriate manner.

Environmental indicator - Biodiversity

Annex I shows some data on land use. In particular, it is intended to highlight the extent of the Terme areas and the area that falls within the Regional Park of the Euganean Hills; the surface area of land occupied by buildings owned by the municipality and the total urbanized area (data in relation to the number of inhabitants) is indicated.

December	12
Gi	1
Ve	2
Sa	3
Do	4
Lu	5 49
Ma	6
Me	7
Gi	8
Ve	9
Sa	10
Do	11
Lu	12 50
Ma	13
Me	14
Gi	15
Ve	16
Sa	17
Do	18
Lu	19 51
Ma	20
ME	21
Gi	22
Ve	23
Sa	24
Do	25
Lu	26 52
Ma	27
Me	28
Gi	29
Ve	30
Sa	31





Environmental Emergencies

In December 2019, following a particularly rainy period, a landslide was detected on the Monteortone hill which did not cause any damage to people or property. At the end of a geological assessment, no safety problems were found for the buildings concerned.

With the DCC 65 in 29.12.2020 the new municipal Plan of Civil Protection was approved.

Green investments

In accordance with the principles of Green Public Procurement (GPP) and the requirements of the New Procurement Code of 2016, the following are the contracts that comply with the adoption of the Minimum Environmental Criteria (CAM) approved by the Ministry of the Environment:

- school lunch service (100%)
- municipal office cleaning service (100%)
- the public lighting and traffic light management service (100%)
- the maintenance service of municipal green areas (100%)
- Paper (100%)
- Constructions (100% works carried out by approved 2018 projects)
- Public construction (100%)

Municipality initiatives: environmental education projects



Goal 5

For some years now the Municipality of Abano Terme has been proposing to primary and secondary schools some environmental education projects that address the main environmental issues such as water, biodiversity, waste, light pollution and electromagnetism and air.

During the school year 2019/2020 due to the COVID-19 emergency, it was not possible to complete the activities that had already been planned and that will be proposed again for the next school year compatibly with the resumption of school activities.

The Sectoral index on Best Environmental Management Practice

The sectoral indicators by EU Decision 2019/61 of 19 December 2018 are being implemented and monitored



Annex I – INDICATORS

No.1 - Environmental indicator - Drinking water consumption

DRINKING WATER				
DATA	ANNO	2018	2019	2020
CONSUMPTION FACILITIES WITH MUNICIPAL STAFF		2.654,00	2.218,00	1979,00
IRRIGATION CONSUMPTION		11.276,00	9.301,00	16.237,00
SCHOOL CONSUMPTIONS		9.530,00	9.265,00	13.184,00
TOTAL CONSUMPTIONS		23.460,00	20.784,00	31.400,00
TOTAL CONSUMPTIONS (cm) / No. Employees		205,79	176,14	273,04
CONSUMPTIONS WITH COMMUNITY STAFF (cm) / No. Employees		23,28	18,80	17,21
SCHOOL CONSUMPTIONS (cm) / No. School users		4,86	5,22	7,79

No.2 - Environmental indicator - Energy consumption

ENERGY EFFICIENCY				
DATA	YEAR	2018	2019	2020
ELECTRICITY	CONSUMPTION FACILITIES WITH MUNICIPAL STAFF (GJ)	1.397,44	1474,66	1319,97
	SCHOOL CONSUMPTIONS (GJ)	935,63	899,37	725,61
	PUBLIC CONSUMPTION LIGHTING (GJ)	9.330,11	8016,11	4971,77
	TOTAL CONSUMPTIONS (GJ)	11.663,18	10390,14	7017,34
METHANE	CONSUMPTION FACILITIES WITH MUNICIPAL STAFF (GJ)	2.196,09	2353,99	2366,43
	SCHOOL CONSUMPTIONS (GJ)	7.293,37	7680,40	6087,87
	TOTAL CONSUMPTIONS (GJ)	9.489,43	10034,39	8454,30
FUELS	MUNICIPAL VEHICLE CONSUMPTION - DIESEL FUEL (GJ)	265,92	189,51	290,39
	MUNICIPAL VEHICLE CONSUMPTION - PETROL (GJ)	196,97	180,86	139,56
	MUNICIPAL VEHICLE CONSUMPTION - LPG (GJ)	11,76	22,65	49,79
	TOTAL CONSUMPTIONS(GJ)	474,65	393,01	479,73
	TOTAL ENERGY CONSUMPTION (GJ)	21.627,26	20.817,54	15.951,38
	TOTAL MUNICIPAL ENERGY CONSUMPTION (GJ)	3593,53	3828,65	3686,40
	TOTAL ENERGY CONSUMPTION SCHOOLS (GJ)	8.228,98	8579,77	6813,48
	ENERGY PRODUCED FROM RENEWABLE SOURCES (GJ)	-	-	-
	TOTAL CONSUMPTIONS (GJ) / no. Employees	189,71	176,42	138,71
	CONSUMPTIONS WITH COMMUNITY STAFF (GJ) / No. Employees	31,52	32,45	32,06
	SCHOOL CONSUMPTIONS (GJ) / No. School users	4,19	4,83	4,02
	PUBLIC LIGHTING CONSUMPTIONS (GJ) / No. of light points	1,37	1,18	0,74
	ENERGY PRODUCED BY RENEWABLE SOURCES (GJ) / No. Employees	-	-	-



