

# Linked open data and reegle Tagging API

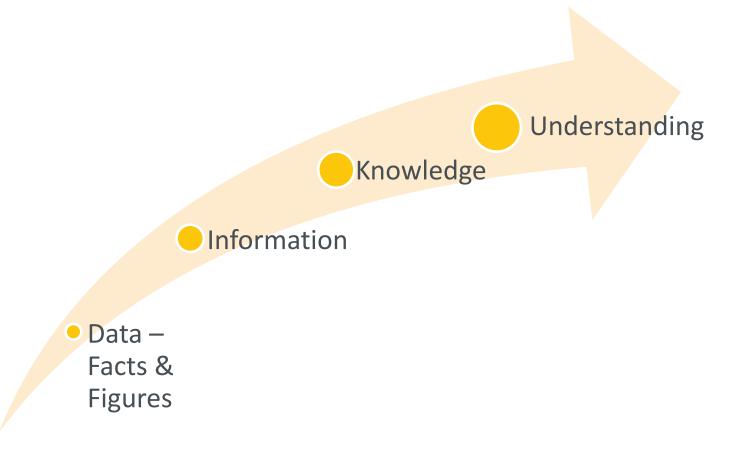
GGGS 2013 Martin Hiller, REEEP





The century of big data

## From data to understanding







# Lots of Data is not enough ....

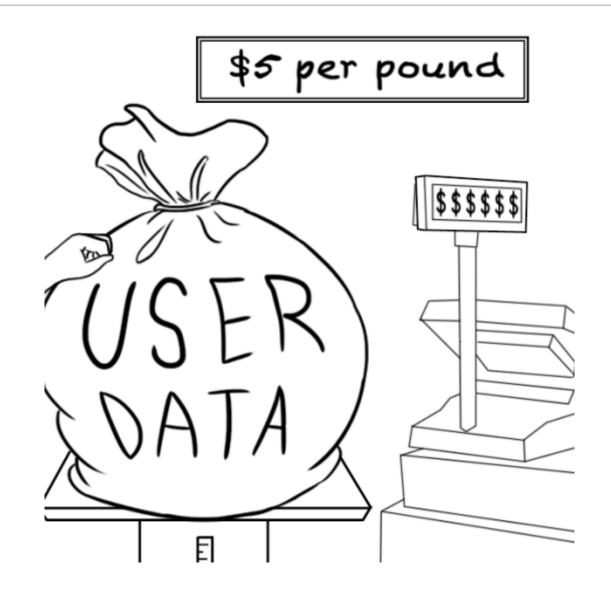


## Data kept in silos ...





## ... or part of business models

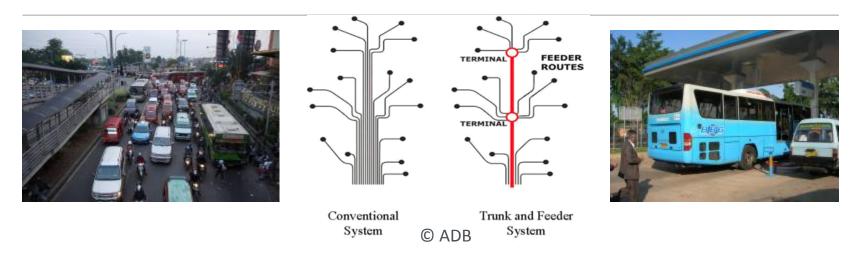




# Is this relevant for Clean Energy?



#### Low emission transportation in Jakarta



Issue: Fuel inefficient means of transport such as private cars

**Solution**: "Trunk/feeder" transportation system

Impact: Saves 130 mio l. petrol and 35 mio l. diesel annually



Saves 1,8 mio tonnes CO2 reduction over 10 years

#### This project would benefit from open data

- Forced to do most of their research on their own
- Geographic/demographic data of the city
- Data are available but not opened up by the government
- Some data are open but not in the right format



#### Open Data can help us to ...

- Avoid replication
- Focus on own expertise
- Keep data maintenance to a minimum
- Improve project planning
- Facilitate business support and buy-in

Over 50 governments, World Bank, FAO, EU,...



