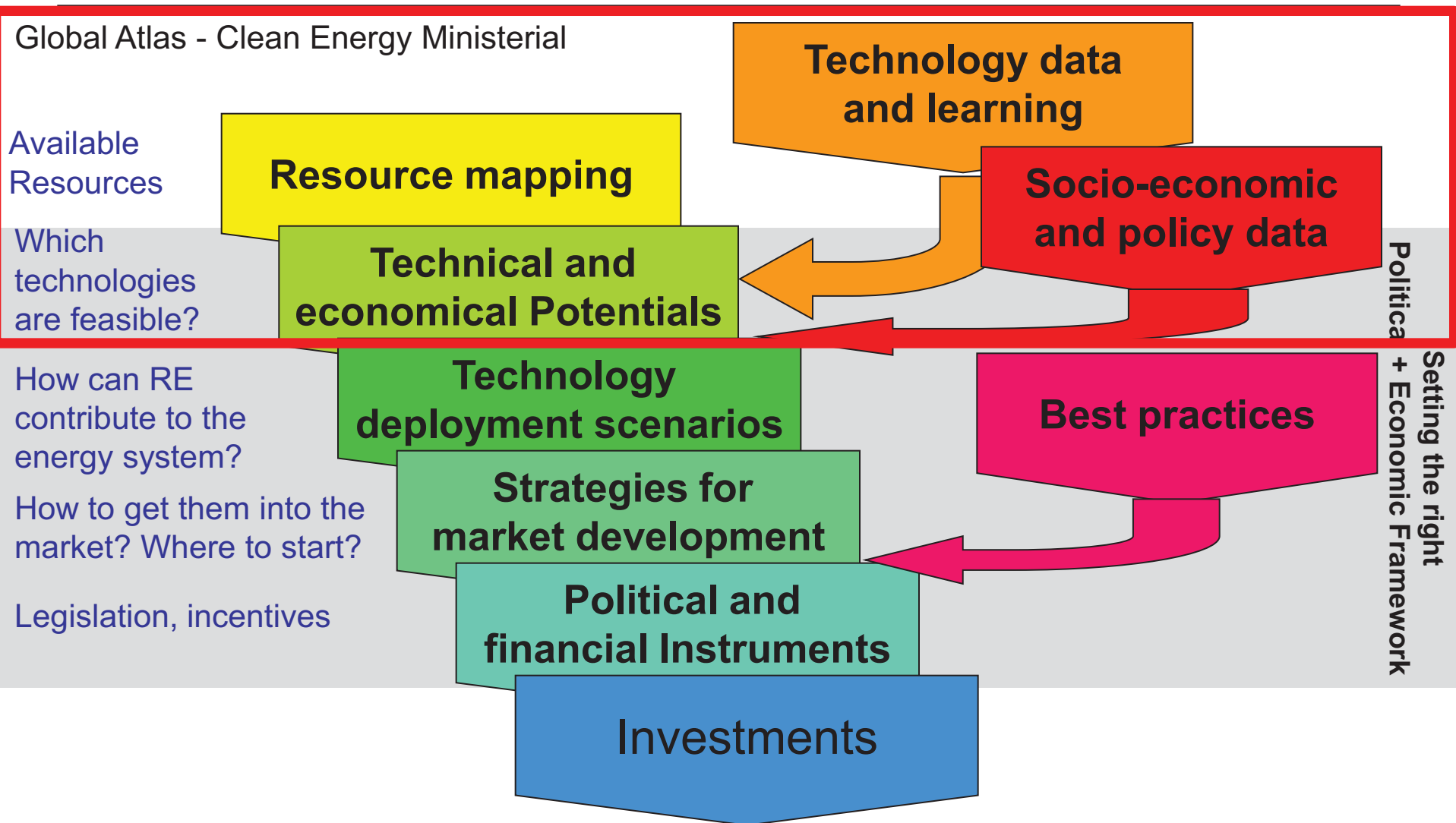


# Global Solar and Wind Atlas Introduction

**Dr. Nicolas Fichaux, IRENA**

# Why evaluating potentials?



# The Global Atlas vs. A Global Atlas

- A truly international initiative to jointly develop the reference for Solar and Wind potentials
- Building on the existing systems and databases and available knowledge