No.3 - Environmental indicator - Waste production

DATA	YEAR	2018	2019	2020
TOTAL URBAN WASTE PRODUCTION (Kg)		13.025.059	13.205.470	11.464.224
TOTAL HAZARDOUS WASTE PRODUCTION (Kg)		40.460	44.228	43.831
DIFFERENTIATED COLLECTION WASTE PRODUCTION (Kg)		9.985.469	10.243.460	8.890.384
SOLID URBAN WASTE PRODUCTION (Kg) / (Inhabitants*365 days + Ttulist presences)		1,39	1,41	1,42
HAZARDOUS WASTE PRODUCTION (Kg) / (Inhabitants*365 days + tourist presences)		0.0043	0.0047	0.0054
WASTE PRODUCTION (Kg) / (Inhabitants*365 days + tourist presences)		1.07	1,09	1,10



No.4 - Environmental indicator - Material Efficiency

DATA	YEAR	2018	2019	2020
PAPER TOTAL PURCHASE (Kg)		3337,98	3088,50	2620,49
TOTAL CONSUMPTIONS PAPER (Kg) / No. Employees		29,28	26,17	22,79



No.5 - Environmental indicator - Emissions

GREENHOUSE GAS EMISSIONS				
DATA	YEAR	2018	2019	2020
STRUCTURES EMISSIONS WITH COMMUNITY STAFF (tCO2 eq)		154,06	165,13	166,01
SCHOOL EMISSIONS (tCO2 eq)		511,63	538,78	427,07
PUBLIC LIGHTING EMISSIONS (tCO2 eq)		1.674,05	1.438,29	892,06
TOTALEMISSIONS (tCO2 eq)		2377,47	2174,14	1507,28
TOTAL EMISSIONS (tCO2 eq) / No. Employees		20,86	18,42	13,11
EMISSIONS IN STRUCTURES WITH COMMUNITY STAFF (tCO2 eq) / No. Employees		1,35	1,40	1,44
SCHOOL EMISSIONS (tCO2 eq) / n. School users		0,26	0,30	0,25
PUBLIC LIGHTING EMISSIONS (tCO2 eq) / No. of Light Points		0,25	0,21	0,13

NOx EMISSIONS				
DATA	YEAR	2018	2019	2020
EMISSIONS IN STRUCTURES WITH MUNICIPALITY STAFF (kg NOx)		56,53	60,60	61,92
SCHOOL EMISSIONS (kg NOx)		187,75	197,71	156,72
PUBLIC LIGHTING EMISSIONS (kg NOx)		3.343,29	2.872,44	1781,55
TOTAL EMISSIONS (kg NOx)		3.732,10	3.235,64	1781,55
TOTAL EMISSIONS (kg NOx) / No. Employees		32,74	27,42	17,65
EMISSIONS IN STRUCTURES WITH MUNICIPALITY STAFF (kg NOx) / No. Employees		0,50	0,51	0,54
SCHOOL EMISSIONS (kg NOx) / No. School users		0,10	0,11	0,09
PUBLIC LIGHTING EMISSIONS (kg NOx) / No. of light points		0,49	0,42	0,26

