# Volunteer Terms of Reference: Coding for Good! Mobile Money + Smart Meter API Integration

[EarthSpark International](#) is a non-profit organization operating two solar-powered electricity grids in rural Haiti that serve over 850 households and small businesses. With plans to scale-up to deliver electricity to over 80,000 people in Haiti in the next 5 years and simultaneously adapting to the challenges of COVID-19, EarthSpark is now urgently seeking a volunteer for a one-time assignment of setting up mobile money integration for its electricity systems.

## Background

Each customer on EarthSpark's grids is connected via a smart meter developed by EarthSpark's spin-off company [SparkMeter](#). The smart meters allow the microgrids to be "pre-pay" systems. Historically this has meant that customers buy electricity credits in person from electricity vendors, similar to how many people buy "minutes" for phone usage. The energy vendors enter the sales into the SparkMeter Portal on a tablet locally which then applies the electricity credit to the customer's account and meter. In response to the COVID-19 pandemic as well as a general desire to improve operational efficiency for our customers, EarthSpark International would like to launch a mobile money payment option to allow customers to purchase electricity credit remotely using their mobile phones.

To do this, EarthSpark has worked with SparkMeter to determine the needed information to integrate mobile money into our operations, with [Digicel](#) (a national telecommunications provider in Haiti) to develop the operational frameworks and contracts for implementing mobile money and with Sogebank to establish a [MonCash](#) account (the mobile money application used by Digicel and other providers). Both SparkMeter and Digicel have extensive API/SPI documentation and technical teams to support the integration, but EarthSpark now needs to develop the software environment (VPN, etc.) and systems to actually link the SparkMeter platform with the Digicel MonCash platform.

## Description of Assignment

The volunteer will assess the existing API/SPI documentation and develop the needed software environment and code to enable the integration of the Digicel MonCash platform with the SparkMeter electricity billing and management platform. While specific tasks will need to be tailored to the integration requirements that the volunteer will help identify, the general assignment activities will include:

- Review provided API/SPI documentation for both SparkMeter and Digicel/MonCash
- Initial call with EarthSpark, SparkMeter, and Digicel Teams to ensure a clear and coordinated approach
- Coordinate with SparkMeter and Digicel technical teams to develop VPN/server for EarthSpark mobile money operations

- Automate passthrough of Digicel/MonCash mobile money requests to the SparkMeter electricity management interface based on a combination of parameters including customer name, account number, and phone number.
- Test the software integration with sample MonCash transactions for customers (supported by EarthSpark staff)
- Train EarthSpark team on the developed solution, particularly ongoing upkeep of the VPN and troubleshooting
- Develop a brief guidance/reference document for the developed solution

## Desired Qualifications

- Working proficiency in Python, HTML, and other languages for generating, managing, and processing network/http requests
- Demonstrated experience in developing VPN systems and hosting servers
- Demonstrated experience in supporting software and API integrations
- Demonstrated experience delivering training for end-users
- Experience with mobile money platforms, particularly for energy access is a plus
- Excellent written and spoken communication skills
- Flexible and enthusiastic approach to collaboration
- Fluency in English

## Expected Timeline

Given the urgent need to develop mobile money capabilities, the envisioned timeline for completion of the mobile money integration is ideally no later than June 30th.

## About EarthSpark

EarthSpark International is a non-profit organization building businesses that enable people to access electricity for the first time. So far the organization has spun off Enèji Pwòp, S.A., a Haitian electric grid operator, and SparkMeter, Inc., a smart meter technology company. EarthSpark is also the leader in solar-powered smart grids in Haiti, with a plan to scale from two to 24 towns in the next five years. Visit http://www.earthsparkinternational.org/ to learn more.

## Contact

If interested please send a CV and statement of interest to andy@earthsparkinternational.org. Clarifying questions are also welcome.