

The Global Atlas for Renewable Energy

The global renewable energy prospection platform

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MANDATE

To promote the widespread adoption and sustainable use of **all forms of renewable energy** worldwide

OBJECTIVE

To serve as a **network hub**, an **advisory resource** and an **authoritative, unified, global voice** for renewable energy

SCOPE

All renewable energy sources produced in a **sustainable manner**



BIOENERGY



GEOTHERMAL
ENERGY



HYDROPOWER



OCEAN
ENERGY



SOLAR
ENERGY



WIND
ENERGY

Global Atlas: a large undertaking for prospecting RE opportunities



Albania, Australia, Austria, Belgium, Colombia, Denmark, Egypt, Ethiopia, Fiji island, France, Gambia, Germany, Greece, Grenada, Honduras, India, Iraq, Iran, Israel, Italy, Kazakhstan, Kenya, Kiribati, Kuwait, Lithuania, Luxembourg, Maldives, Mali, Mauritania, Mauritius, Mexico, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Peru, Philippines, Poland, Portugal, Qatar, Saudi Arabia, Senegal, Seychelles, South Africa, Spain, Sudan, Swaziland, Switzerland, Tonga, Tunisia, Turkey, UAE, Uganda, UK, United Republic of Tanzania, Uruguay, USA, Vanuatu, Yemen, Zimbabwe.



A large undertaking for prospecting RE opportunities



Data layers, visualization and analytical tools, in one platform

The screenshot displays the IRENA Global Atlas interface. At the top, there are navigation links for 'VISIT OUR SITE', 'SOCIAL MEDIA', and 'TERMS OF USE'. The main map area shows a world map with various data layers overlaid. A yellow circle highlights the 'Layers' menu on the left side of the map. Another yellow circle highlights the 'Interactive legend' on the right side of the map. A third yellow circle highlights the 'Map view' area in the center of the map. Below the map, there are three main panels:

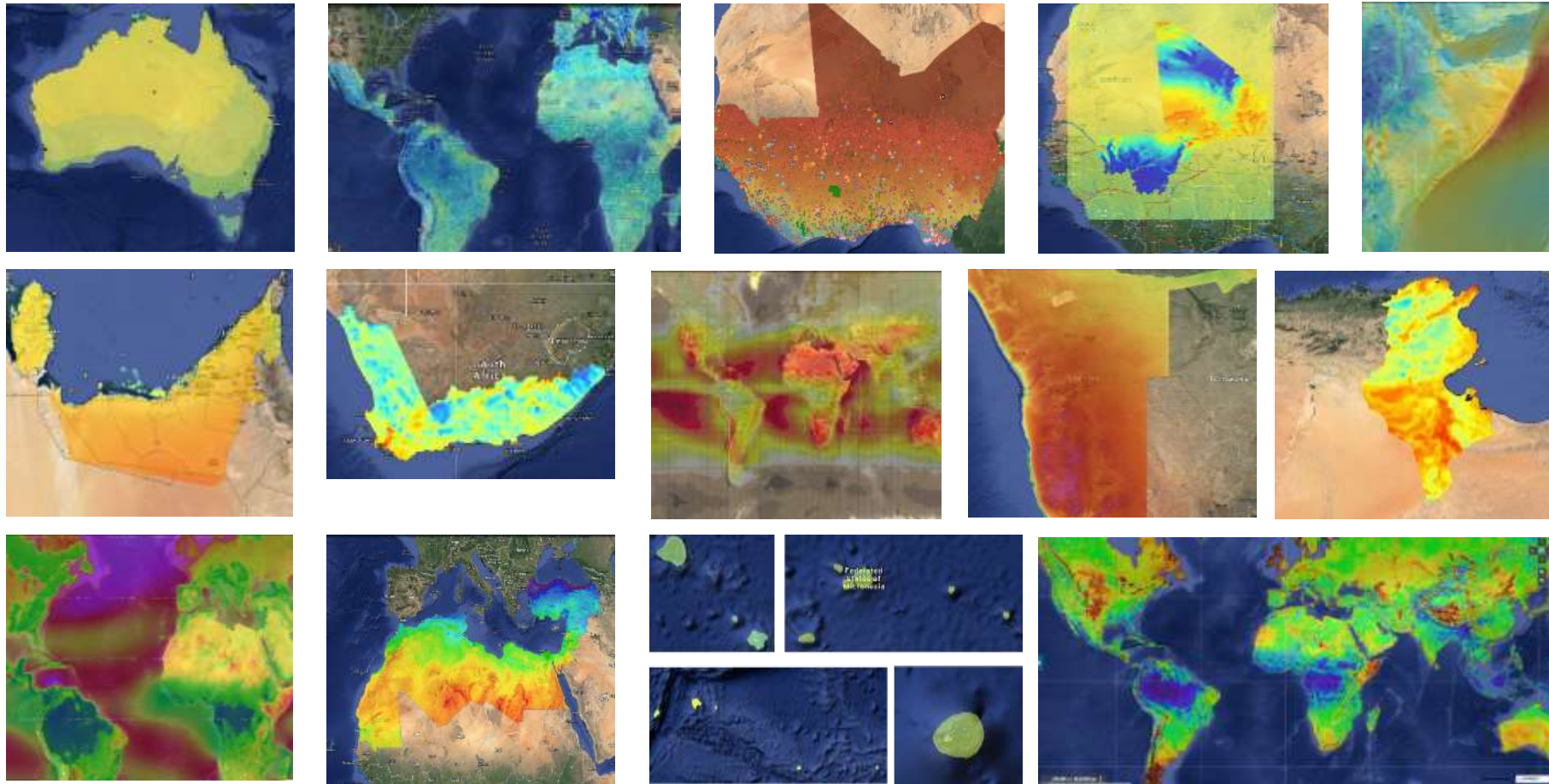
- Time series:** A line graph titled 'Helioclim-1 at Tamanrasset, Algeria' showing solar irradiation (kWh/m²) over time from Jan '17 to Jun '17. The graph includes a 'Click and drag in the plot area to zoom in' instruction.
- Suitability areas:** A map showing suitability areas for solar energy, with a legend and a 'Map' button.
- Energy calculations:** A table titled 'Energy calculations' showing monthly energy production and system data. The table includes columns for 'Month', 'Solar Radiation (kWh/m²/day)', 'PV Energy (kWh)', and 'Energy Value (\$)'.

