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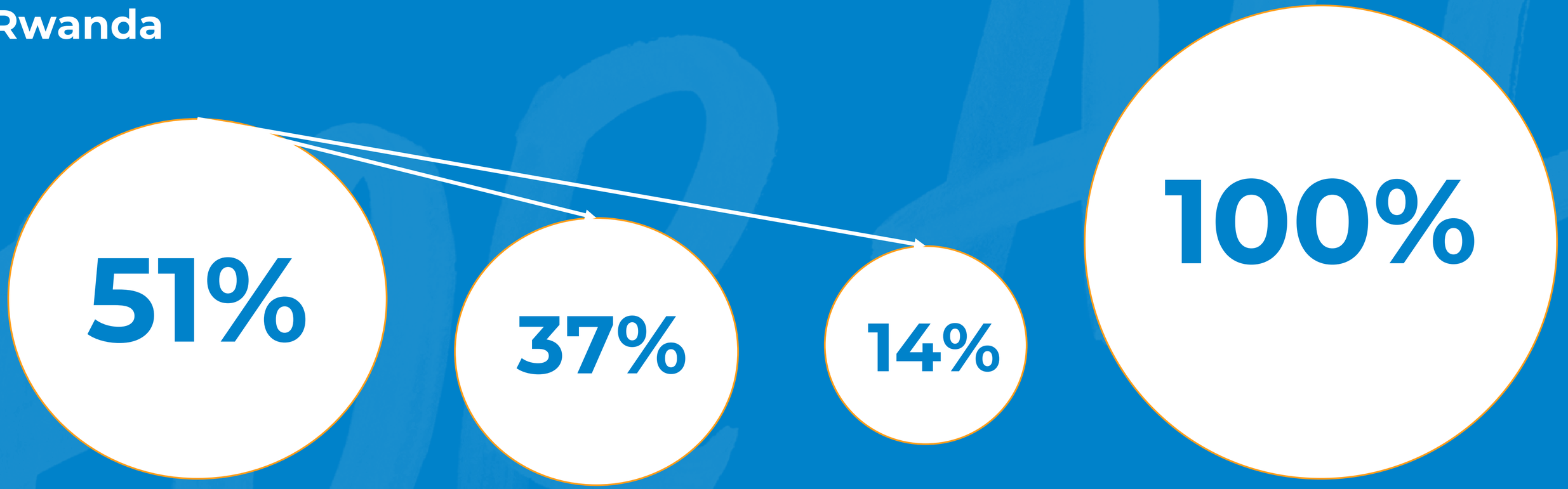
# Climate Change Projects

# Alteryx **Decentralised Energy Project**

## Using Location Intelligence to Place Solar Panels in Rwanda

meshpower rwanda




Households with access to electricity

Households with access via the national grid

Households with access via off-grid systems

Target households set by 2024, set by Rwanda's national electrification plan

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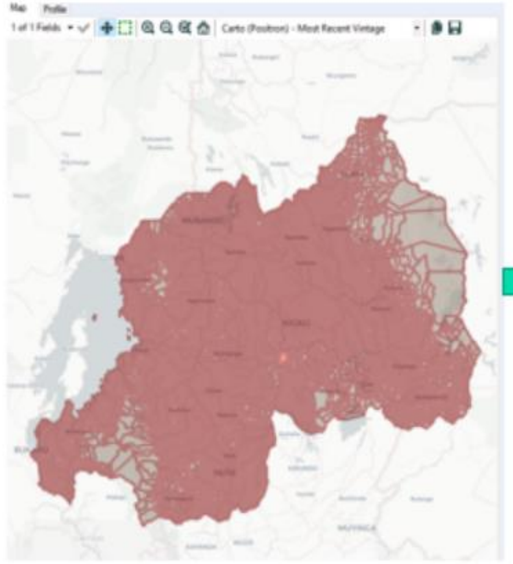
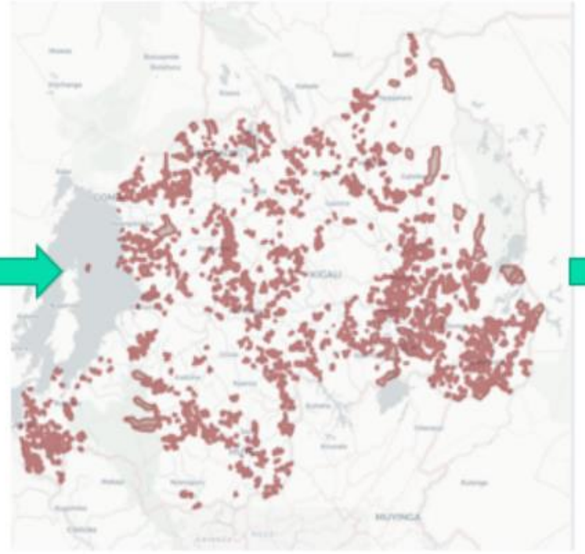
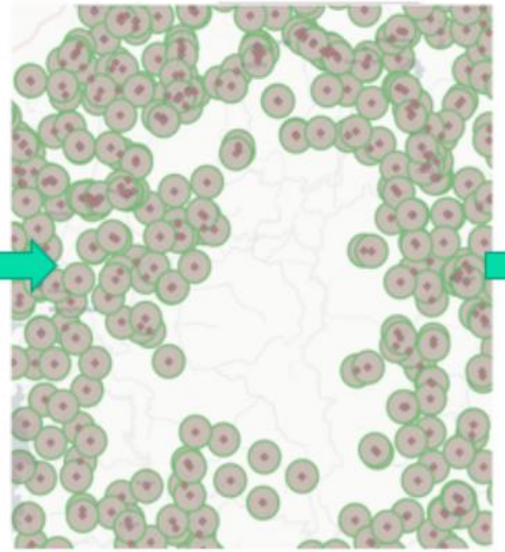
# Alteryx **Decentralised Energy Project**