# Can data be linked?



Yes, just as we link webpages!

Linked Open Data













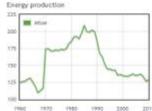
#### Energy Profile Germany

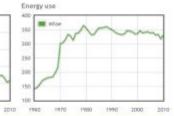
Germany, officially the Federal Republic of Germany, is a federal parliamentary republic in Europe. The country consists of sixteen states while the capital and largest city is Berlin. It covers an area of 357,021 km and has a largely temperate seasonal dimate. With 81.8 million is inhabitants, it is the most populous member state and the largest economy in the European Union. It is one of the major political powers of the European continent and a technological leader in many fields. A region named Germania, inhabited by several Germanic peoples, was documented before AD 100. During the Migration Age, the Germanic tribes expanded southward, and established successor kingdoms throughout much of Europe. Beginning in the 10th century, German territories formed a central part of the Holy Roman Empire of the German Nation. During the 16th century, northern German regions became the centre of the Protestant Reformation while southern and western parts remained dominated by Roman Catholic denominations, with the two factions dashing in the Thirty Years' War. Occupied during the Napoleonic ... read more

Source: dbpedia

#### Key Statistic Charts (26)

#### Energy production and use





Legal sources on support schemes and grid issues

#### Project Outputs (28)

#### Stakeholders (104)

Source: reegle.Actors

- ⇒ 500 PPM GmbH (500 PPM GmbH)
- Abo Wind
- AeroCraff Energited
- Aircon International
- = Aufwind
- = BioKraftstoff
- us. RioStrom Foersie System

apital Bertin

ISO Code DE, DEU

Area 357,021 km<sup>3</sup>

Population 81.799.600 (2010)

GDP, PPP 3.044.241.583.883,current international

5 (2010)