SO2 EMISSIONS

DATA	YEAR	2018	2019	2020
STRUCTURES EMISSIONS WITH MUNICIPALITY STAFF (kg SO2)		341,38	365,85	368,78
SCHOOL EMISSIONS (kg SO2)		1.130,41	1.190,40	943,57
PUBLIC LIGHTING EMISSIONS (kg SO2)		5.442,56	4.676,06	2900,20
TOTAL EMISSIONS (kg SO2)		6.913,56	6.231,49	4210,68
TOTAL EMISSIONS (kg SO2) / nO. Employees		60,65	52,81	36,61
EMISSIONS IN STRUCTURES WITH MUNICIPALITY STAFF (kg SO2) / nO. Employees		2,99	3,10	3,21
SCHOOL EMISSIONS (kg SO2) / No. school users		0,58	0,67	0,56
PUBLIC LIGHTING EMISSIONS (kg SO2) / No. of light points		0,80	0,69	0,43

PARTICULATE EMISSIONS

DATA	YEAR	2018	2019	2020
STRUCTURES EMISSIONS WITH COMMUNITY PERSON (kg PARTICULAR)		20,74	22,23	23,35
SCHOOL EMISSIONS (kg PARTICULAR)		22,17	23,35	18,51
PUBLIC LIGHTING EMISSIONS (kg PARTICULAR)		1.000,39	859,50	533,08
TOTAL EMISSIONS (kg PARTICULAR)		1.033,07	892,76	560,12
TOTAL EMISSIONS (kg PARTICULAR) / No. Employees		9,06	7,57	4,87
EMISSIONS IN STRUCTURES WITH MUNICIPALITY STAFF (kg PARTICULAR) / No. Employees		0,18	0,19	0,20
SCHOOL EMISSIONS (kg PARTICULAR) / No. School users		0,01	0,01	0,01
PUBLIC LIGHTING EMISSIONS (kg PARTICULAR) / No. of Light Points		0,15	0,13	0,08



No.6 - Environmental indicator - Biodiversity

BIODIVERSITY

DATA	YEAR	2018	2019	2020
ENVIRONMENTAL PROTECTION ZONES (zps)- (sqm)		424.100,00	424.100,00	424.100,00
REGIONAL PARK AREA (sqm)		2.120.000,00	2.120.000,00	2.120.000,00
SURFACES COVERED BY THE MUNICIPALITY STRUCTURES (sqm)		23.076,00	23.076,00	23.076,00
URBANIZED SURFACES ("Sedime") (sqm)		5.060.000,00	5.060.000,00	5.060.000,00
URBANIZED SURFACE/INHABITANTS (sqm/inhabitants)		249,69	249,69	249,69

Fire prevention in municipal facilities

Many municipal facilities are subject to a Fire Prevention Certificate (CPI). Over the last 10 years, certification has been acquired for all municipal buildings concerned and this is constantly updated with any changes that occur. Recently the Presidential Decree 151/2011 revised the list of activities subject to fire prevention requirements introducing, in the case of the Municipality of Abano, new regulated activities. The table below shows the list of municipal buildings subject to Fire Prevention and a summary of the state of implementation.

Table 18. Municipal structures.