## Statement on the Global Renewable Energy Atlas



### Organisations



### Private companies



### Partner organisations



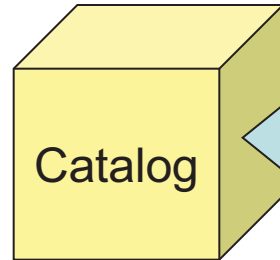
### Research institutes



# An open architecture



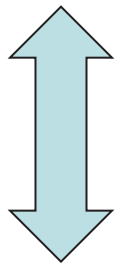
Interface 2012:  
basic features  
**DLR / NREL**



**MINES  
ParisTech**

Source	Shared by	Scope
SWERA Archive	NREL	Solar / Wind
HelloClim 1	Mines ParisTech	Solar
HelloClim 3 (average monthly mean)	Mines ParisTech	Solar
PACA high-resolution atlas	Mines ParisTech	Solar
Solar-Med atlas	Mines ParisTech	Solar
NASA solar dataset	NREL	Solar
Soalr Med Atlas	DLR	Solar
Solar GIS (annual values, monthly averages)	Geomodel	Solar
CENER dataset	CENER	Solar / Wind
Reanalysis data	DTU Wind	Wind
Complementary datasets	Geomodel	Terrain, population, landcover
Complementary datasets	TBD	Grid infrastructure, roads

Initial datasets 2012:  
contributing institutes



Interface hosting:  
**IRENA / NREL (+Open EI) / MASDAR**

**2012: inviting countries to propose their national atlases**

Firefox - EnerGeo

localhost:3001/dev.html?view=main

CLEAN ENERGY MINISTERIAL  
Accelerating the Transition to Clean Energy Technologies  
MULTILATERAL SOLAR AND WIND WORKING GROUP

IRENA  
International Renewable Energy Agency

Karte: My test map

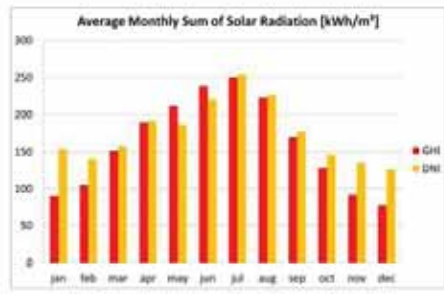
- My test map
  - GHI IREI, Moderate Resolution
  - Google Satellite Map
  - My own layers
  - DLR WPG layer
  - Baselayers
  - Open Street Map
  - Bing Street Map

Electricity Potential (...Select a country in map!)

Info for location: lat=-4490828.285185599,lng=-206685.7244540006

### Solar Radiation for Almeria, Spain

Average Monthly Sum of Solar Radiation [kWh/m<sup>2</sup>]



