Rural Access Course

Lesson 4 – Providing information on energy

Basic Internet Foundation
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SESA

Providing Information on Energy

- Knowledge for Climate Actions

- Locally available, free of charge for everyone

- Adopted from SESA Toolbo
  toolbox.sesa-euafrica.eu

- Local language support

Energy Information

About us

SESA – Smart Energy Solutions for Africa is a collaborative project between the European Union and nine African countries (Ghana, Kenya, Malawi, Morocco, Namibia, Nigeria, Rwanda, South Africa and Tanzania) that aims at **providing energy access technologies and business models that are easily replicable and generate local opportunities for economic development and social cohesion in Africa.**

Taarifa za Nishati

Taarifa zilizokusanywa hapa zinaeleza misingi ya nishati mbadala. Maudhui yaliundwa pamoja kama sehemu ya kisanduku cha zana cha mradi cha Suluhu za Nishati Endelevu au Afrika (SESA – http://SESA-EUAfrica.eu).

The SESA Energy Information Spot

- Locally available on a Raspberry Pi

- A local Web server
  - digital skills
  - Wordpress for Webpage creation
  - Nextcloud for sharing

- Free access to local information

see Lectures 2 & 3 for set-up

Basic Internet FOUNDATION Connect The Future   Yeboo.com

Welcome to our community, available on this school/community server.

➡ Connect the RPI to a LNCC (port 2) using an Internet cable

➡ connect your laptop/mobile phone to Wifi "BasicInternet"