No.	STRUCTURE			MANAGEMENT		FIREWARDS
	Name	Location	Notes of interest	Activities	Personnel	Activities subject to Fire Prevention - Presidential Decree 151/2011
1	Villa Bassi Rathgeb	Via Appia Monterosso, 52	temporary municipal office - secretarial office, accounting office, bursar's office, taxes, protocol, staff, culture, events, sport	direct	direct	Att. 74.2.B (power plant) CPI valid (expiry Dec. 2021) att.72.1.C (historical building) CPI valid (expiry Dec. 2028)
2	Municipal Warehouse	Via Montegrotto, 4	warehouse and municipal archive	direct	direct	Att. 70.2.C (warehouse) and certificate 34.2.C (archive) - valid CPI (exp. September 2024)
3	Library	Via Matteotti, 71	municipal library	direct	direct	Att. 74.1.A (power plant) and equipment 34.1.B (card deposit - archive) - valid CPI (expiry date Nov. 2023)
4	Montirone Picture Gallery and Gallery	Via P. d'Abano, 20	gallery for temporary exhibitions and art gallery	direct	direct	Att. 72.1.C (historical building, open to the public with museum) - SCIA for the purpose of fire safety (exp. fever 2025)
5	C.R.C. multipurpose room	Via Appia Monterosso, 31	theatre, for shows and events	indirect	indirect	Att. 74.1.A (power plant) and att. 65.2.C (public premises) - CPI valid (expiry date Nov. 2024)
6	Magnolia Marquee	Via A. Volta	venue for shows and events	direct	direct	Att. 65.2.C (public premises) - valid CPI (expiry date May 2025)
7	International Mask Museum	Via Savioli, 2	museo	indirect	indirect	Att. 72.1.C (historical building, open to the public with museum) - CPI valid (expires June 2022)
8	Municipal "Terme" stadium	Via dello Stadio	sports facility	indirect	indirect	Att. 74.1.A (heating plant) and equipment 65.2.C (sports activities with public) - CPI valid (expiry 2024)
9	Gym of the Giarre	Via	sports facility	indirect	indirect	Att. 74.1.A (heating plant) and equipment 65.2.C (sports activities with public) - CPI valid (expiry 2024)
10	Colorful Meadows" Nursery School	Via Prati, 16	Municipal nursery school	direct	direct	Att. 74.1.A (heating plant) and equipment 67.3.B (school) CPI valid (expiry Dec. 2021)
11	Kindergarten and Nursery School "Monterosso"	Via S. Bartolomeo,	municipal kindergarten and state nursery school	indirect	indirect	Att. 74.1.A (heating plant) - valid CPI (expiry date fever 2025) att. 67.1.A (school) - favourable opinion obtained from VV.F. (new activity DRP 151/2011)
12	Primary School "A. Manzoni"	Via IV Novembre, 4	Primary School	Indirect	indirect	Att. 74.1.A (heating plant) and equipment 67.2.B (school) - CPI valid (expiry date May 2024)
13	Primary School "G. Pascoli"	Via G. Verdi	Primary School	Indirect	indirect	Att. B (school) - CPI valid (expiry date Jan Jan 2024)
14	Primary School " Papa Giovanni 23"	Via Buosonera	Primary School	indirect	indirect	Att. B (school) - CPI valid (expiry date Feb. 2023)
15	Primary School "F. Busonera"	Via Barbieri	Primary School	indirect	indirect	Att. B (school) - CPI valid (expiry date Jan. 2024)
16	Primary School "E. De Amicis"	Via	Primary School	indirect	indirect	Att. 74.1.A (heating plant) and equipment 67.2.B (school) - CPI valid (expiry Dec. 2022)
17	Secondary School "V. da Feltre"	Via S. Giovanni Bosco, 2	Secondary School	indirect	Indirect	Att. 74.3.C (thermal power plant) and equipment 67.4.C (school) CPI valid (expiry 27 June 2021) -ongoing renewal activities
18	Sports Marquee "L. B. Alberti" Institute	Via Pillon	sports facility	Indirect	Indirect	Att. 74.1.A (thermal power plant) - valid CPI of competence of the Province of Padua (expiry date fever. 2022) Att. 65.1.B (gymnasium with public) - (expiry July 2025)
19	Generator set underpass via Station/Ownings	via Stazione	Generator set	direct	direct	Att. 49.1.A (generating set) - CPI valid (expiry date 2023)
20	EcoCentro - EcoCenter	via Colli Euganei, 60	<i>In the design phase</i>			Att. 34.1.B (paper storage quantities between 5,000 and 50,000 kg) and certificate 44.1.B (plastic material storage quantities between 5,000 and 50,000 kg). Acquired favourable opinion prot. VV.F. 8612 of 05/06/2019

Regulatory references

The adherence to the Community Regulation 1221/09 EMAS, requires the administration of the Municipality of Abano Terme to constantly verify the applicable environmental legislation and to guarantee and demonstrate its punctual compliance. Below is a summary of the main legislative references applicable to the Municipality of Abano Terme and the territory:

