

# IPT SUSTAINABLE GAS STATION

Committed To Sustainability  
And Responsible Business



## IPT's Commitment to Responsible Business

IPT has been working in the oil and gas sector for more than 30 years and succeeded to achieve an advanced position in the Lebanese market with a network of more than 180 gas stations across the country, delivering excellent customer service around the clock.

Along the way, we believed that our role was also to create value for our stakeholders through achieving the joint development of our business, the society and the environment in a responsible way.

For this reason, sustainability has become an integral part of our corporate culture and reflects on the quality of our products & services.

We invested in our business to improve our entire supply chain and provide the customers with cleaner and innovative petroleum products and services that meet the highest standards in modern and welcoming gas stations.



## IPT's Role Model of a Sustainable Gas Station

With the assistance of the «**International Finance Corporation**» (IFC), we decided to institutionalize sustainability by looking at ways to increase our Energy Performance and Reduce the Environmental impact of our gas stations. We therefore developed an “Energy and Environmental Management Strategy (EEMS)” that we started implementing gradually on our gas stations to save energy and water, reduce emissions, protect the soil and ground water, and collect waste for eventual treatment and reuse.

In line with this strategy, we built IPT's first sustainable gas station and first of its kind in Lebanon in Amchit few meters away from IPT headquarters. The station features advanced solutions and innovations in the field of energy and water conservation and pollution reduction.

It is also fully automated and technologically advanced with health and safety measures and a green landscape.

The opening ceremony was held on the 10th of May 2019 under the patronage and in the presence of His Excellency Minister of the Environment Mr. Fadi Jreissati, and Member of Parliament Mr. Simon Abi Ramia in addition to 30 leading names in the fields of energy sustainability, Social Responsibility and oil and gas sector.

Minister Jreissati and the attendees were introduced to the station's green and sustainable features which concretize IPT's green vision in compliance with its Energy and Environmental Management Strategy (EEMS), and its constant work towards sustainability in its operations and on its gas stations.

His Excellency had a word in which he highlighted the role of the private sector in line with the public sector in the development of a green and clean future.

He added: “This role model station is a challenge to us as ministry of environment since 30% of the pollution comes from the transport sector. We stand today in front of a solution that proves that the investment in environment conservation does not contradict economic development.”

Dr. Toni in his word explained the importance of similar projects for the future of the sector and the economic development and he assured that IPT will always work on its social responsibility to guarantee a sustainable future.



The main features of IPT's sustainable gas station are:



**1- Energy efficiency & renewable energy solutions to reduce energy consumption**



**2- Wastewater treatment solutions to achieve ZERO toxic discharge in sewer network**



**3- Water conservation solutions to reduce water consumption**



**4- Cleaner & environmentally friendly products & services**



**5- Soil & ground water protection to achieve ZERO hydrocarbon**



**6- Commitment to Health, Safety and Quality standards**



**7- Green roof to lower energy consumption**







# 1. Energy efficiency & renewable energy solutions to reduce energy consumption

There is a wide variety of tactics and strategies for reducing our energy footprint including buying energy efficient equipment, being vigilant about our actual energy use (such as killing vampire loads), and installing more insulation and better weatherproofing systems. In addition to energy conservation, it is important to produce energy from renewable sources knowing how much energy we use every day.

### ▶ Solar power system

Coupled with energy conservation and the use of smart technologies, the solar power system does not only offset our fossil-fuel-based energy consumption but also constitutes a source of clean renewable energy that can power the station long after the initial cost of the solar array.

The environmental advantages of the solar power system are many, but the most obvious are the decreased reliance on fossil fuels, the increased clean renewable energy entering the grid, and the reduced energy-related pollution and greenhouse gas emissions.

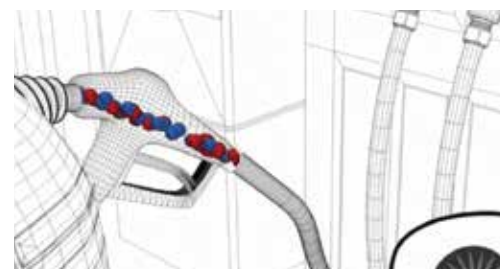
Our solar power system also feeds the EV charger to help reduce electricity cost and increase the resilience of the grid by diversifying electricity sources.