■ Note: LNCC is the local network control center, which is configured as BasicInternet, see: solutions.basicinternet.no
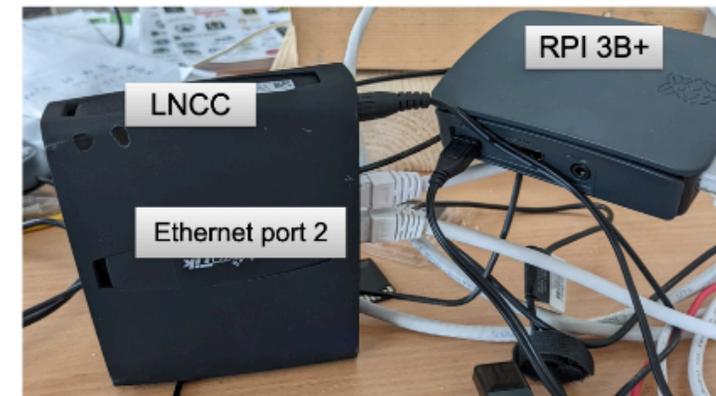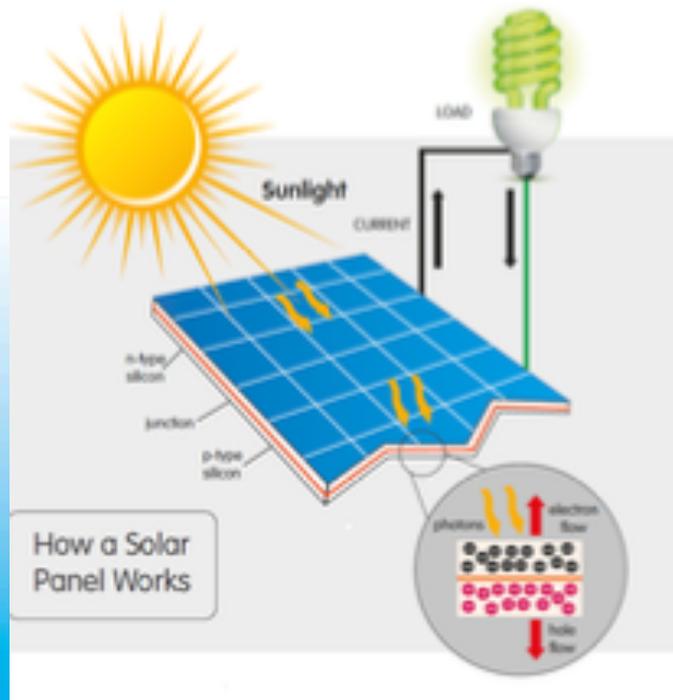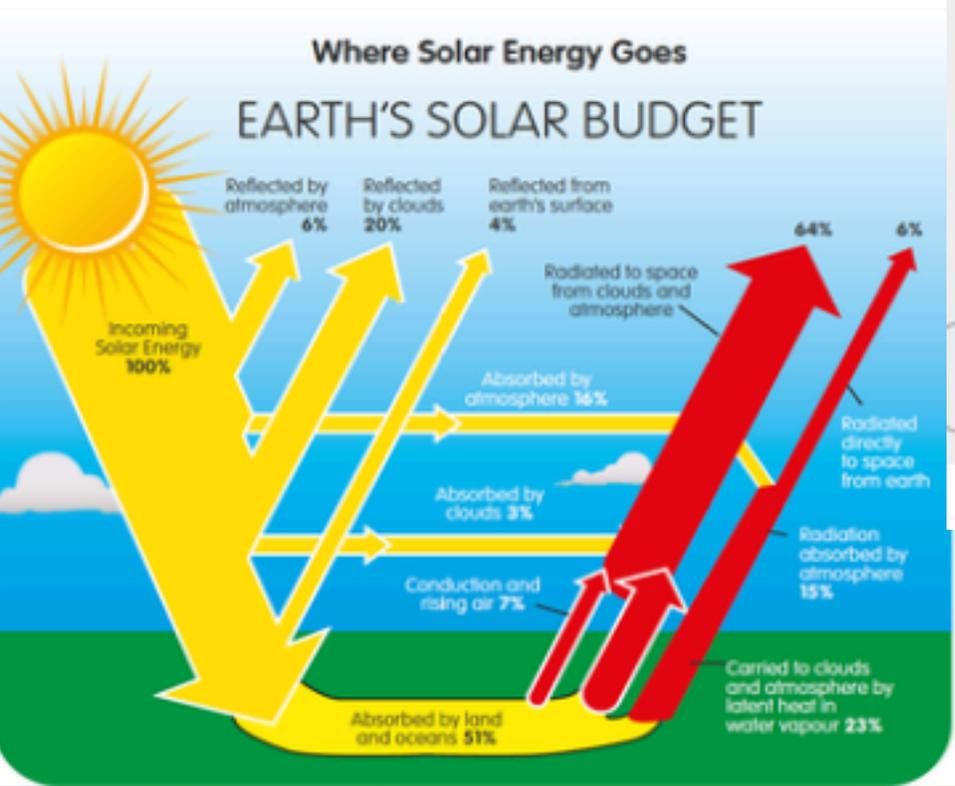
Energy value creation