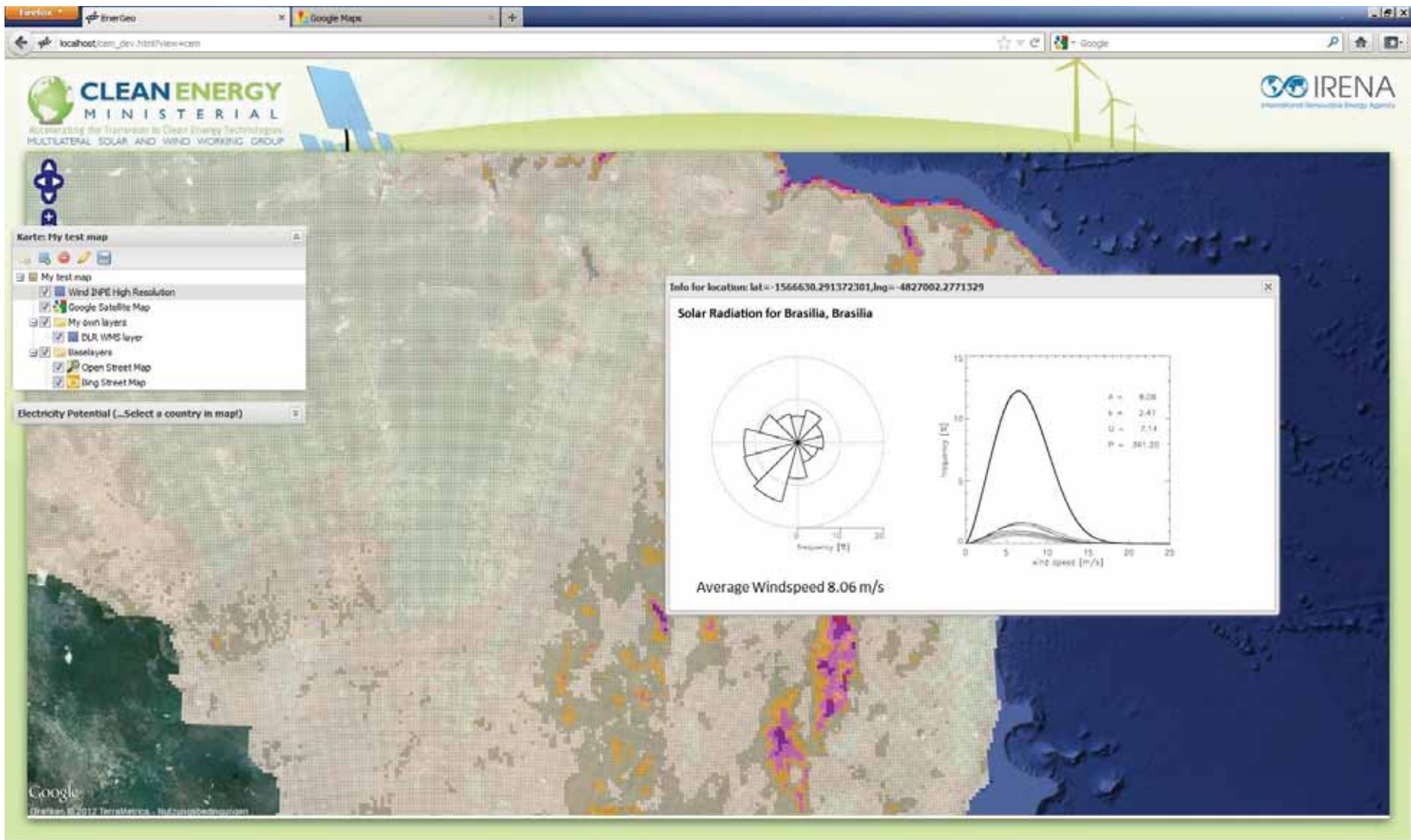
Month	GHI (kWh/m <sup>2</sup> )	DNI (kWh/m <sup>2</sup> )
Jan	90	150
Feb	105	160
Mar	145	190
Apr	185	215
May	215	235
Jun	240	250
Jul	250	255
Aug	225	230
Sep	175	180
Oct	130	140
Nov	90	110
Dec	75	100