At the bottom of the interface, there is a footer with logos for various partners and organizations, including JRC, REN21, cener, WinGuard, NOVELTIS, IRENA, SANDER, prognos, Masdar, NREL, STIER, and GeoModel SOLAR.

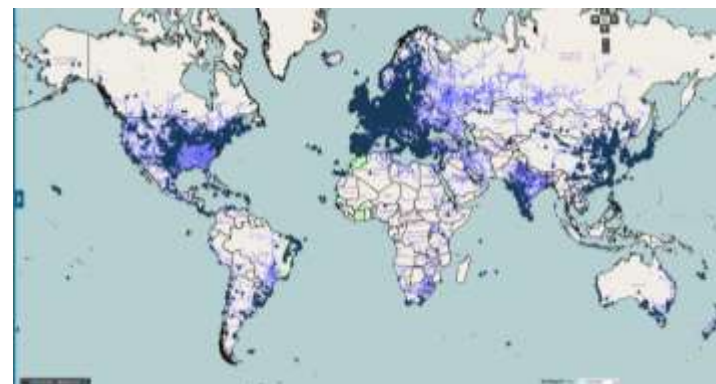
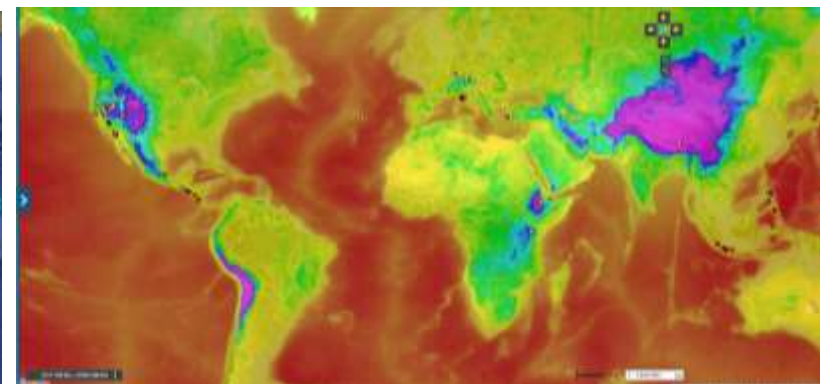
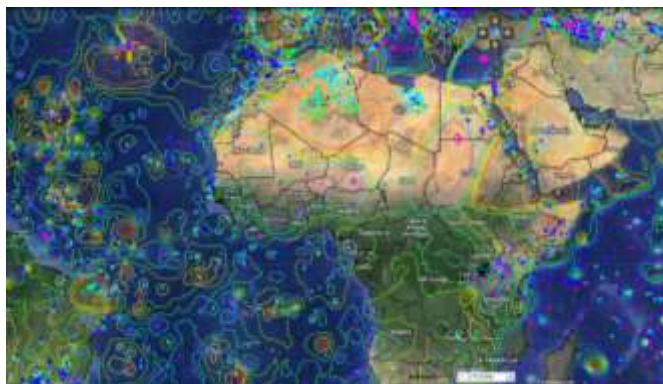
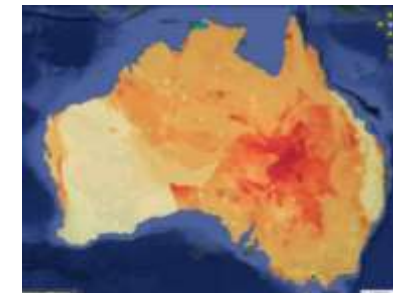
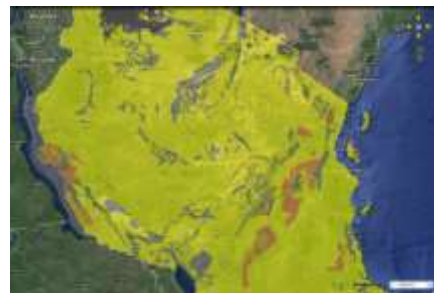