#### Events

#### 23.04.2012

Hannover Messe Industrial

Greentec

15.07.2012 Sustainable Energy Finance Summer Academy



renewable energy & energy efficiency partnership









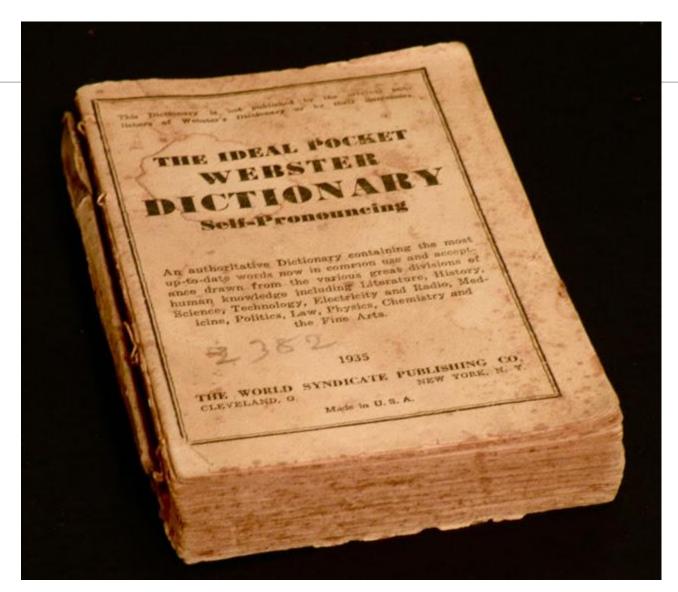




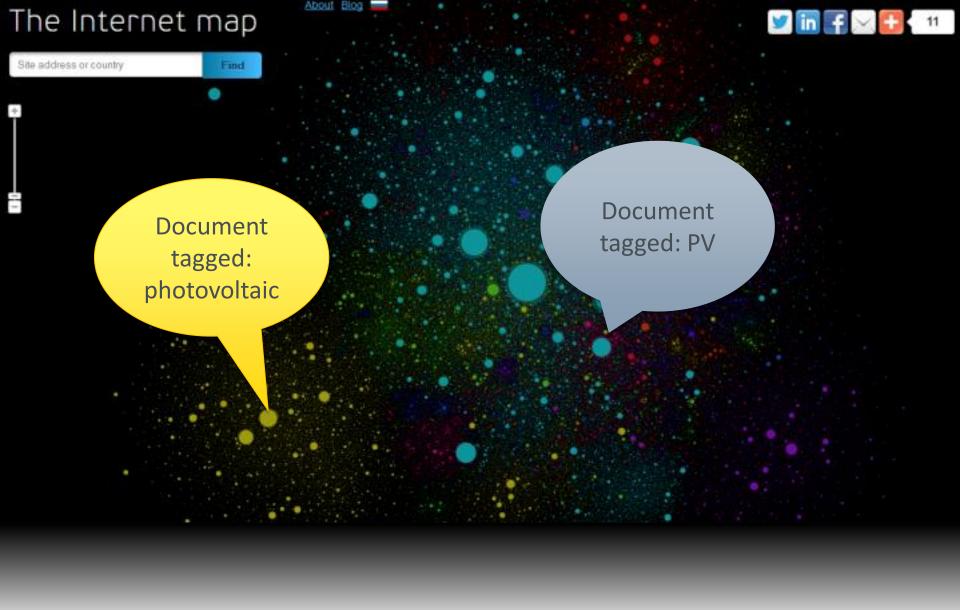
#### Ho to understand each other:

- Increase consistency in key words when tagging climate and energy resources
- Ensure consistency of message to avoid confusion using terms in different ways
- Standardize the used categories and tags





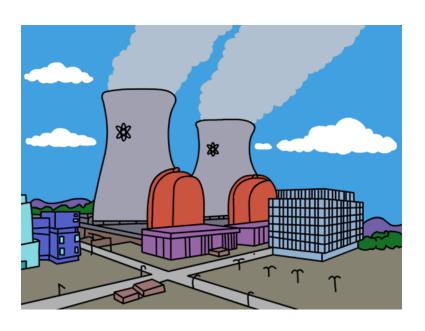






## Dealing with disambiguation ...







# Could we make key word selection automatic?



# reegle Tagging API





#### The reegle Thesaurus

Renewable Energy

**Energy Efficiency** 

**REDD** 

Green Growth

Climate Compatible Development

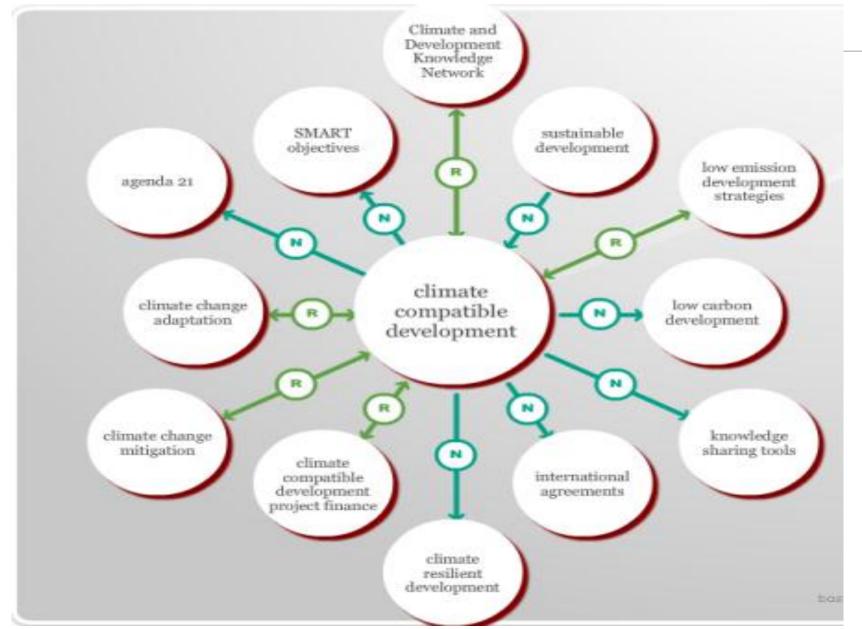
> 2.000 terms - 5 languages



```
Reegle Thesaurus
Climate Compatible Development Thesauru
    climate change adaptation (4)
   climate change facts (3)
   climate change mitigation (3)
   climate change and governance (3)
      international development (4)
   ▶ sustainability (4)
 ▶ Energy Efficiency Thesaurus
 Free Concepts
Renewable Energy Thesaurus
    bioenergy (4)
    fuel cells (3)
    geothermal (4)
   hydro power (4)
      hydropower concepts (3)
         hydropower management (4)
         hydropower plants (2)
               large scale hydro power plants
               small scale hydro power plant
                 micro hydro power plants (
                 mini hydro power plants (0)
         hydropower types (2)
      hydropower parameters (2)
      hydropower specifications (3)
      hydropower technologies (1)
    ocean energy (2)
    he photovoltaic power (4)
```