### ▶ Vapor recovery system

Gasoline vapors normally accumulate in automobile and truck tanks above the liquid level. So during a fuel filling the rising liquid inside the tank forces the vapors to seek an escape route. The displaced vapors flow out around the nozzle spout and into the air causing severe air pollution and high risks of fire.

At IPT gas station, we use OPW CVS2 (stage 2 vapor recovery system) which allows the collection and removal of vapors from the dispensing area. Collected vapor is then returned to the gasoline storage tank ullage space through a dedicated vapor pipe and vent network. The system consists of a vapor suction pump on each fuel pump, a special vapor recovery nozzle that has a secondary routing space for vapors, a regulator which controls the volume of vapor collected by each pump and a drain check valve that allows liquid that has condensed in the vapor piping to drain back to the storage tank. This whole operation allows a safer and eco-friendly filling experience.



### ▶ Smart LED lighting

The station has a smart LED lighting system that is up to 80% more efficient than traditional lighting thus saving energy and reducing pollution.

### ▶ Eco-friendly air conditioning system

The station's air conditioning system uses R134a. Refrigerant which is ozone friendly and runs on inverter type compressors to significantly reduce energy cost and contribute to better fuel economy.

### ▶ Energy efficient automatic carwash

The Laserwash machine is equipped with Variable Frequency Drivers (VFDs) and soft starters to save energy on startups and when running, thus eliminating the need for large power supply and unneeded energy consumption.

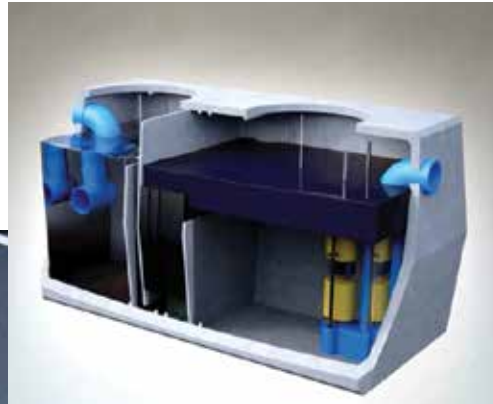


## 2. Wastewater Treatment solutions to achieve ZERO toxic discharge in sewer network

Before water is released into sewage systems, it passes through a **hydrocarbon and oil separator** for filtering. The separator is designed to separate non-emulsified light liquids and low water soluble fluids with a specific gravity below 0.95 such as gasoline, diesel and mineral oils from effluent discharge.

The process relies on gravity separation where an upstream grit chamber removes solid from the influent while compensating for temperature and oil concentration fluctuations as the initial phase of light fluid separation begins.

Within the coalescing media, fine droplets too small to separate by gravity alone accumulate into bigger drops which eventually become buoyant enough to rise to the surface. The separated effluent contains a free petroleum content of less than 5 ppm oil concentration. An automatic shut off float closes the outlet pipe when the maximum oil storage capacity is reached and an alarm is triggered in the Gas station service office to call for emptying the oil media. The coalescing media can then be easily removed and cleaned whenever needed.



## 3. Water Conservation Solutions to Reduce Water Consumption

Because the demand for water is high especially in wash bays, and since water resources in Lebanon are becoming low, there is a need to conserve water on gas stations through water treatment and reuse. The solutions we adopted to reduce water consumption include rainwater collection and reuse, and the implementation of a water reclaim system to decrease the diversion of water from sensitive ecosystems.

### ► Rainwater collection

Rainwater is collected from the gas station canopy and roof and is stored in an underground collection tank. It is then treated through a 5-stage water treatment system which includes screening of water as it enters the water treatment plant, coagulation of dirt particles, sedimentation to settle heavy dirt, filtration to filter out remaining particles, and finally disinfection to kill any remaining bacteria in the water and supply the station with fresh soft RO water.



