



Green Energy Development Company

Distributed Generation of Hydroelectricity
using an innovated
Floating Drum Turbine

Table of Contents

- Introduction
- Problem
- Solution
- Market
- Competition
- Business Model
- Investment
- Team
- Product

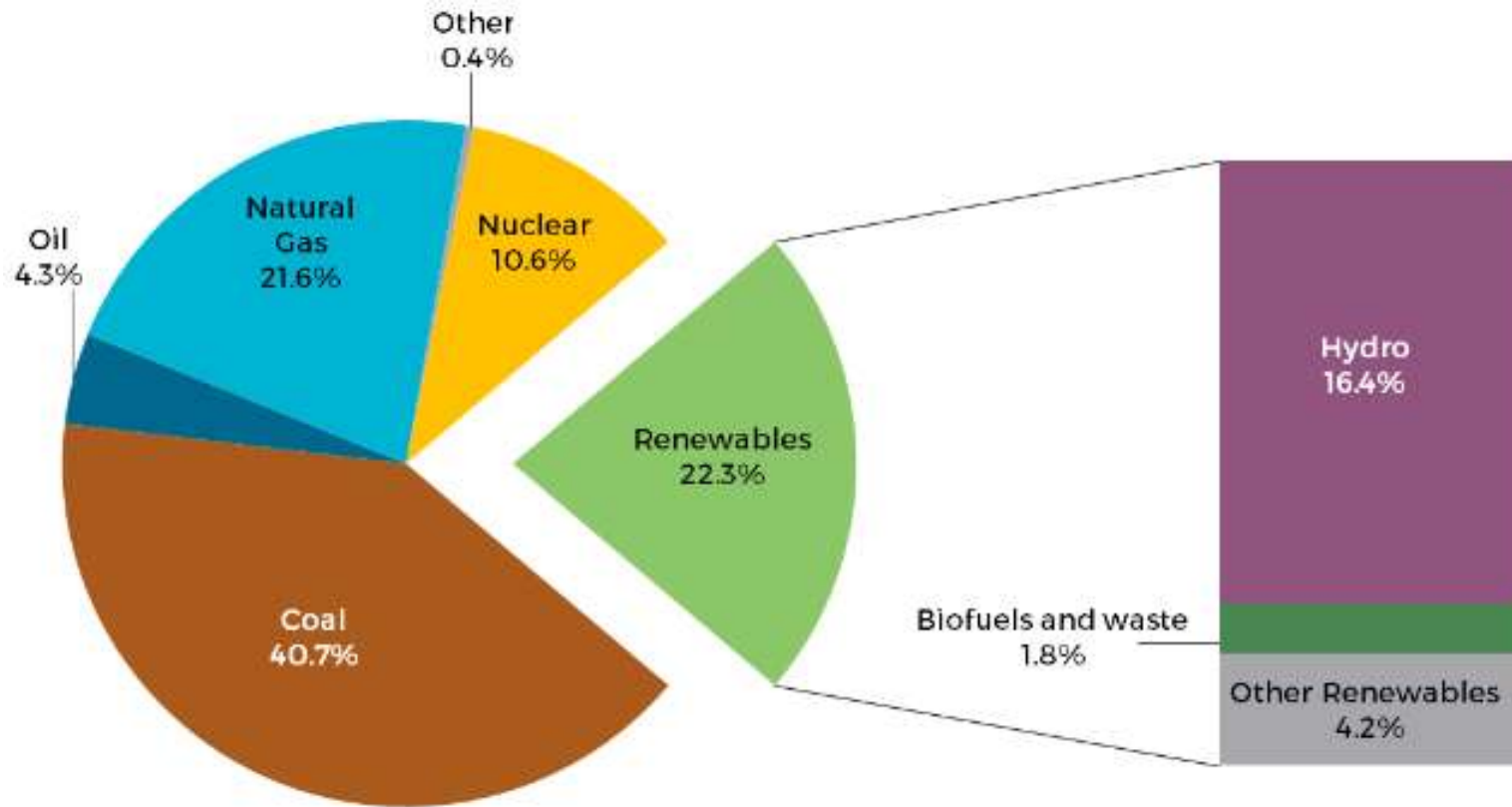
An aerial photograph of a large concrete dam situated in a deep, rocky canyon. The dam is a massive structure with a central spillway. The surrounding landscape is rugged and mountainous, with sparse vegetation. The sky is clear and blue.

