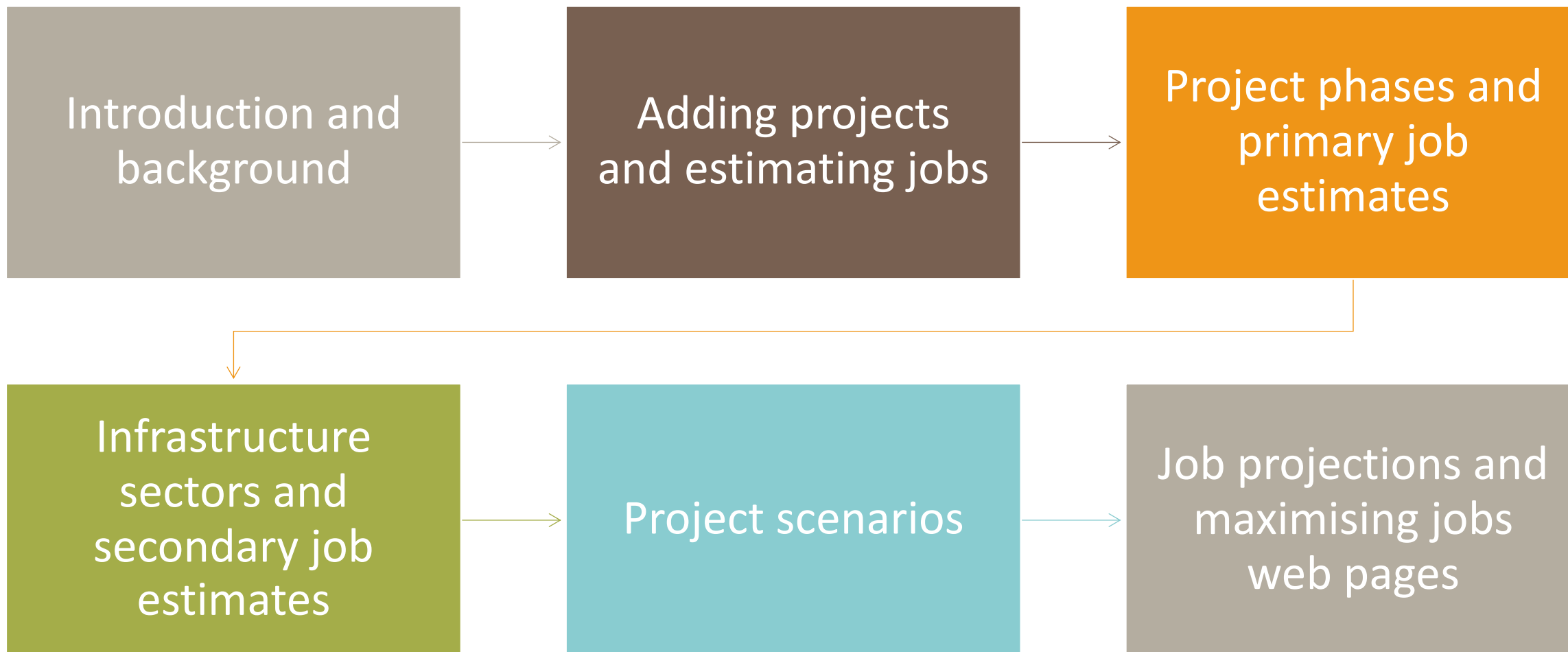




PIDA Toolkit Training Guide

2021

Contents



Introduction and Background

Introduction

- The PIDA job creation toolkit is aimed at maximising African jobs resulting from the preparation, construction and operation of infrastructure projects based in Africa.
- Project owners, technical partners, and government policy makers can estimate the total job impact from their infrastructure projects and also think through possible ways to increase the number and quality of African jobs.
- To access the toolkit's home page (as shown on the next page), use the following link:

<http://pida.octoplus.co.za:4080/index.html#/>

PIDA Toolkit Home Page



AUDA - NEPAD
AFRICAN UNION DEVELOPMENT AGENCY

[HOME](#) [TOOLKIT ▼](#) [ABOUT](#) [APPROACH](#) [CONTACT US](#) [A LANGUAGE ▼](#) [LOGIN](#)



