

News & Intelligence

INTERVIEW: UK developer plans \$500 million biofuel crop programme in Pakistan

UK-based developer Clean Development Projects Ltd. (CDP) will launch feasibility studies in the spring for a \$500 million desert-focused biofuel crop programme in Punjab, Pakistan, in collaboration with the local government, Neil Faulkner told Clean Energy Pipeline.

The plan is the culmination of discussions with both federal and state governments that addressed the mitigation of Pakistan's energy deficit and food scarcity problem by rejuvenating desert areas for cultivation.

CDP plans to pay for the early feasibility and planning stages and estimates that approximately \$500 million of project financing will be needed over five years to support the build-out.

"Further projects would probably cost less," said Faulkner. "In the Pakistan project, we will have to build roads and possibly a settlement."

CDP is exploring the possibility of financing the project with debt provided by Islamic banks. This is just one possible avenue of financing that the company is exploring, Faulkner said, adding that participation from a corporation or hedge fund would also be of strong interest.

"We've spoken to the governments, which are interested in taking part," said Faulkner. "Islamic banks have an interest in the business. We're looking at that avenue (part government, part commercial)."

Eventually, the group expects the project will be self-financing through the turnover and sale of cheap energy and food crops. It has already secured a bioenergy off-take agreement with an undisclosed oil company and Faulkner said electricity companies are also interested in off-take.

"The project would end up being self-financing if we continue at the original rollout rate, said Faulkner. "If we were able to attract more interest, we could accelerate that rollout."

CDP intends to initiate feasibility studies midway through 2013, with a plan to embark on initial engineering studies by early 2014. The group will have to secure final government approvals and establish a local company before it can proceed with construction. Its plans will also be subject to a public consultation.

"The plan is to start feasibility studies in the spring so we can get monitoring in place for the monsoon; that's a critical facet of any project in that area," said Faulkner.

"I imagine we would want to start engineering in at most a year's time. We will be working in partnership with the government. They have given the nod to do the project.

"We will need to establish a local company with all those permissions and because that's a public-private partnership, they have to put it open for other people to compete as part of a public consultation."

CDP initially impressed the state government of Punjab when Faulkner gave a presentation in Lahore nearly three years ago to discuss how biodiesel production could be innovatively used to meet Pakistan's energy deficit.

"We explained how a choice of carefully selected native and suitable foreign species could be used to produce energy and employment, and if those were suitably selected, they could be grown in the fairly arid climates that they experience," said Faulkner.

The government subsequently designated a six-million-acre patch of land, the size of Wales, in Punjab for the co-cultivation of food and energy crops.

"Several thousand years ago the land was forested," explained Faulkner. "Geological changes diverted a river and it started to dry out, and was mis-managed by people keeping livestock. Now it is essentially a desert."

CDP plans to use organic ecological methods to reverse the desertification process on the land and restore it to fertility. This way, both food and energy crops can be co-cultivated in order to both meet Pakistan's lack of adequate energy and food resources.

The company estimates that one hectare of land can produce 1.25 tonnes of jatropha oil and six tonnes of biomass in one year, based on local field laboratory studies.

"We've worked to look at ecological methods, considering how the land declined and looking at the reverse of that process using purely organic [methods]," said Faulkner. "We should be able to restore the land to the point of moisture."

CDP is working with several partners including University College London in the UK and the Quaid-i-Azam University in Islamabad to test organic methods to restore soil. The Pakistan project will co-cultivate biofuel crops with native crops to the region such as pulses, salad fruits, leaves and chilli crops.

"The second important facet of this is that we would cultivate food alongside the biofuels," said Faulkner. "There are two reasons. One is that this large empty area needs to be fed and populated. Second, if you can co-cultivate different types of plants together, they co-support [each other]. Then you can bring livestock in.

"We're mixing the types of trees and other plants. They fruit at different times of the year, which enables you to grow crops in a staggered way, and distributes the cost of labour. This reduces the chances of (crop) disease spreading like wildfire."

CDP estimates that the de-desertification process will take about 20-25 years before it reaches a stage where it is self-financing.

"According to studies in Africa, one farmer can look after 16 acres of this type of plantation," said Faulkner. "We are looking to bring in thousands of farmers over time to cultivate [the land]. It's a 20-25 year rollout scheme. A lot of infrastructure is needed to support it."

The group has also been in discussions with four African governments; Swaziland, Ethiopia, Nigeria and Tunisia, in addition to Mexican state governments that are interested in its de-desertification idea.

"Those African projects aren't as well developed," said Faulkner. "I think Pakistan has a greater interest because of the scale and also the unemployment there is of a nature that is very destructive."

For more information regarding de-desertification, Clean Development Projects' Director Neil Faulkner can be contacted at neil@gpcplc.co.uk.

The reporter, *Jessica Mills-Davies*, can be reached at jessica.millsdavies@mbresearch.com.

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