- Lights
- Clean water
- Pumps
- Crafting
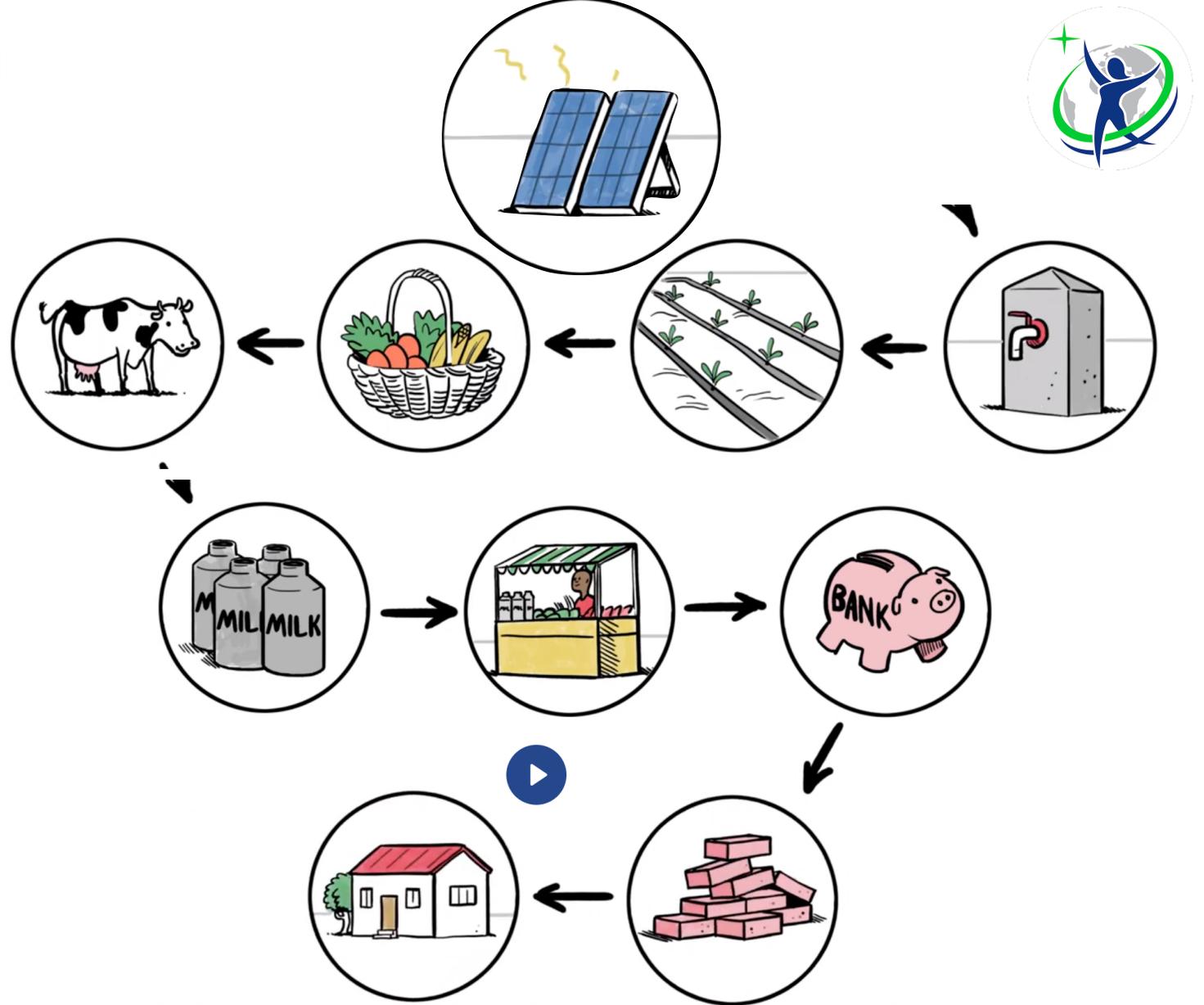
[Source: Innovation Africa, innoafrica.org]