Introduction

Hydroelectricity is the electricity generated by a hydropower facility using the extracted energy from the water streams.

Hydropower is the most commonly used renewable source of electricity, about 75 percent of the world renewable energy is generated by hydropower. It makes about one sixth of the world's electricity.

Hydroelectricity Market Share



Problem

The problem we have solved is providing electricity for outlying/rural areas (having some flowing water resources like rivers or canals) that haven't access to any local electrical network.

Solution

Our solution to solve the problem is generating the electricity from a water stream (river/canal) by extracting the mechanical energy and converting it into the electrical energy. The main alternative solutions for hydropower are solar and wind powers, each of them has many advantages and weaknesses in comparison, but the hydropower obviously has so many advantages over them due to lower cost, higher efficiency, and good reliability.

Market

Our main customers are electricity suppliers, local power distributors, and individual consumers. The market will be expanded by attending in the relevant events (seminars, conferences, and trade shows) and also through digital marketing, it could be more developed all over the world in the future.

Competition

Our major competitors are solar and wind power supplier, and also the pressurized turbine manufacturers that their products are mostly installed on the water pipelines, but the great advantages of our method (low cost, high efficiency, durability, reliability, and environment-friendly) makes it fully competitive.

Business Model

Our product will be offered to the market directly or through an EPC project execution. Alternatively, we are able to sell the generated electricity by our erected plants to customers in the future.

Investment

At least \$100,000 funding is needed to develop our business in your country. This funding will be used for establishing the business, including the cost for administration, management, R&D, fabrication, erection, promotional, and marketing. Our business will be very attractive to investors, because it offers a low-cost distributed generation of hydroelectricity suitable for outlying/rural regions having some water resources (rivers/canals), which haven't access to any local electrical network. It is an alternative energy source for substitution of the fossil fuels that will be more developed in the future.