Figure 1. Global Renewable Energy Atlas architecture

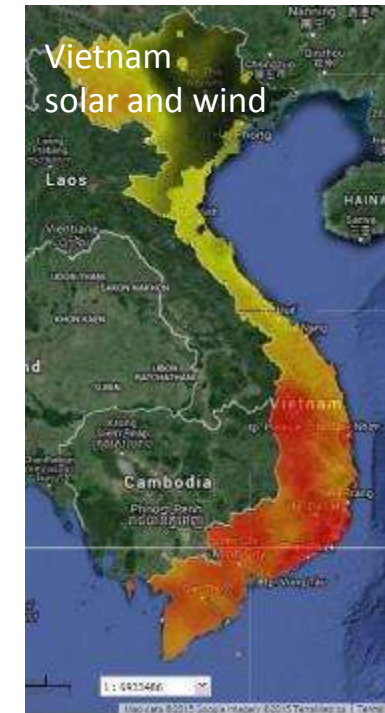
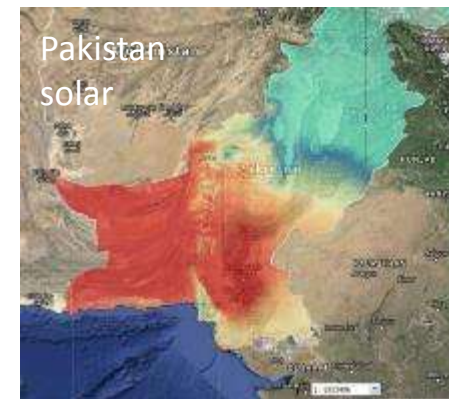
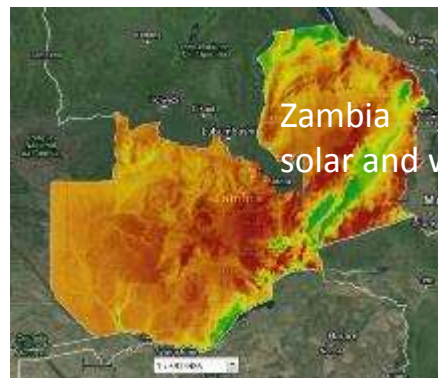
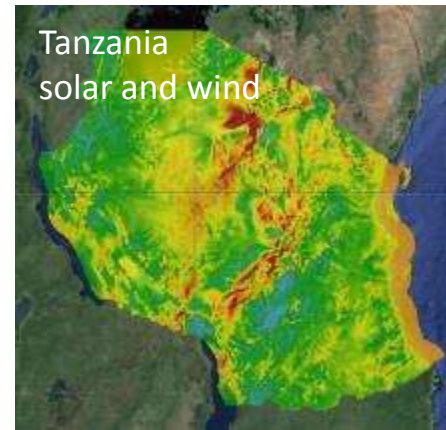
Some datasets of the Global Atlas



Some datasets of the Global Atlas



High-quality resource data from World Bank's ESMAP Program

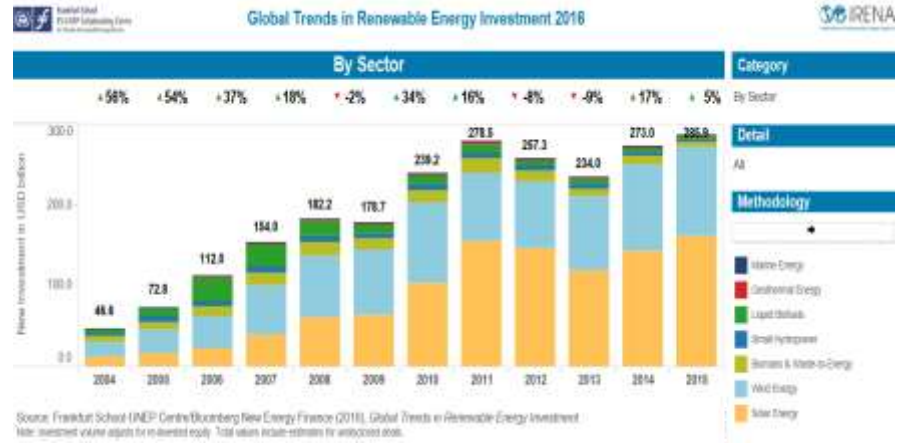


What is our value proposition?

- **We are not in the resource assessment business;**
 - we are a public entity and our goal is to accelerate the growth of renewable energy.
 - Our interest is that governments, and all concerned parties can rapidly source information to make progresses.
- We assessed we can fill a gap in publicly available information.
 - We make available the best quality data possible to the public domain so the process can be initiated quickly and effectively;
 - We reveal 'hidden' data and stimulate the release of more precise information;
 - We concentrate all access through a one-stop shop.
- Our partners are data providers. Their core business is high spatial and / or temporal resolution data and due diligence.
- Our joint interest is the growth of the resource data market; and its diversification to more markets.
- We promote this market in exchange of non-commercial data release. All parties benefit from this equilibrium:
 - users e.g. public actors in developing markets access information which was 'hidden' before;
 - the data providers increase in popularity, the market increases in scale and transparency;
 - providing increasing value, authorizes us to mobilize funding sources to improve the service

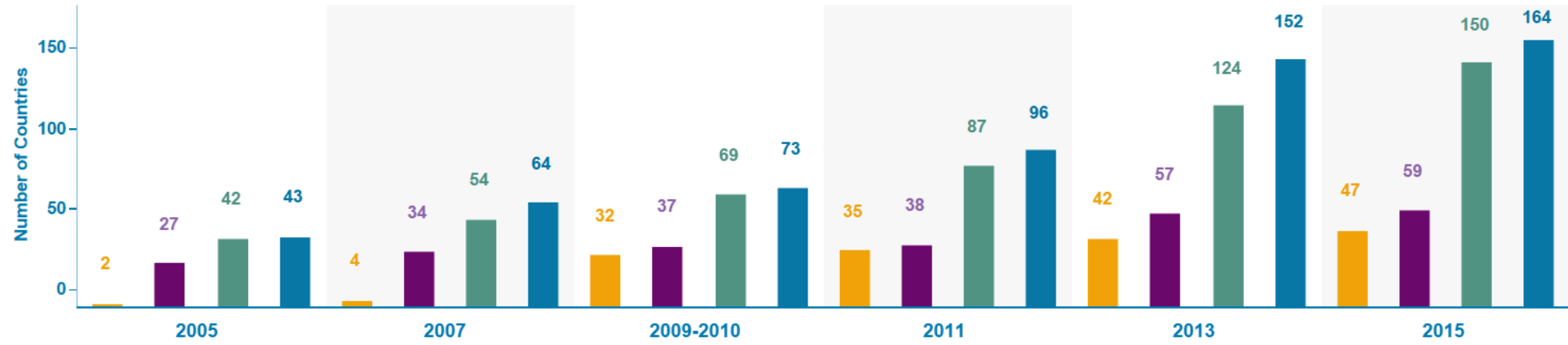
The Paris Agreement changes the way to approach support to policy makers

