

Saga City – The world’s best kept secret (*for now*)



CO₂ CAPTURE FACILITY IN SAGA CITY MUNICIPAL WASTE INCINERATION PLANT
CREDIT – SAGA CITY

The Plant is a shining example (literally) of a fully integrated CCU project where trash becomes treasure at the same time as helping meet international climate change targets.

At Saga City, a city of 240,000 people just 38 kilometres from Japan’s ancient city of Fukuoka, on the picturesque southern island of Kyushu, a CCU city of the future is emerging.

Saga is host to a waste incineration plant, which is using captured CO₂ to cultivate crops, create algae cultures and even make the medals for the 2020 Tokyo Olympics from reconstituted metal.

Built by Toshiba and commissioned in 2016, the CCU facility captures up to 10 tonnes of CO₂ per day from the plant’s live flue gas, which is then piped to a glass-covered algae farm only a few hundred metres away. From there, proprietary technology enables the CO₂ to be used to produce exotic, high-end body lotions and anti-aging creams, which are exported to retailers around the world.

It is a world-first application of waste treatment, which has until now been one of the world’s best kept secrets.

Commercial success has burgeoned and now a new wave of agricultural entrepreneurs is acquiring land in the plant’s vicinity to capitalise on the diversity that the CCU/waste incineration “double-act” is delivering.

Multinational Toshiba, a major energy systems and services corporation, has established itself as a world leader in developing carbon capture technologies, particularly the separation of CO₂ emitted from thermal power plants.

Work undertaken by Toshiba’s CCU expert and senior manager, Kensuke Suzuki, at the nearby Mikawa Thermal Power Plant, inspired the development of a CCU unit at Saga City. Representatives from Saga City had been quietly watching the CO₂ capture technology at the Mikawa CCU Plant, which uses chemical absorption in a post-combustion capture process to extract CO₂ at

a very high purity. They were looking for a biomass solution for their city, so officials asked Toshiba if the Mikawa model could be replicated at the Saga site. The answer was yes.

Says Mr Suzuki: “The biggest challenge became the small strip of land that I was allotted to build the plant on. It was very thin. But with knowledge gained at Mikawa, we have managed to build a state-of-the-art CO₂ capture plant, which we believe is the shape of things to come.”

The Plant is a shining example (literally) of a fully integrated CO₂ capture project where trash becomes treasure at the same time as helping meet international climate change targets.

The innovation is also a perfect example of what happens when policy confidence and unwavering passion is applied to CCUS; in this case, when a mayor, Toshiyuki Hideshima, commits his city to become a “living laboratory” to sustainability and climate change mitigation.

As Saga employees will quietly tell you as you tour the plant alongside dozens of local schoolchildren: “This Mayor cares so much he actually goes door-knocking to talk to city residents about the need to recycle everything and mitigate global warming. He truly cares.”

But he is not alone. The national government has designated the Saga municipality as a Special Economic Zone to encourage low-carbon start-ups and create jobs.

Global CCS CEO Brad Page says the Saga City Incineration Plant is one of the best global environmental stories that hasn’t been told. “If the rest of the world followed this model, climate change would quickly become a thing of the past. As such, the Saga City CCU story is unlikely to remain a secret for much longer.”

グローバルCCSインスティテュートのレポート（HP抜粋：一部省略）

佐賀市：世界最高の秘密（今のところ）

※原本英文を和訳

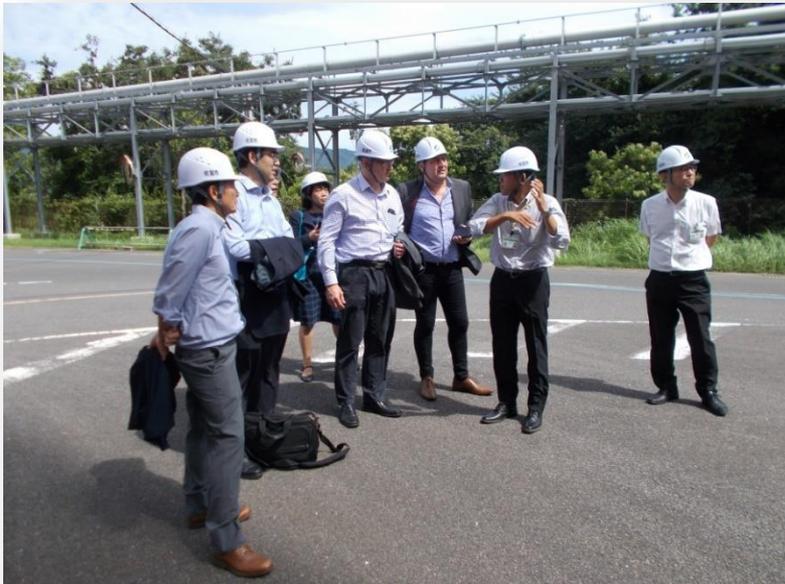
佐賀市、美しい南の九州にある日本の古都。福岡から約38キロ離れた都市でCCU都市の未来が起り始めています。

それは、世界で初めての廃棄物処理のアプリケーション（応用）であり、今まで世界の中で守られてきた最高の秘密です。

この施設は、ごみを宝物に変えると同時に国際的な気候変動の目標達成に役立つ、完全に統合されたCCSプロジェクトの（文字通り）輝かしい例です。

また、このイノベーションは、政策の信頼と揺るがない情熱がCCUに向けられたときに何が起るかという完璧な事例です。今回の場合、秀島敏行佐賀市長は、佐賀市を持続可能な社会と気候変動緩和のための「生きた実験室」とされたから実現できたのです。

政府は、佐賀市を低炭素の起業と雇用の促進を奨励するための特別経済区として指定しました。



グローバルCCSインスティテュートのCEO、ブラッドページ氏は、佐賀市のごみ焼却施設は世界に伝わっていないが、世界最高の地球環境ストーリーの一つであると述べています。

「もし、世界のほかの都市が佐賀モデルに倣えば、気候変動はすぐにでも過去のものになるだろう。このように、佐賀市のCCSストーリーそんなに長くは秘密のままではないでしょう。」