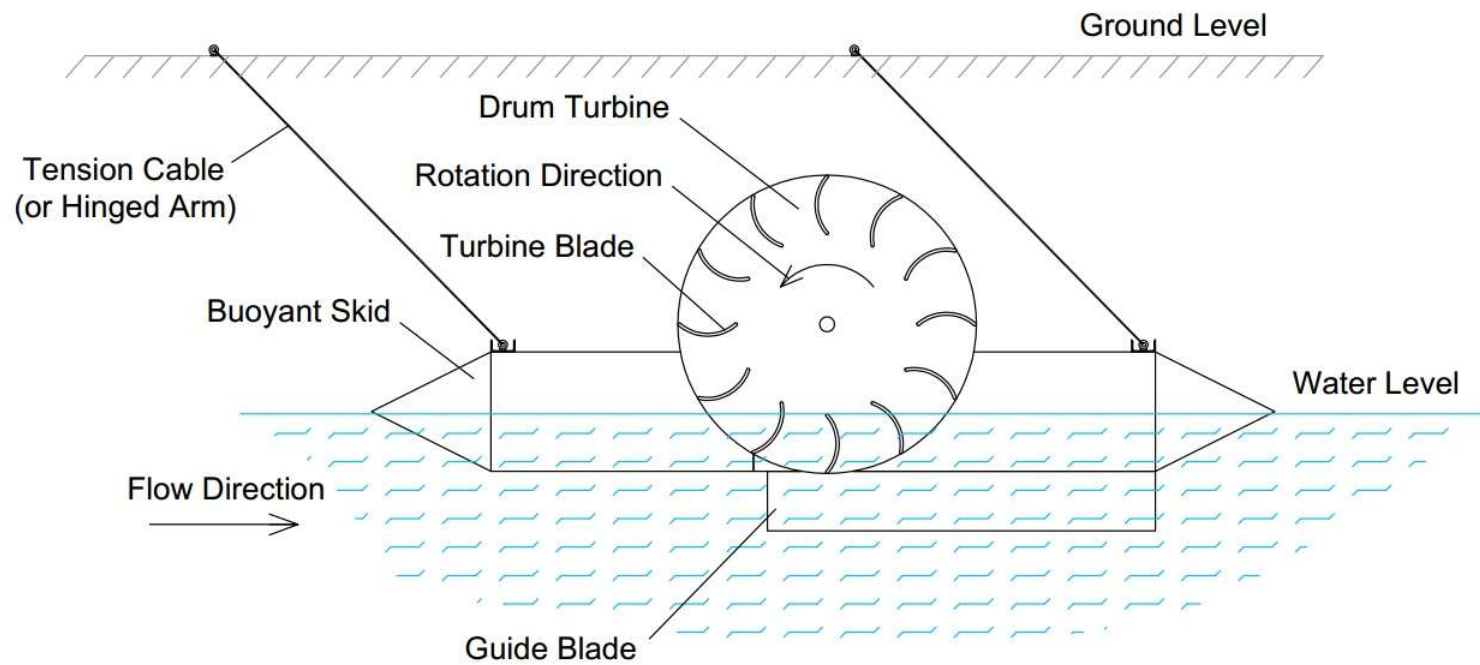
Team

Our company is a limited liability firm that shares between the two founders, each of them having about two years of experience in this business; Shahriar Najafian is a mechanical engineer as the technical member, and Samira Tavakolysomeeh is a mathematical expert as the administration member.

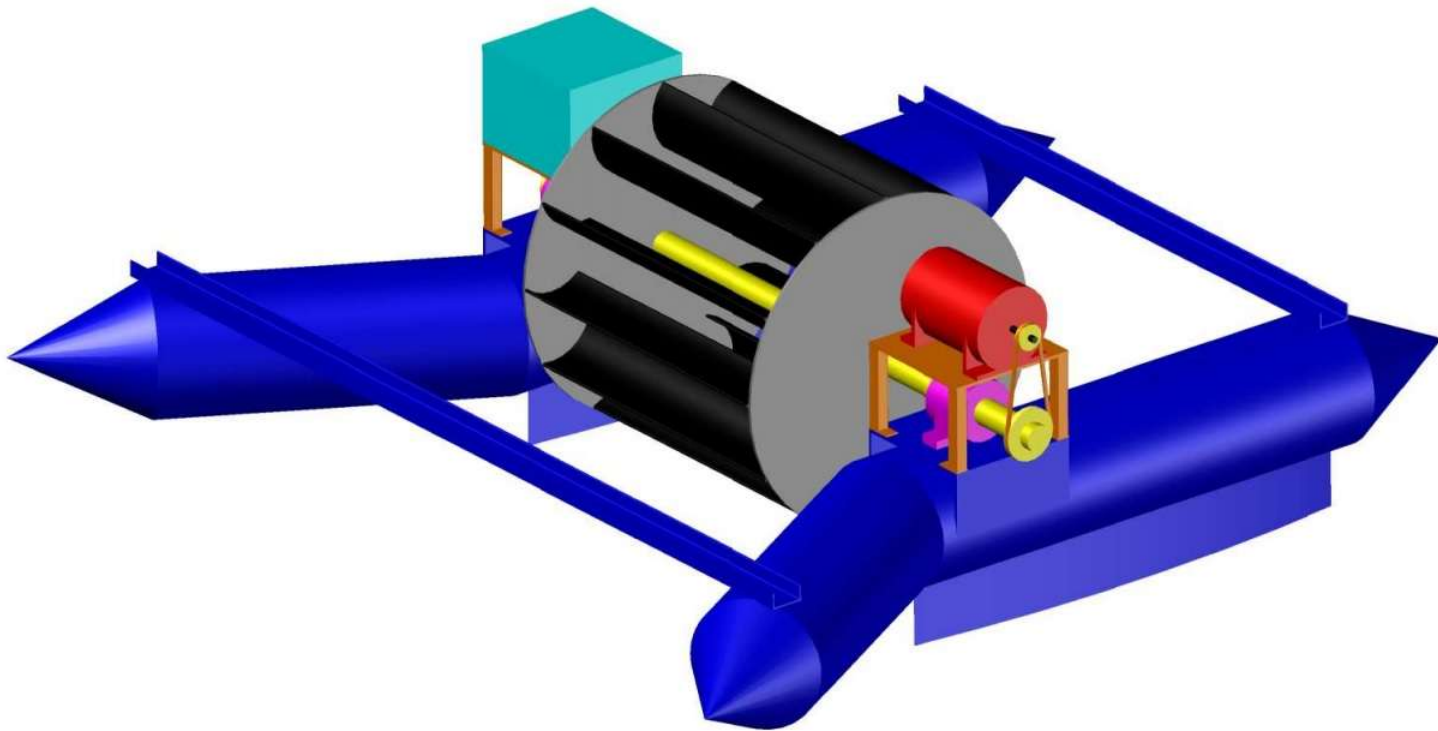
Product

Our product is an innovated micro-hydropower turbine (named Floating Drum Turbine or FDT) utilized for the distributed generation of hydroelectricity from the water streams (rivers/canals). It consists of an undershot waterwheel floated on a water stream using a buoyant skid, and be anchored to the water bankside using some cables/hinges. The water stream makes the turbine and its coupled generator to rotate that causes generating the electricity. We have built and tested the turbine prototype, and it was presented publicly by our company in the 11th International Renewable Energy Fair in Tehran/Iran (21-24 Feb. 2019) too. This turbine was registered in the WIPO-PCT system, and it was also applied for a patent in the national phase in the US, UK, and Canada.