THE GLOBAL GOALS For Sustainable Development



Towards USD 900 Billion / year

Countries with National Renewable Energy Targets



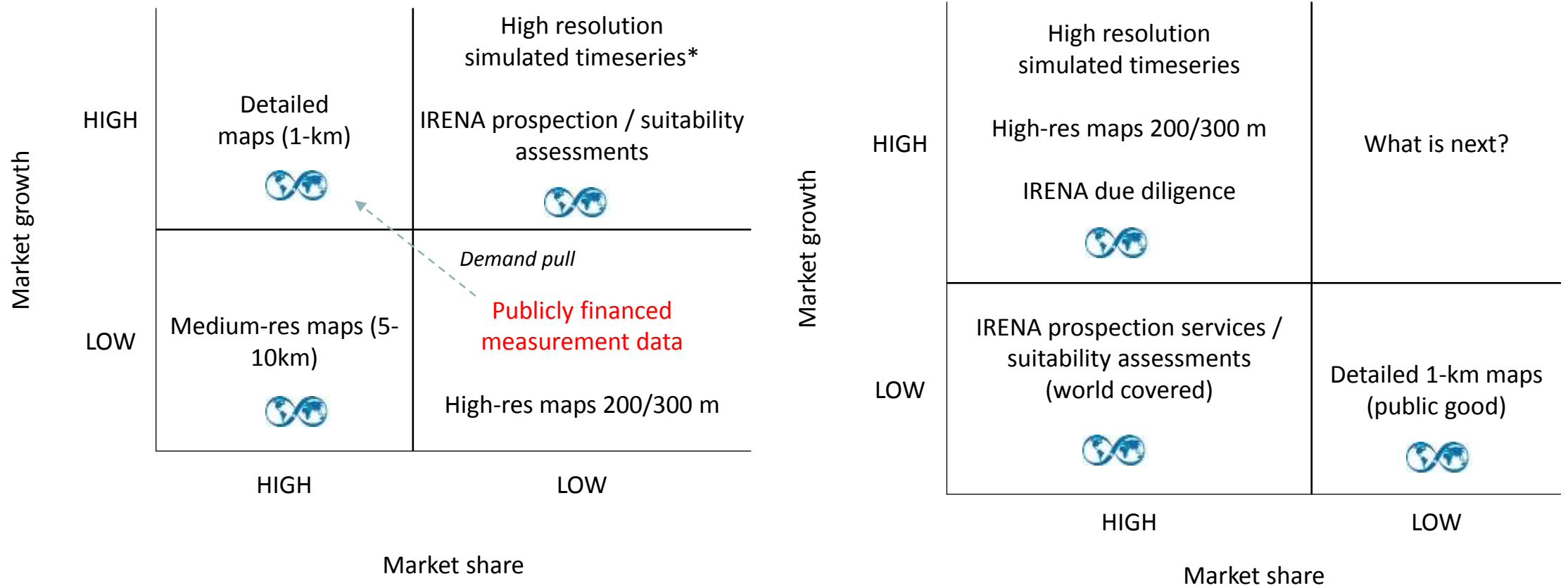
* some countries have multiple targets across categories.