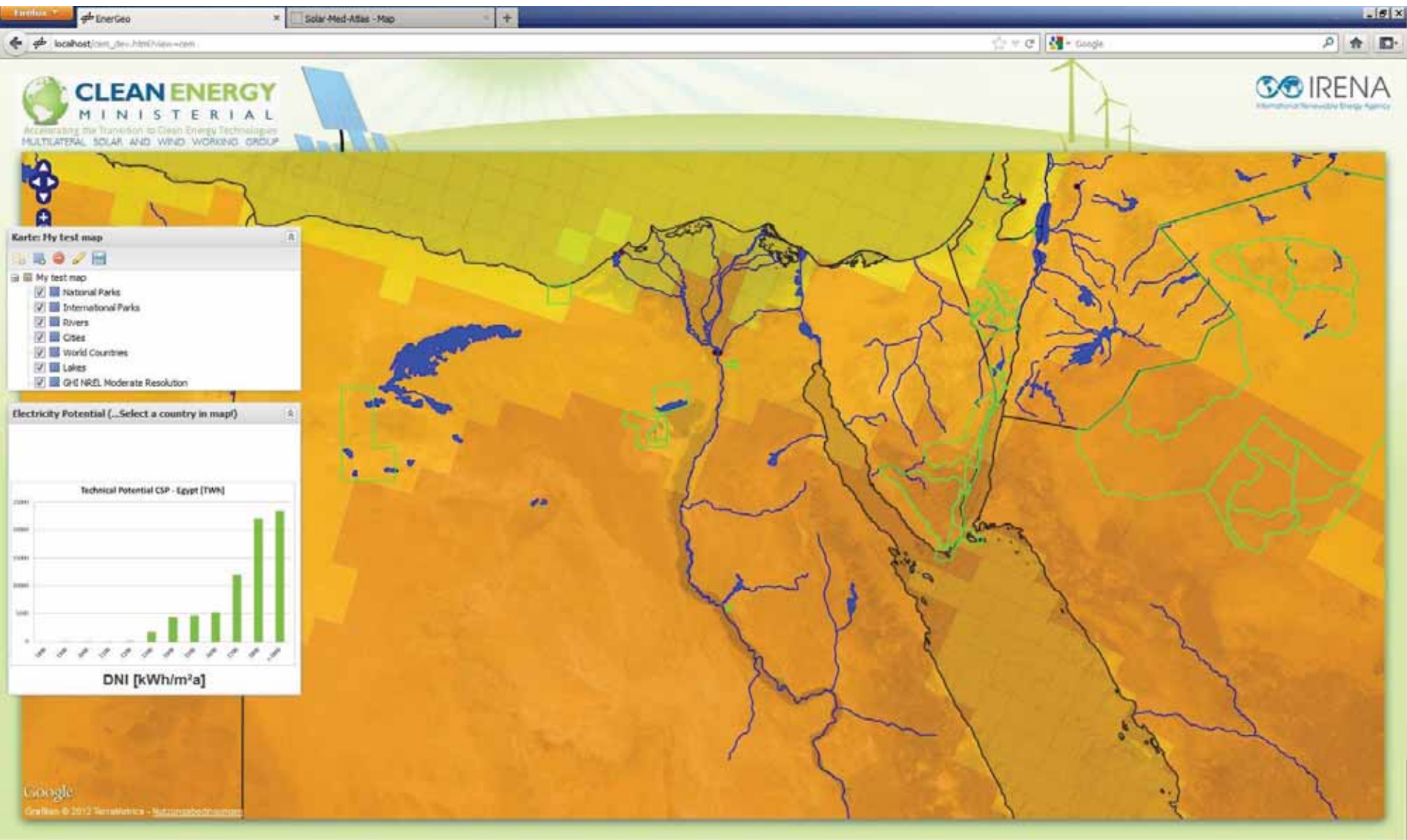
Annual Sums of Solar Radiation [kWh/m<sup>2</sup>]