### ► Water treatment system related to carwash

Water reclaim is actually the recovery of water that was used in carwash using a drain system in the wash bay. The drain system consists of a catch basin to settle out the large solids, followed by 2 or 3 reclaim tanks to remove floatable materials, then the "PurWater Reclaim System" takes water from last compartment of reclaim tank and treats it further with cyclonic separators down to 5 micron range so that the quality is acceptable for re-use in car wash. The system keeps a portion of the water in the reclaim tank to provide biological/ odor control.

Typically, 60% to 85% of the used water can be reclaimed and re-used in car wash.





**IPT**

**SUSTAINABLE STATION**

**FULL SERVICE**

خدمة كاملة

DIESEL

**95**

95

**IPT**

**IPT DIESEL**

**IPT DIESEL**

**FULL SERVICE**

خدمة كاملة

**LASERWASH**

**800 Apple**

**WASTE DISPOSAL UNIT**







## 4. Cleaner & Environmentally Friendly Products & Services

IPT's range of products offers at first place Gasoline and Diesel which are by nature harmful to the environment. The challenge resides therefore in improving the specifications of our gasoline to become more efficient and environmentally friendly and to offer biodiesel as an alternative to petro diesel. IPT also introduced solar powered electric charging points to encourage the use of electric cars, nitrogen tires inflator for a better stability of pressure in tires, emissions analyser to measure emissions from fuel combustion, and a large waste disposal unit area for waste collection and treatment.

### ► Quantum, the clean fuel from IPT

IPT offers "Quantum" a mix between a high-quality gasoline and a cutting edge additive developed by Total. Quantum transforms the regular gasoline into a superior fuel that meets the needs of the 21st century. Its superior formula contributes to fuel economy, power and responsiveness, engine protection and less pollution. It also offers exceptional deposit clean up, better combustion, less noise, and an improved driving experience. «Quantum» has the performance level of World Wide Fuel Charter's (WWFC) highest categories and has undergone a series of tests conducted by specialized European laboratories on different car brands.



need to modify the fuel system or engine. The use of Biodiesel B20 improves engine lubrication and increases engine life since it virtually has a lower Sulphur content. Moreover, customers can benefit from a better fuel economy and can contribute to less greenhouse gas emissions. The use of B20 reduces CO2 emissions by 15% as compared to petro diesel thus protects the environment and helps prevent climate change.

### ► Biodiesel produced from Waste Cooking Oil

IPT is the first to launch in Lebanon the production of Biodiesel from Waste Cooking Oil as a cleaner, safer and cheaper fuel than conventional diesel to be used in engines and generators. Biodiesel can be used in its pure form (B100) or can be blended with petro diesel in the form of B2, B5 or B20. B20 is the most commonly used blend consisting of 20% Biodiesel and 80% petro diesel. This type of blend can be used in diesel engines without the

### ► Solar Powered Electric vehicle charger

IPT is the first to introduce the Electric Vehicle charger powered by a solar grid in Lebanon. ABB Terra 54 is a multi-standard fast charging DC station enabling a continuous charging at full 50 KW power and complies with all relevant international standards. The charger withdraws power from a solar grid and doesn't rely on burning fossil fuel to operate, making it a full sustainable solution for the reduction of greenhouse gas emissions. It includes Chademo, CCS and type 2 AC charging making it the ideal choice to serve all electric vehicles in route, knowing that the typical time for a full charge ranges between 15 and 30 minutes.



### ► Nitrogen tires inflator

Air usually escapes through a tire's molecular structure as the rubber flexes and stretches while rolling. Nitrogen N2 has a slightly bigger atomic structure making it less able to permeate rubber and escape from tire. In other words, inflating tires with N2 offers a better stability of pressure in the tires and stays longer inside which will actually optimize a car's fuel economy. Moreover, unlike air which contains water vapor, N2 does not increase the pressure in a tire as it heats up. This will reduce the rusting inside the wheel or the valve stem, or the sensitive sensors used by cars equipped with pressure wheel monitoring. Using N2 can thus reduce tear and wear on the wheels and save on maintenance costs.



### ► Emissions Analyser

The Kane Auto Plus 2-4 analyser available at the station is a device for the measurement of vehicle exhaust gas emissions mainly CO, HC, CO<sub>2</sub>, and O<sub>2</sub>.