■ Countries with Renewable Electricity Targets

■ Countries with Renewable Heating/ Cooling Targets

■ Countries with Renewable Transport Targets

Pressure on the data market



2015

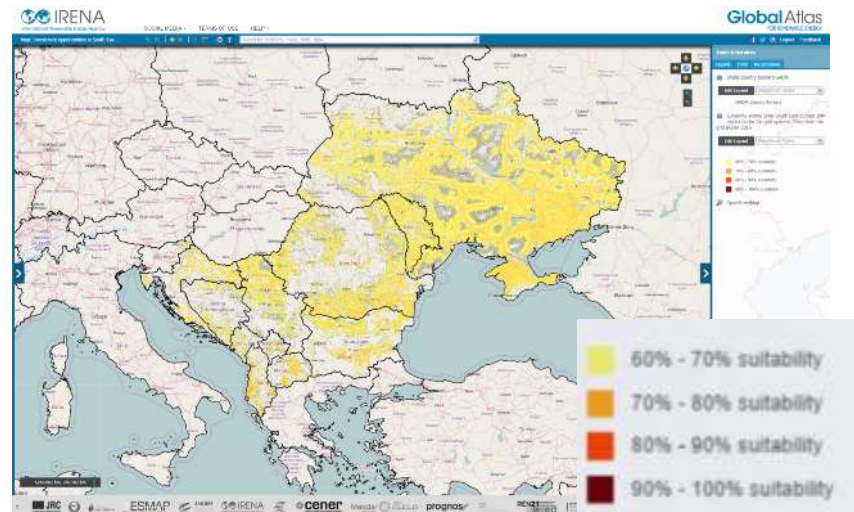
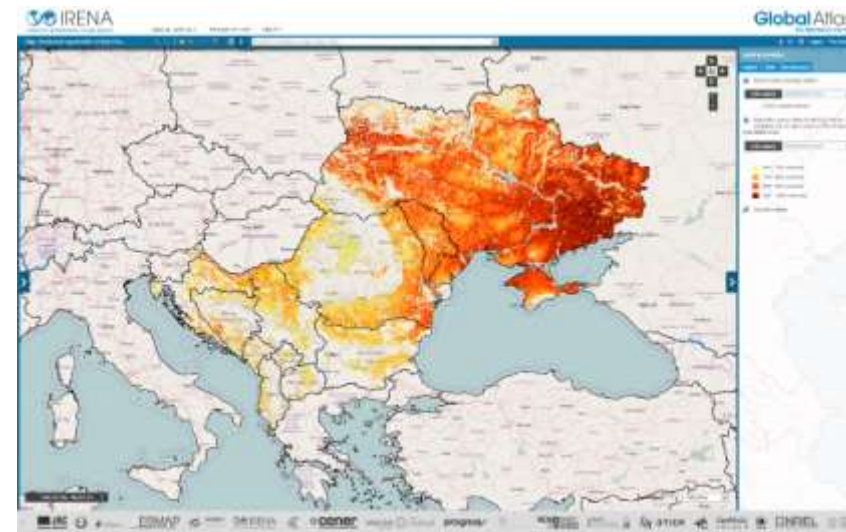
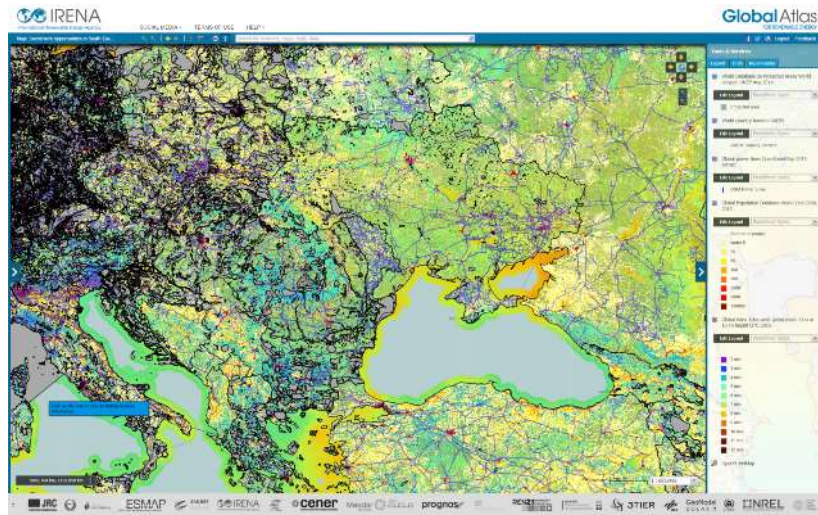
2017