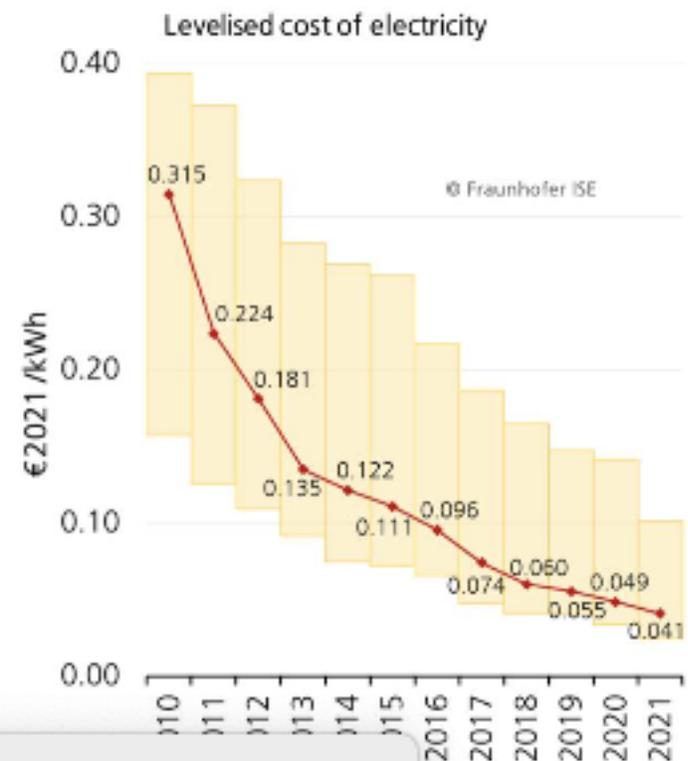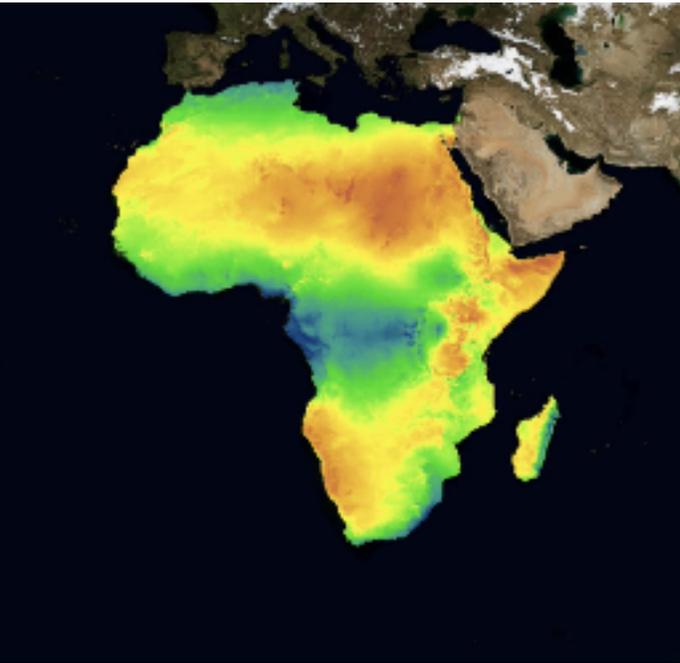
Basic Information -
Solar Energy as a resource