It allows drivers to know whether the ratio of their vehicle's emissions is within the acceptable range, thus avoiding failure in the annual official mechanic inspection and reducing environmental pollution to a tolerable level.



### ► Waste Disposal Unit Area

Different types of waste can be safely deposited in separate bins available on the station for special treatment and reuse. These bins are designed to collect Waste Cooking Oil, batteries, electronics, glass, organic waste, plastic and paper.

IPT is giving incentives to encourage waste recycling through developing a loyalty program that allows users to collect points and redeem them for valuable gifts.



## 5. Soil & Ground Water Protection to achieve ZERO hydrocarbon leakage

(1) **Double wall tanks** are installed underground with (2) **leak detectors** to prevent petroleum products from leaking into the ground. Moreover, all tanks are equipped with (3) **fiberglass sumps** completely sealed on the manholes to prevent any leakage inside and outside the area where the pipes are connected to the tank. These sumps are very strong, non-corrosive and their enclosures are guaranteed not to wrap, bend or break under any circumstances.

(4) **Polyethylene Pipes** enter the sump through special sealing making the sump a perfect watertight chamber.

In addition, a (5) **remote filling sump** made of special fiberglass materials is installed and includes a spill tray to collect fuel spills during truck unloading. This sump represents a secondary containment in the event of any spill and prevents any leakage of petroleum products into the soil.







## 6. Commitment to Health, Safety and Quality

Because safety is a priority, IPT's sustainable gas station runs its operations according to the highest international standards. Furthermore, the station is connected to IPT headquarter through a central monitoring and control system to ensure a remote and continuous management of all operations while guaranteeing the quality of supplied products and services across the entire supply chain. It also offers technologically advanced payment solutions to enable instant authorization of payments based on vehicle identification for IPT GoGas corporate card holders.

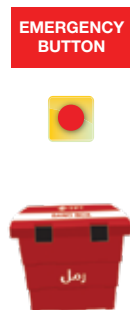
### ▶ Automated External Defibrillator (AED)

The station is equipped with a portable electronic device that automatically diagnoses the life-threatening cardiac arrhythmias that can lead to a sudden cardiac arrest. The device allows the heart to re-establish an effective rhythm through defibrillation, thus increasing survival chances.



### ▶ Safety at the station

Fire extinguishers, sandbox and safety signs are available to ensure safety at all times. Moreover, the machinery at the station is equipped with emergency push button which is a safe control switch to immediately stop a machine in case of emergency.



Sandbox



Safety signs



Fire extinguishers

### ▶ Central monitoring and control system

The station is connected to the central control room at IPT Headquarter through a central monitoring and control system which offers a complete remote and accurate management of all operations at the station including the authenticated synchronized price change over the entire network and online metering of fuel dispensers, underground

tanks, car wash systems and energy management.

The system also guarantees the quality of supplied products and services across the entire supply chain from the terminal to the gas station and ensures an effective inventory control and incident-free operations all the way through.



### ▶ Automatic vehicle recognition system

Smart fuelling has become essential on gas stations since it eliminates the need for vehicle owners to pay in cash while using a faster, more secure and more convenient payment solution. The automatic vehicle recognition system enables instant authorization of payments based on vehicle identification for IPT GoGas corporate card holders. Once the nozzle is placed in the fuel tank, the vehicle tag details are validated by the fuel point of sales.

Communication between the vehicle tag and the nozzle unit localises the transaction to that specific nozzle.

The system ensures the proper type of fuel is dispensed into the tank and eliminates cross contamination and unauthorized fuelling. Once refuelling is complete, all details are automatically stored either locally or remotely. Transaction slips may be printed out upon customer's request.

All vehicle data and odometer readings are then transmitted to the fuel POS during the authorisation process.





## 7. Green roof to lower energy consumption

The station's roof is covered with plantation to provide a beautiful landscape, purify the air, and regulate the temperature. The green roof reduces the heat in the indoor and lowers energy consumption which translates into fewer greenhouse gas emissions.







**IPT Headquarters**

Amchit Highway T/F: +961 9 624 111/5  
info@iptgroup.com.lb iptgroup.com.lb