*complemented by short term campaigns

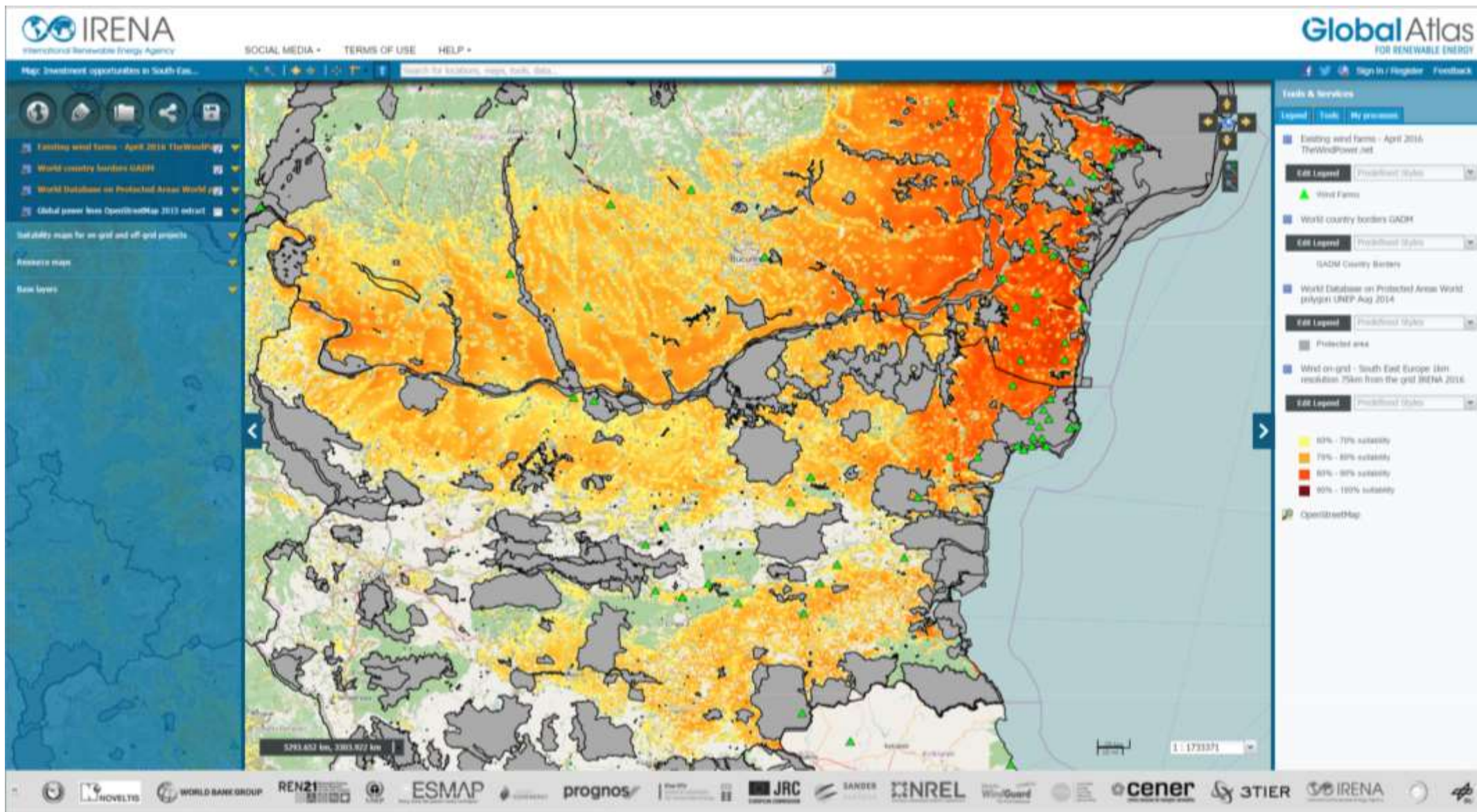


- *The world needs USD 900 billion investments per year in renewable energy to avoid catastrophic climate consequences and meet its development goals;*
- *Finance flows must be accelerated and more bankable projects brought to the market;*
- *IRENA will propose a new approach to deliver fast and reliable support to projects, anywhere, without costly resource measurement campaigns.*

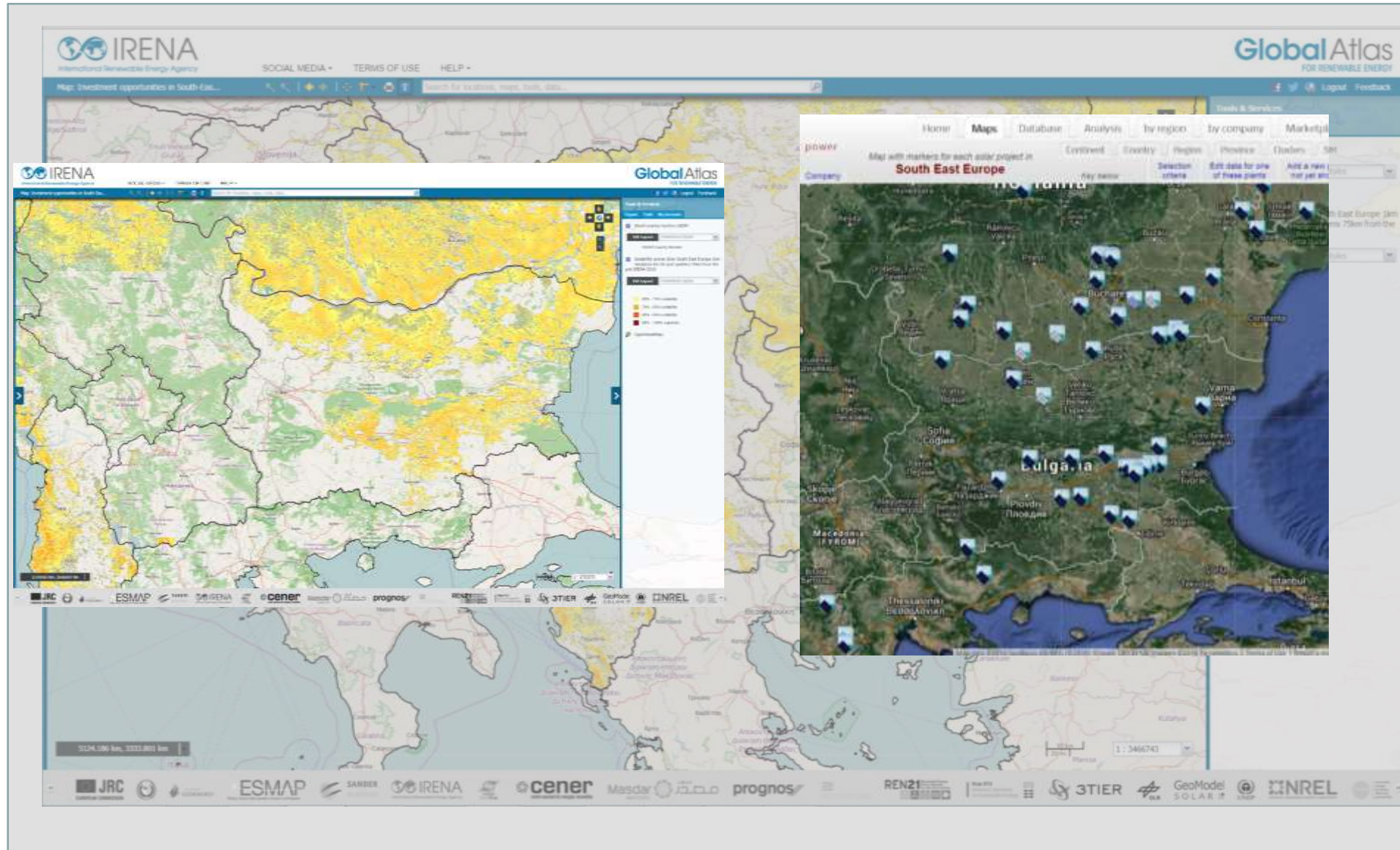
Dealing with complexity to help decision making



