

...VE SYSTEM ...
...earnings still pay up to 40 percent.

Although government has pledged work. An omnibus policy that covers ...

Fuel quality. |

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On a busy morning in Kampala, a car pulls into a fuel station and idles briefly. The driver barely looks up as the attendant fills the tank. In seconds, the exchange is done, fuel dispensed, cash paid, and the vehicle back on the road.

It feels routine. Almost mechanical. But what the driver does not see is the invisible system behind that litre of fuel, a system that has tracked it from the border, tested its quality, and verified its authenticity using science precise enough to detect even the slightest tampering.

"Every litre on the Ugandan market can be verified at any point in the supply chain," says Irene Batebe, Permanent Secretary at the Ministry of Energy.

For a country that imports all its fuel, mostly through Kenya and partly via Tanzania, that level of control marks a significant shift from the past, where the sector was riddled with fraud.

We can monitor fuel quality at all stations, says govt

At one point, adulteration, particularly the mixing of diesel with subsidised kerosene, was estimated to affect up to 30 percent of fuel in circulation. Today, government says it has dropped to less than 1 percent.

At the heart of this transformation is the Fuel Marking and Quality Monitoring Programme, launched in 2007, which traces chemical markers added to fuel at entry points, creating a unique identifier, a kind of molecular fingerprint that follows each litre through the supply chain.

The programme is implemented by Uganda National Bureau of Standards (UNBS) and supported technically by SICPA Uganda, a subsidiary of SICPA SA, a global company specializing in secure identification solutions, including fuel marking systems used in multiple countries.

SICPA's role sits largely in the background but is central to how the system works. The company provides the chemi-

cal markers, testing technology, and technical infrastructure that make it possible to detect adulteration in real time.

At border entry points such as Busia, Malaba, and Mutukula, fuel is first inspected for quantity and quality.

Once cleared, it is dosed with the specialised marker under controlled conditions. From that moment on, any dilution or substitution alters its chemical profile, making fraud detectable.

After release into the distribution chain, surveillance continues.

Mobile laboratories, operated with technical support from SICPA, move across the country carrying out both routine and unannounced inspections.

These units are equipped with sensitive analytical tools capable of detecting even minor inconsistencies in fuel composition on-site.

On the environmental front, government says the markers pose no risk because they are added in extremely low

concentrations, often in parts per million. They are also comparable to standard fuel additives and have been used internationally for years without evidence of harm to engines, consumers, or the environment.

For motorists, however, the science remains invisible. What they notice instead is the result: better engine performance, fewer mechanical issues, and greater trust in the fuel they buy.

"Fuel quality translates into better value for money," Batebe says.

Thus, the system provides safeguards in an intricate network of chemistry, technology, and oversight. For industry players, that constant oversight has changed how the sector operates.

"If a truck has a calibration issue, SICPA teams at the border get in touch and let us know, and we work on it together," says Sam Matovu, the logistics manager at Rubis Uganda. Others say the programme has reshaped competition itself.

"Whether you are a large or small player, we now compete on efficiency, not on who can cut corners. No smuggling and adulteration," says Luqman Mumin, operations manager at City Oil.

"We have seen a real drop in adulterated products entering the market. The fuel is caught at the border before it reaches our consumers' engines. Ultimately, it means we can guarantee quality to our customers."

The numbers reflect this shift. Monitoring coverage has expanded from about 30 percent in the programme's early years to over 80 percent today.

Fuel quality compliance has risen sharply, from roughly 32 percent in 2007 to about 99 percent.

Stations found with non-compliant fuel face penalties ranging from fines to licence suspension, closure, or prosecution. Government says this has improved not only fuel quality but also tax compliance and revenues.