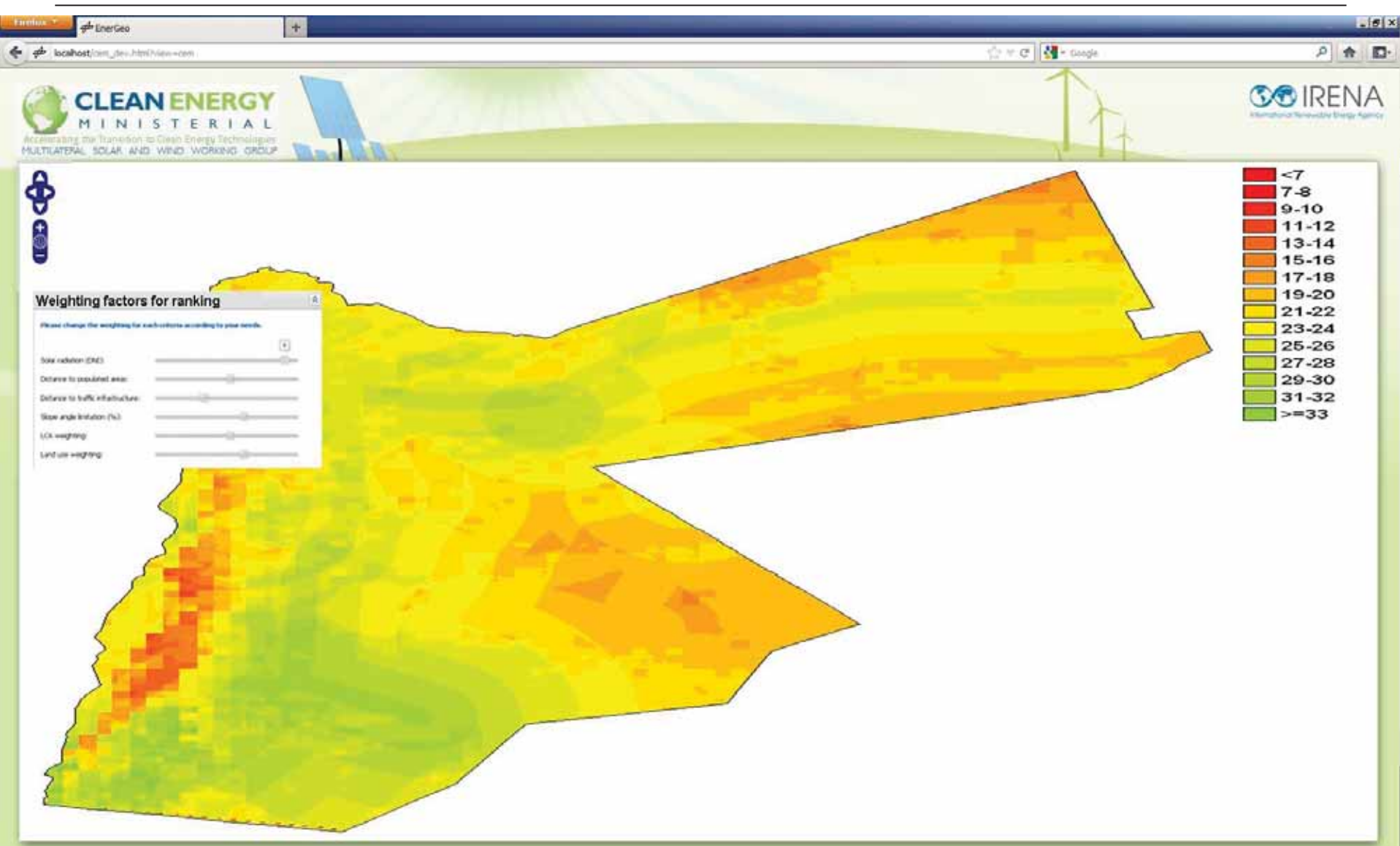


Year	GHI (kWh/m <sup>2</sup> )	DNI (kWh/m <sup>2</sup> )
1991	1923	2112
1992	1923	2112
1993	1923	2112
1994	1923	2112
1995	1923	2112
1996	1923	2112
1997	1923	2112
1998	1923	2112
1999	1923	2112
2000	1923	2112
2001	1923	2112
2002	1923	2112
2003	1923	2112
2004	1923	2112
2005	1923	2112
2006	1923	2112

Average GHI 1923 kWh/m<sup>2</sup>  
Average DNI 2112 kWh/m<sup>2</sup>









# Timeline

**End 2011**

**Prototype**

**January 2012**

**First end user workshop**

**CEM 25 April 2012**

**Enhanced partnership**

**Rio+20**

**High level event on the Global Atlas**

**End user group review**

**IRENA Council Oct. 2012**

**Operational system demo.**

**IRENA Assembly Jan. 2013**

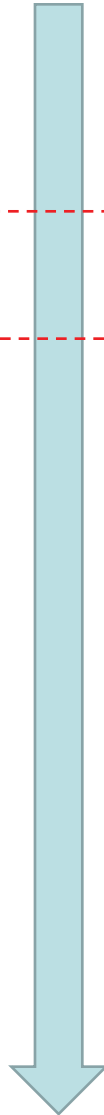
**Adding online analysis tools**

**From 2012**

**Adding socio-economic aspects  
(costs, jobs)**

**2012**

**Adding bioenergy, hydropower**



- **Global atlas – preliminary screening in support to decision making, initiating further investigations**
  - **Reliable data, and level of confidence**
  - **Preliminary analysis highlighting areas of possible interest**
  
- **Needs to be followed up by local analysis**
  - **Measurement campaigns**
  - **Collection of ancillary information**
  - **Using state of the art methods, standards**
  - **Consolidating the information through a central repository**
  - **Providing a one-stop-shop for financing**
  - **Ensuring the information is eventually used for decision-making**

**Thank you for your attention**

**<http://youtu.be/40ezihCzJLA>**

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