FDT schematic drawing

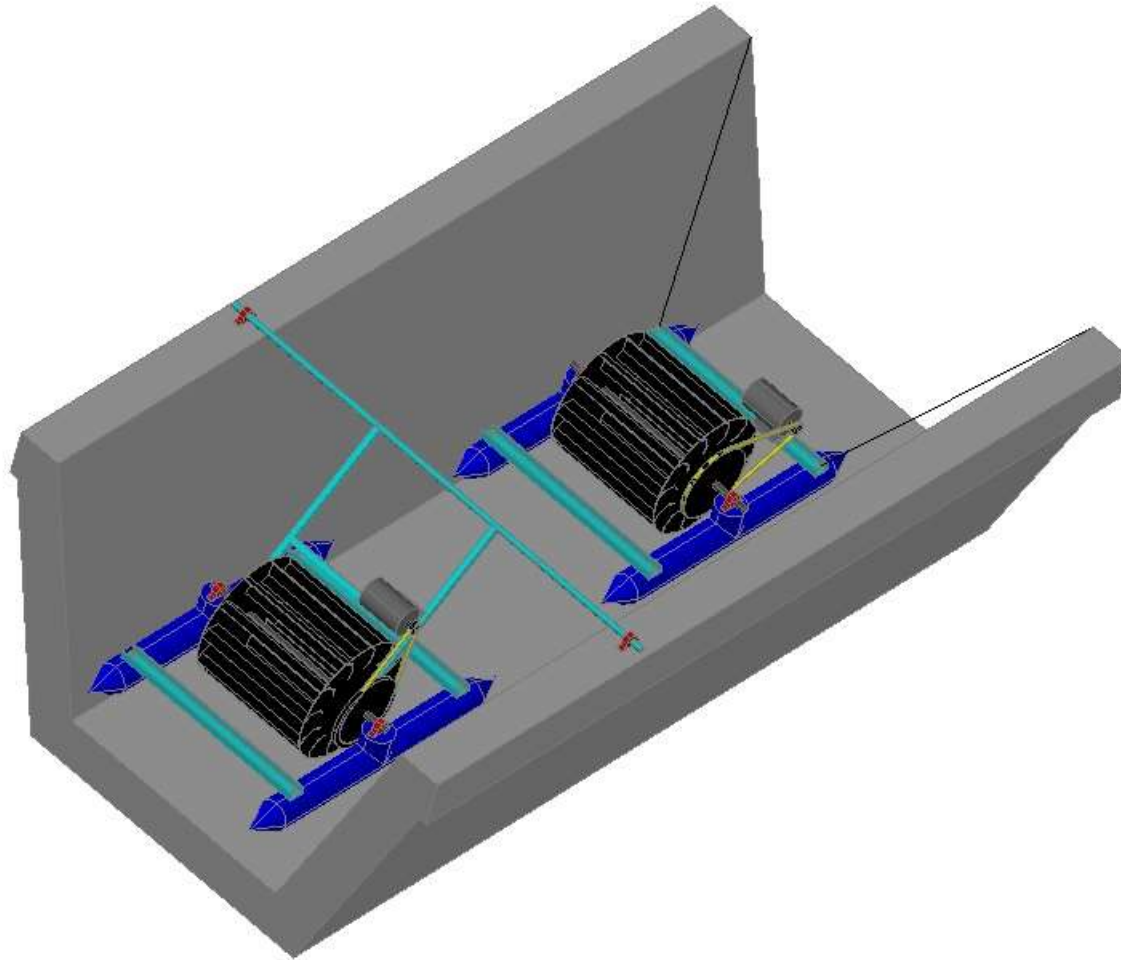


FDT 3D-model



FDT installation types

(Left: Hinged, Right: Cabled)



FDT prototype during the test





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