mesh power rwanda







| name | SUM_Popula | SUM_Househ | Code_vill1 | Area_KM |
|---|---|---|---|---|
| Rusororo | 685 | 146 | 52070207 | 1.482529 |
| Kabeza | 648 | 145 | 52070304 | 1.437265 |
| Isangano | 716 | 212 | 52070403 | 1.768605 |
| Nyakagarama | 575 | 116 | 52080606 | 1.320456 |
| Rwakabungo | 684 | 280 | 52090204 | 3.989913 |
| Gakiri | 710 | 152 | 52090301 | 1.892094 |
| Mushorerwa | 567 | 146 | 52090502 | 2.809225 |
| Nyabyihura | 547 | 125 | 52090704 | 1.370764 |
| wenyana | 646 | 125 | 52090803 | 1.780358 |
| Umunini | 846 | 190 | 52090804 | 2.330342 |
| Urumuri | 1016 | 220 | 52100406 | 1.59332 |
| Cyenjonjo I | 420 | 79 | 52120101 | 6.34992 |
| Nyendo | 636 | 127 | 52120202 | 7.560881 |
| Cyamunyana | 1032 | 208 | 52130702 | 23.456375 |
| Rubira | 622 | 187 | 52130705 | 13.893596 |
| Gatoma | 571 | 122 | 52140101 | 2.248977 |
| Kayanja | 893 | 179 | 52140103 | 2.393794 |
| Nyagatare | 376 | 65 | 52140104 | 0.768079 |
| Nyasine | 376 | 65 | 52140105 | 2.222443 |

Every village name and polygon across Rwanda

Means of filtering this down to polygon areas **not** on the grid or already using alternative power

List of Infrastructure locations (schools, hospitals etc.) across Rwanda

+ any other numeric variables at a village level including: **population**, **households**, **high income** count etc.

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# Housing Energy Efficiency and Retrofit Potential

1

## Overview

Our use case focuses on leveraging available **EPC** data, **Spatial** data and **Census** data for Hounslow to ask questions around energy performance of households such as potential to reach EPC-C and investment required to retrofit.

We'll then leverage Spatial information to create maps to identify areas to target for retrofit.

2

## Business Issues

- Difficult to identify social rented properties that have no potential to reach EPC-C (2025 requirement).
- Difficult to identify **retrofit "Quick wins"**, which houses get a good return on investment?
- Struggling to **identify affordability** potential.

3

## Outcomes & Value

- Identify all current and potential energy ratings of all household types for **retrofit opportunities and compliance**.
- **Cost/Benefit** spatial map of Hounslow by census areas
- **Affordability** spatial map of Hounslow by census areas