[Source: toolbox.SESA-euafrica.eu]

Suitable Conditions, and Examples of Solar Power installations

Suitable conditions for Solar Power

Calculations of electricity needs

A house has the following electrical appliance usage:
- Two 15 W lamp used 5 hours per day.
- Two 40 W fan used for 4 hours per day.
- One 68 W 19-in TV used 5 hours per day
- One 17 W satellite used 5 hours per day.

→ Design a solar PV standalone system to meet the load requirement

Assumptions:
- Location: Kumasi, Ghana
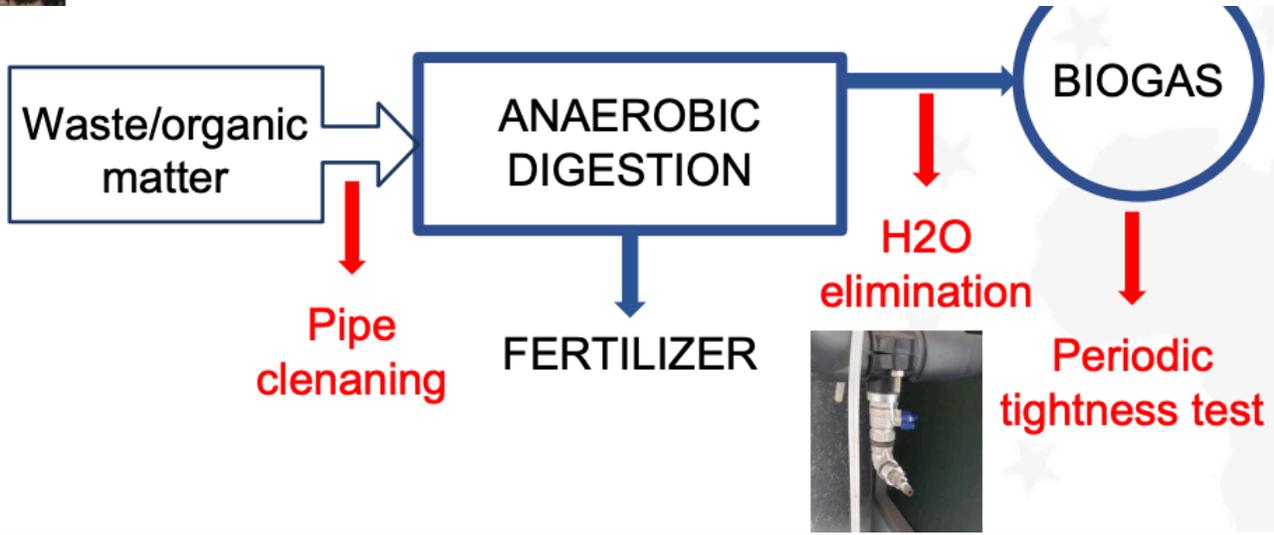- PV module specification: P_m = 110 Wp; V_m = 16.7 Vdc;
- I_m = 6.6 A; V_{oc} = 20.7 A; I_{sc} = 7.5 A

[Source: toolbox.SESA-euafrica.eu]

Example: Biomass cooking

Maintenance of Biogas Production

[Source: toolbox.SESA-euafrica.eu]

From Energy Information to Energy Monitoring & Control

- Models for solar production forecast
- Weather forecast
- Energy Monitoring

- Empower through knowledge

Solar production forecast

⚡	Now estimated power producti...	8 157 W
⚡	This hour energy production	7,7 kWh
⚡	Next hour energy production	7,8 kWh
⚡	Remaining today energy prod...	24,5 kWh
⚡	Tomorrow estimated energy ...	14,0 kWh
🕐	Today Highest power p...	11 minutes ago

Sunny   12,6 °C
Forecast Home ho...   14,9 °C / 13,5 °C

13:00	14:00	15:00	16:00	17:00
☀	☀	☀	⛅	⛅
13,5°	14,5°	14,9°	14,9°	14,7°

energy today		20,9 kWh
lifetime energy		9 575,8 kWh
current power		7 104,9 W

Get involved?

Home   About Us ˅

User Guide BasicInternet InfoSpot

Congratulations on your access to the Internet.

Please use your phone, tablet or PC to search for the Wifi called "BasicInternet". Once you connect, you should get to the login page (Figure 1)[1]. To achieve access, click on "Free Internet Access" and you get to Internet Lite[2] - the Internet without videos.

If you are not automatically connected, type: access.basicinternet.org into your browser to get to Figure 1.

After clicking on "Free Internet Access" or on "Yeboo School Server", you get to the page Yeboo.com.

Yeboo.com is the welcome page on the local minicomputer, which often is a Raspberry Pi (RPI). We selected a local computer to make the access to information free of charge for everyone. That means, everyone can connect to Yeboo.com once you are connected to Wifi.

The whole set-up is given to you to help yourself in a) establishing Web papes, b) sharing content in the community.

   a) Web pages are established using Wordpress, the number 1 tool to create web sites.

FREE INTERNET ACCESS!

Voucher access for Internet

Login Form
Username [Username]
Password [Password]
[Login]

BasicInternet.org
Google search
Yeboo School Server

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Take the course, and empower your community

Course Content

L0: Intro
L1: Regional Competence Centre (RCC) for connectivity and regional inclusion
L2: Regional SESA InfoSpots for energy empowerment
L3: Digital inclusion and sustainable development in rural regions
L4: Providing Information on Energy