



Operational Excellence Services

Decarbonization GHG Quantification Service



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GHG Quantification Service

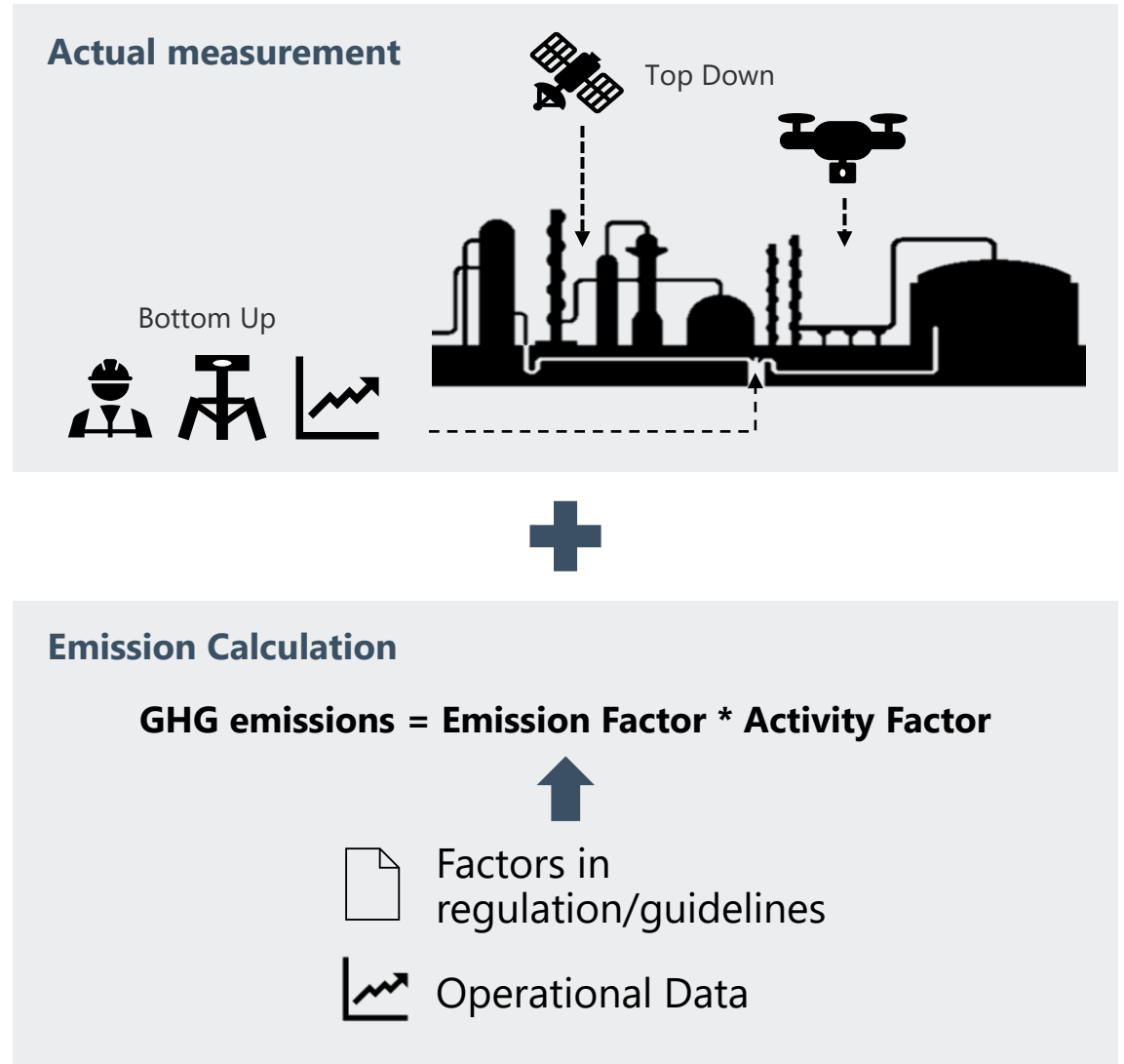
Do you have any of these issues?

- ☹️ **Difficulty in quantifying GHG (including CH₄)**
- ☹️ **Need to quantify emissions in actual operation**
- ☹️ **Identifying baseline for decarbonization project**

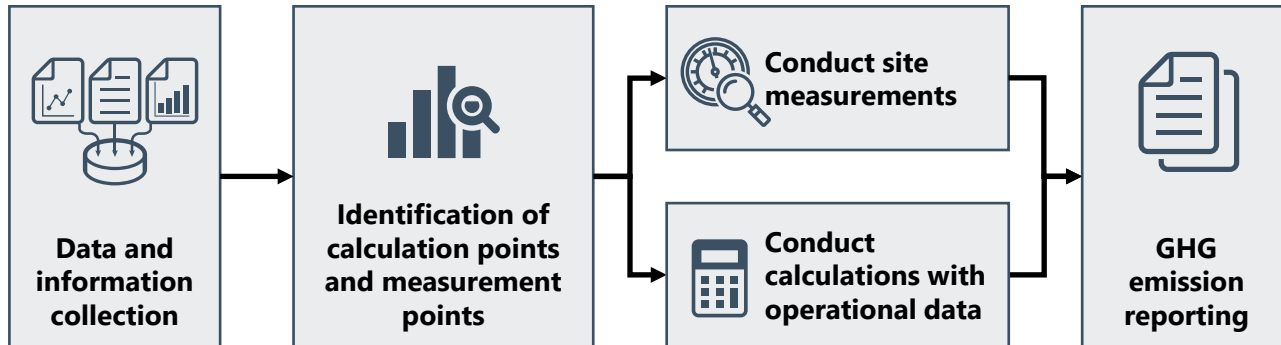
GHG Quantification

- Quantify GHG (CO₂, CH₄, N₂O) by actual measurement and engineering calculation.
- Conduct actual measurement with drone, satellite, handheld sensor, IR camera
- Provide optimized MRV(*) methodology
- Reporting the GHG emission to the authorities.

(*) Measurement, Reporting and Verification



Workflow & Results



Steps

- Identify measuring points and calculation points from design documents.
- Conduct engineering calculations / Actual measurements
- Report to client or government agency with preset format

JGC is

- able to select the most appropriate MRV methodology from those proposed by international organizations and standards/guidelines
- familiar with a variety of plants and can provide the best combination of drones, satellites, and handheld sensors

Our Strengths

- Professional HSE, Process, Mechanical Engineer Teams
- Dispatched technical experts to participate in various international discussions on GHG Measurement, Reporting and Verification (MRV).
- Experience in EPC and O&M of many types of facilities in many locations around the world.
- Collaboration between oversea group companies and local companies.

Our Background

- JGC has been commissioned by Japan Oil, Gas and Metals National Corporation (JOGMEC) to develop their guidelines.
- The Institute of Energy Economics, Japan (IEEJ) has contracted JGC as a technical adviser for GHG MRV

(*) PAU: PT Panca Amara Utama

Project in Actual plant

- JOGMEC/JGC completed **direct measurement** to quantify Methane emission in PAU(*) Ammonia Plant. (Dec-2022)
- **Satellite / Drone / Handheld Sensor / Camera** have been used in the project
- CO2 calculation has been conducted using operating data.