#### **Use-cases**



## **Unstructured Data**





## A file is sent ...

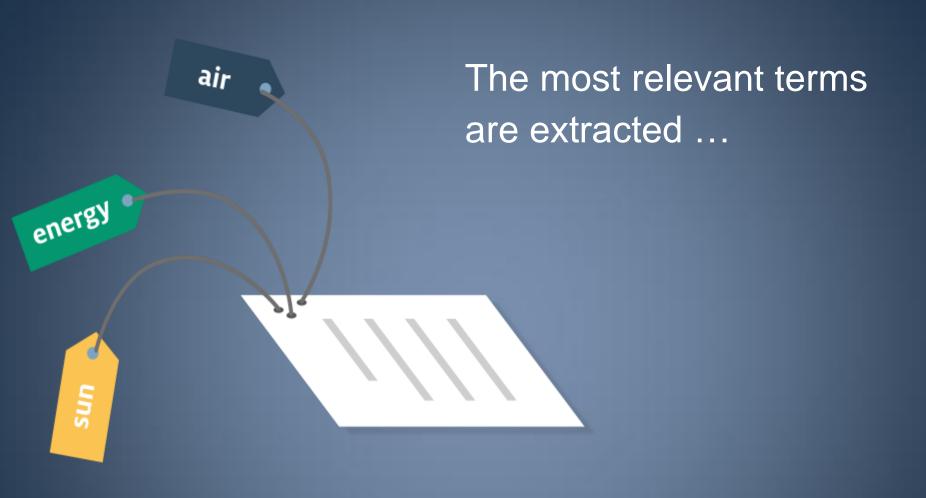




... to the reegle tagging API, where its content is analyzed.