Table 19. legislative references

Legislative reference	Environmental Aspect
Act No. 36/01, D.M.29 May 2008	Electromagnetic Radiation
D.lgs. No.152/2006 and subsequent amendments and additions	Water resource management, Assessment, defence, protection, management of environmental aspects Principles of sustainable development and environmental and territorial protection, emissions, V.I.A., V.A.S., I.P.P.C., Waste management, Soil, subsoil and remediation
D.G.R.V. No. 574 del 11 March 2008	Water Protection Plan. Approval of the safeguard regulations. Further clarifications - (Article 121 of Legislative Decree no. 152/2006; Articles 19 and 28 of Regional Law 33/1985; Article 82 of Regional Law 11/2001)..
Act No. 257/92 D.M. 04/09/1994	Asbestos production and use limits Regulations and technical methodologies for the application of Law No. 257/92.
D.G.R. 4059/2007 D.M. 08/02/2010	SCI and SPA Veneto Region
P.R.T.R.A. approved by resolution of the C.R. No. 57/04 (BUR 130 12/21/04) D.G.R.691 05/13/2014	Air quality Combustion of agricultural and forestry plant residues
D.lgs. 192/2005, D.lgs. 311/2006, D.lgs. 115/2008	Energy saving, energy management and energy certification
L.R. No.17/2009	Light pollution
D.lgs. No.63/2008	Cultural and environmental heritage
D.G.R.V. No. 79/02	Prevention of radon gas pollution in living environments
D.G.R.V. No.1845/05 Act No. 221 del 12/28/2015	Waste: separate collection
Release 12/10/2008 Act No. 353/2000	Forest fires
Regulation UE 517/2014 Regulation CE 1005/2009 D.P.R. No. 146 /2018	Fluorinated greenhouse gases and potentially ozone-depleting gases
D.lgs. 334/1999 and subsequent amendments and additions D.lgs 105/2015	Control of Large Accident Hazards
D.P.R. No.151 August, 1 st 2011 DECRETO-LEGGE 12/31/2014, No. 192	Regulation simplifying the regulatory framework for fire prevention procedures
DM August 7 th , 2012	Provisions on how applications concerning fire prevention procedures should be submitted and the documentation to be attached
L. 98/2013 DM October 8 th , 2012 No. 161	Regulation governing the use of excavated earth and rock
D.lgs. 150/2012	Implementation of Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides.
DM 74/2013 D.G.R.V. 726/2014 DM 02/10/2014 D.G.R.V. No.1363 July 28 th , 2014 D.G.R.V. No. 2569 December 23 th , 2014	Regulation defining the general criteria for the operation, management, control, maintenance and inspection of heating systems for the winter and summer air-conditioning of buildings and for the preparation of hot water for sanitary purposes. CIRCE Regional Land Registry
DPR 59/2013	Regulations for the discipline of the Single Environmental Authorization
D.lgs 50/2016 Decreto 04/10/2013	Procurement code National GPP Action Plan (NAP GPP)

Environmental Glossary

Environment	Context in which an organization operates, including air, water, soil, natural resources, flora, fauna, human beings and their interrelationships.
Environmental Analysis	A comprehensive initial analysis of the environmental aspects, impacts and performance related to an organization's activities, products or services;
Environmental aspect	An element of an organization's activities, products or services that has, or may have, an impact on the environment;
Audit of the environmental management system	A systematic, documented, periodic and objective assessment of an organization's environmental performance, management system and processes for the protection of the environment.
Environmental statement	Statement prepared by the organization in accordance with the provisions of EC Regulation No. 1221/09 - EMAS.
Environmental impact	Any change in the environment, negative or positive, arising in whole or in part from an organization's activities, products or services.
Continuous improvement	Process of improving the environmental management system to achieve improvements in all environmental performance in accordance with the company's environmental policy.
Environmental objective	An overall environmental goal, quantified as far as possible, resulting from the environmental policy that the organization decides to pursue.
Organization	Group, company, enterprise, body or institution, or parts or combinations thereof, whether associated or not, public or private, with its own functional and administrative structure.
Stakeholders	People or groups involved in or influenced by the environmental performance of an organization.
Environmental performance	The measurable results of an organization's management of its environmental aspects.
Environmental policy	The overall intentions and direction of an organization with regard to its environmental performance, as formally expressed by senior management, including compliance with all relevant legal requirements relating to the environment and a commitment to continuous improvement of environmental performance. The policy provides a framework for action and for setting environmental objectives and targets.
Pollution prevention	Use of processes, operations, materials and products to avoid, reduce or control pollution which may include recycling, treatment, process modification, control tools, resource efficiency and material substitution. The potential benefits of pollution prevention include reducing negative environmental impacts and improving efficiency and reducing costs. This includes techniques such as: recycling treatment process changes control systems resource efficiency the replacement of materials.
Environmental Management System	The part of the overall management system comprising the organizational structure, planning activities, responsibilities, practices, procedures, processes and resources to develop, implement, review and maintain the environmental policy and to manage environmental aspects.
Environmental goals	A detailed performance requirement, consequential to the environmental objectives, applicable to an organization or part of an organization, that needs to be set and achieved in order to achieve those objectives.
Environmental performance assessment	Process to facilitate management decisions regarding an organization's environmental performance through the selection of indicators, data collection and analysis, assessment of information against environmental performance criteria, reports and communications, and periodic review and improvement of this process.