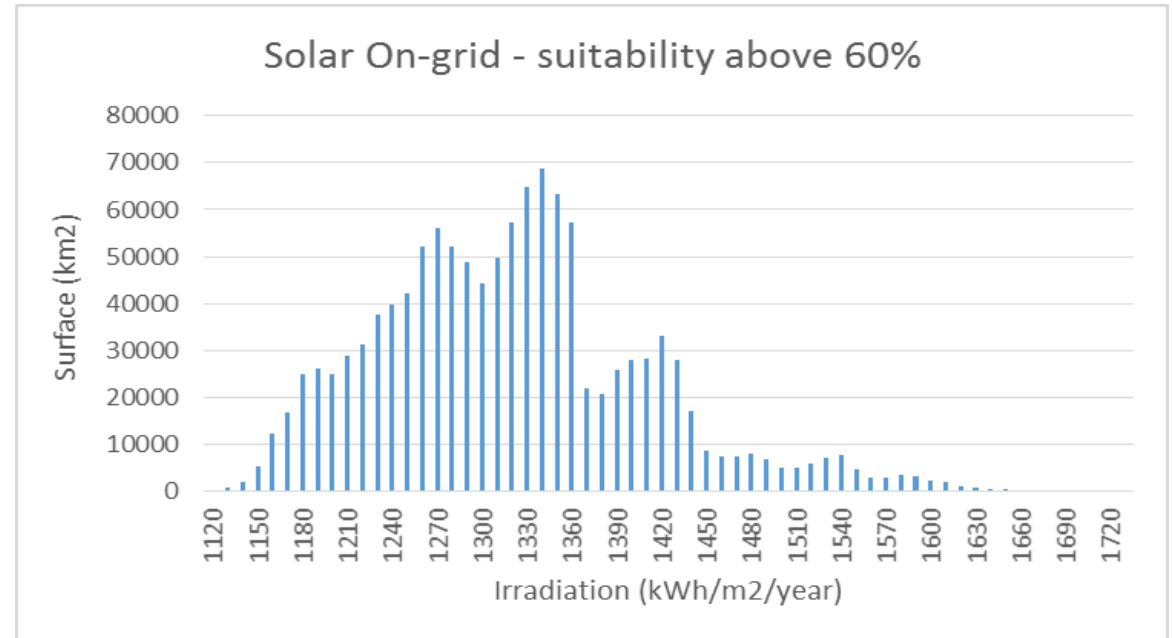
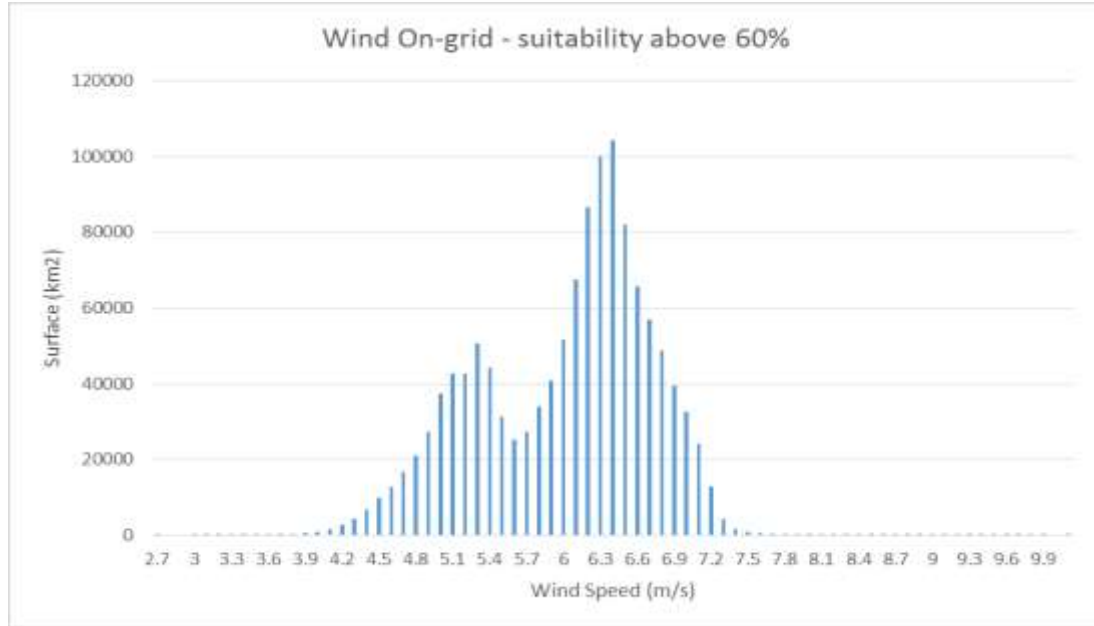
Example for wind