energy •

Contextual information is provided based on the thesaurus

uns

#### Wind

- definition
- explanation
- synonyms

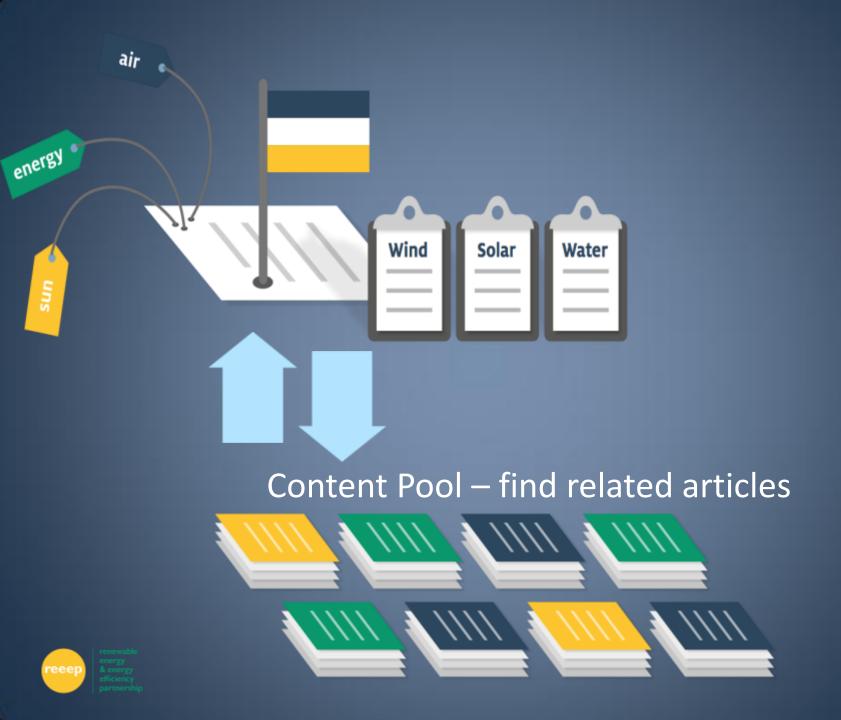
#### Solar

- · definition
- · explanation
- synonyms

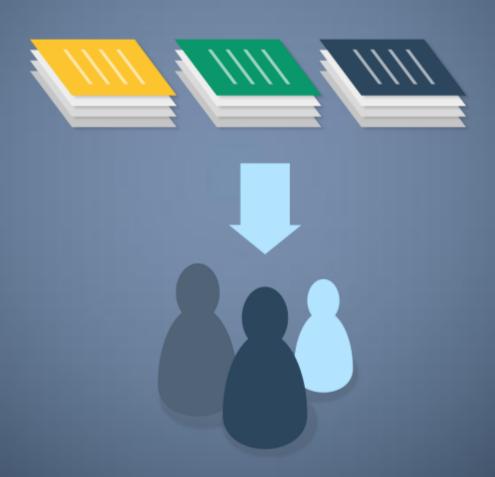
#### Water

- · definition
- · explanation
- · synonyms



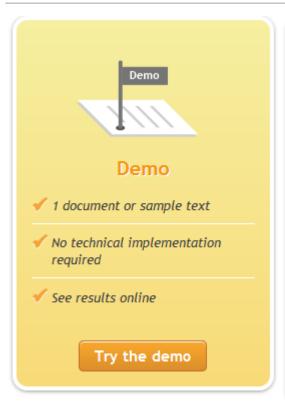


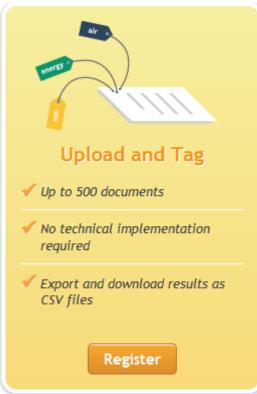
## reegle tagging API turns data into knowledge





#### 3 levels of services – in 5 languages









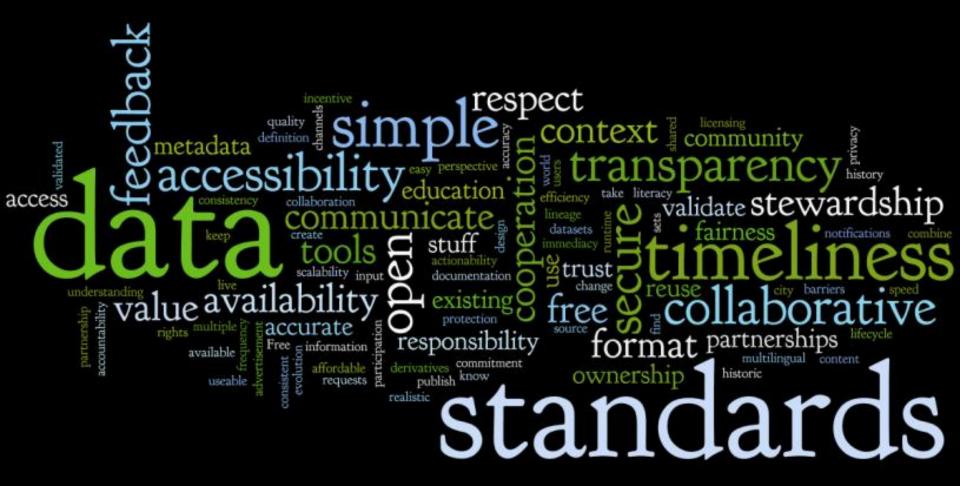
#### The reegle tagging API is funded by:











Essential component to develop the clean energy market



## Thank you!

Martin.Hiller@reeep.org

+43 1 26026 3425

www.reeep.org | www.reegle.info



## We asked REEEP's project implementers ...