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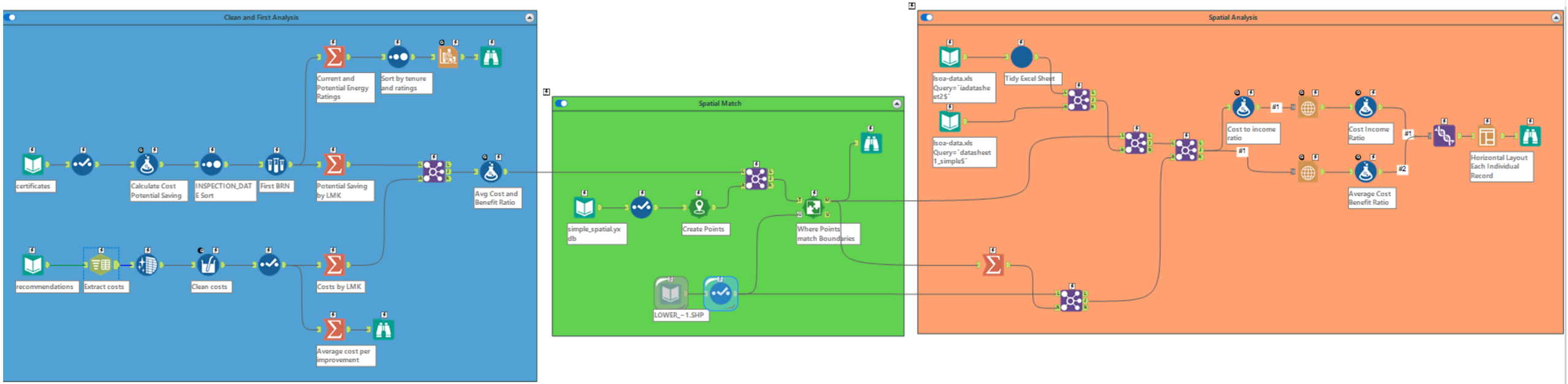
# The Alteryx Workflow

Import, Clean and Carry out Initial Analysis

Spatial Points, Boundaries and Joining

Join Census Data and Create Map Reports



# Alteryx Automated Predictive Geospatial Analytics for Flood Mapping

## For FEMA Emergency Response

### Pain

- FEMA is tasked with generating the location intelligence that underlies the National Flood Insurance Program
- Historically, this is a very labor-intensive process; large data volumes, hundreds of data sets and thousands of data layers
- This includes the collection of information on over 90 Million structures across all 50 states and 6 US Territories
- Must create insight across different flood types and multiple geographic variables


### Solution

- Alteryx blended and analyzed 300+ data sets with 4000 layers
- Geospatial and predictive analysis across multiple factors including different flood threats
- Reduced time to conduct new analysis and maps from years to weeks
- Provides significant and more timely information to state, regional and local governments, homeowners and insurance providers to mitigate risk

**Automating Asset Inputs** → **Automating Outcomes**

Data Asset Mgmt. | Data Prep & Blending | Diagnostic Reporting | Business Insights | Location Insights | Predictive Analytics | Data Science & ML | Forecasting & What-If Analysis | Deployment & Monitoring



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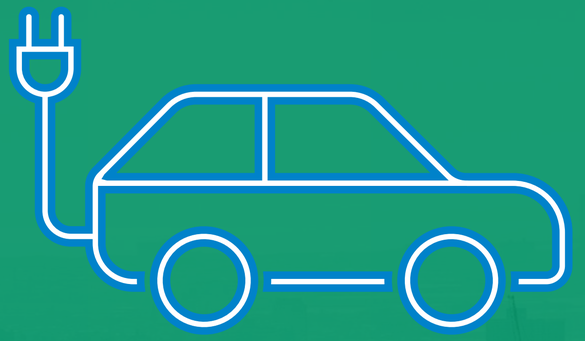
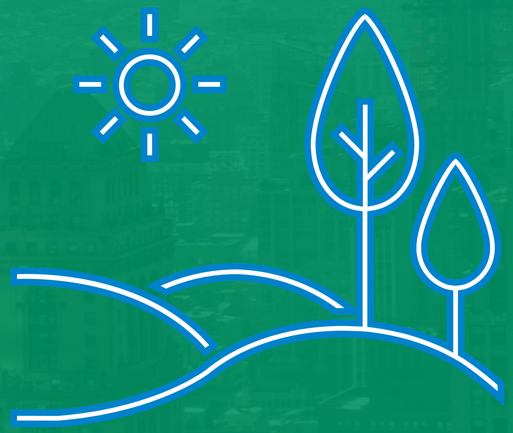
# Other climate change use cases…



Low Carbon Transport for Logistics



Atmospheric CO2 Sampling and Forecasting

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# Other climate change use cases…

## Using Smart City Analytics for Solid Waste Management

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# How we engage...

1. Define use cases
2. Set up wider demo
3. Run pilot/PoC

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# THANK YOU

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