Job Vacancy
Consultant of Earth Observation

About IESR
Institute for Essential Services Reform (IESR) is a think-tank in energy and environment. IESR encourages transformation into a low carbon energy system by advocating a public policy that rests on data-driven and scientific studies, conducting capacity development assistance, and establishing strategic partnerships with non-governmental actors. There are 4 programs in IESR covering the work on (1) sustainable energy access; (2) green economy; (3) energy transformation; and (4) Clean, Affordable, and Secure Energy for Southeast Asia (CASE).

IESR's vision is to build a world that is better, more sustainable, low-carbon oriented, and able to provide clean, sustainable energy for future generations. Meanwhile, IESR's Mission is to encourage the acceleration of Indonesia's energy transition toward a just, clean, and low-carbon energy system.

About the Project

Indonesia has a unique position in the effort to foster energy transition in the SEA region. As the largest economy in Southeast Asia, the energy transition in Indonesia could affect the flow of investment to clean energy as well as investment in manufacturing, which could shift investment flow in this region and its dynamics. But Indonesia is also rich in fossil fuels and is the main exporter of coal and natural gas.

As this year Indonesia also chairs G20, the Indonesia Presidency could accelerate the global energy transition, and in the SEA region, by increasing countries to scale up the deployment of renewable energy and foster the phase-down of coal, as well as modernizing energy infrastructure. A web-based monitoring platform will make progress of energy transitions easily to be monitored by the public, journalists, and other interested stakeholders in the region.

The website will mainly provide earth imageries showing the progress of energy transition in the SEA region and some images showing variables forcing energy transition, such as temperature changes. Users can also download the raw data from the website that can be used for other analyses.

Duration: 9 months (June 2022 - Feb 2023)

Duties and Responsibilities

Generally, the assigned candidate will provide GIS technical services for a wide variety of activities in the areas of renewable energy and energy transition. In detail the responsibilities will also include:

- Integrate other geo-spatial data sources regarding air pollution, temperature, solar radiation intensity, wind speed, and other needed data for achieving the project's target
- Extract feature and/or terrain data from a variety of sources
- Providing earth imageries and their raw data at the daily timescale, which are ready to be uploaded to the website
- Documenting the design technical approaches and solutions
- Providing training to IESR staff to be able to extract data and make earth imageries beyond the contract duration
- Providing GIS metadata creation.
- Maintain current knowledge of the latest developments in theory and application of Earth Observation / Remote Sensing technologies
- Define Earth Observation / Remote Sensing workflows and models for projects, review, QA, and maintain associated documentation
- All other duties as assigned.

Qualifications:

- Bachelor's Degree or Master's degree in one of the following areas: Geography, Cartography or Geographic Information Systems, or related disciplines
- 3+ years of working experience in GIS, remote sensing, digital cartography, and image processing.
- Excellent knowledge of geographical information systems, geospatial production techniques, and digital data formats.
- Experience in working with satellite imagery e.g., from Landsat-8, Sentinel-2
- Ability to search archives for appropriate satellite data
- Demonstrated experience with Python and/or R for satellite image processing
- Strong Google Earth Engine skills
- Competence in the use of current Earth Observation and geospatial tools and software e.g., DIAS, SNAP, ArcGIS, QGIS, FME
- Familiar with relevant libraries e.g., Pandas, GeoPandas, NumPy, SciPy, GDAL, Matplotlib
- Experience with Earth Observation algorithm development
- Experience using Machine Learning algorithms for remote sensing applications
- Proficiency in MS Office Applications (Excel, Access, Word)
- Knowledge and experience in time series analysis, common image classification techniques, image pre-processing and post-processing e.g., atmospheric correction, feature masking, principal component analysis, data scaling and normalization, filtering, spectral signature analysis, dealing with null values
- Ability to elicit, translate, and simplify project requirements
- Strong team-working skills and
- Ability to communicate complex technical ideas to a non-technical audience
- A planned and organized approach to work and meeting deadlines
- Excellent verbal and written communication and proven ability to write clear and concise reports

To apply: Submit via email to farah@iesr.or.id and lisa@iesr.or.id by submitting the following documents: 1) resume and 2) cover letter, by 24 June 2022