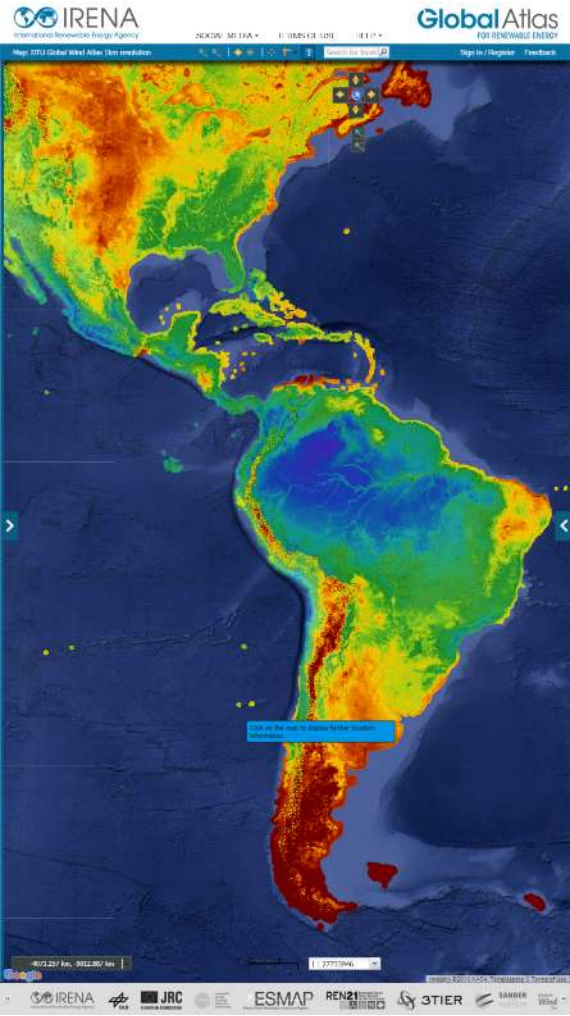
Example for solar



Derivative output: potentials in numbers



Example on Latin America



Lobbyist



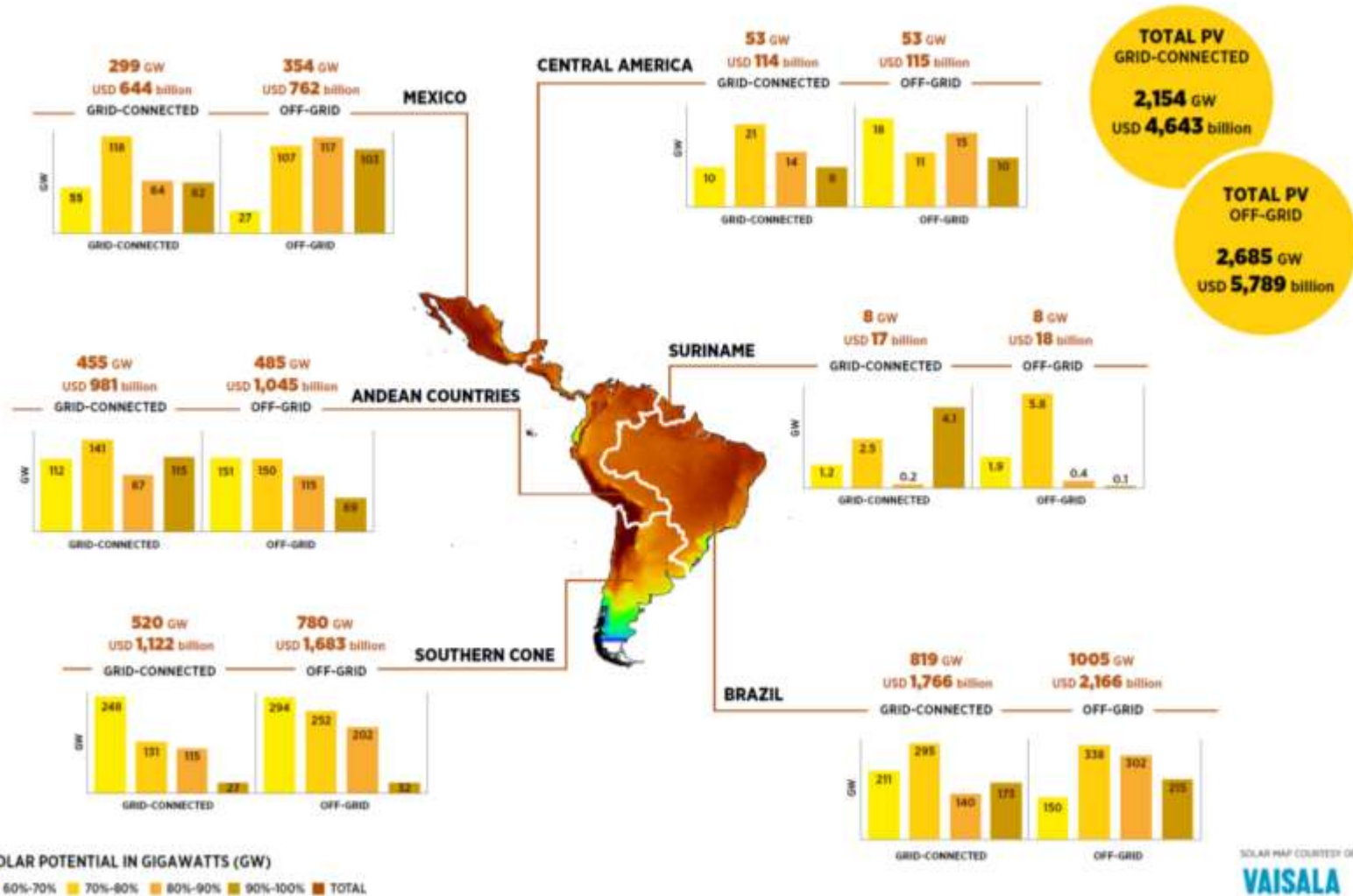
Analyst



Policy maker



Derivative output: technical potentials



SOLAR MAP COURTESY OF VAISALA

For more information, email
potentials@irena.org

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