THE PIDA JOB CREATION TOOLKIT
PROGRAM FOR INFRASTRUCTURE DEVELOPMENT IN AFRICA (PIDA)

Home page tabs

- Clicking the “Home” tab allows the user to see a brief introduction to the toolkit
- Clicking the “Toolkit” dropdown tab allows the user to access one of the toolkits functionalities (each of which will be explained further on):
 - Estimate jobs
 - Job projections
 - Maximize jobs
 - Case Studies
- Clicking the “About” tab provides the user with a deeper background into the toolkit
- Clicking “Approach” tab provides the user with insight into how the job estimates are calculated in the back-end of the tool
- Clicking “Contact Us” tab provides the user with NEPAD contact details which can be used to obtain assistance on using the toolkit
- Clicking the “Language” tab allows the user to switch the toolkit from English to French.
- Clicking the “Login” tab takes the user to the Login page, where all functionality of the toolkit will be unlocked.

About the “Toolkit” Dropdown Tab

- As mentioned before, the “Toolkit” dropdown tab provides the user access to the toolkit’s four major functionalities. These functionalities are summarised below:



Estimate jobs

- A feature that requires users to create an account and login for full functionality.
- Provides a window into the type of information needed to estimate jobs for a particular infrastructure project



Job projections

- Once more, requires that a user logs in for full functionality.
- Provides an infographic breakdown of the jobs associated with an infrastructure project



Maximize jobs

- Accessible with or without login credentials.
- Provides information on actions/interventions that can be pursued to maximise the number of jobs created through the infrastructure project process



Case Studies



- Accessible with or without login credentials.
- Provides high-level overviews of projects that have already been included into the PIDA toolkit, and their resultant job estimates


Toolkit login

- Although some of the information in the toolkit can be accessed without a login, the majority of the toolkit's functionality requires that a user either create an account or directly login if they already have an account.
- In either case, the user will need to click on the “Login” tab. This tab is described next.


Toolkit login screen

Login tab



 

HOME TOOLKIT ▾ ABOUT APPROACH CONTACT US  LANGUAGE ▾ LOGIN

THE PIDA JOB CREATION TOOLKIT

 No login is needed to access the information on the Toolkit. To input project information to obtain job estimates, you need to register for an account. The Toolkit Manager will respond to your request within two business days.

LOGIN

 Email Password 

Login ➞

Click to create an account

[Register for Account](#) | [Forgot Password?](#)

Enter login credentials

Adding projects and estimating jobs


Estimating Jobs

- Once logged in, the user is now able to add a new infrastructure project into the toolkit.
- This is done by first clicking on the “Estimate Jobs” button, accessible in the “Home” tab or in the “Toolkit” dropdown list.
- Clicking on the “Estimate Jobs” button sends the user to the following screen

THE PIDA JOB CREATION TOOLKIT

Select Project

PIDA Job Creation Toolkit

Essential Information	Preparation Phase	Construction Phase	O&M Phase	Job Estimates	Approval and Confidentiality
<div> Add or select a project first by clicking on the “Select Project” button above right.</div>					

Adding a new project

- To add a new project into the toolkit, the user must click on the “Select Project” button. They will be sent to the input screen on the following page.
- The input screen shows the user all of their previously loaded projects. Users can then access and edit previous project estimates
- However, the user is able to add a new infrastructure project by typing in a new project.
 - To do this, the user should click the text box that says “Enter non-PIDA project name”.
 - The user then types in the name of the infrastructure project in question, and the process of loading project information into the toolkit can begin.

Adding a new project (2)

Estimate Jobs Module: Select Project

To start using the Estimate Jobs Module, first select a project from the list or add a new project:

MY PROJECTS			
Name	PIDA	Last Updated	Actions
330 kV Ghana – Togo – Benin Transmission Interconnection Project	YES	Mon, 16 Nov 2020 11:11:55 GMT	+ Add Partner Remove
Angola Power	NO	Tue, 08 Dec 2020 11:57:54 GMT	+ Add Partner Remove

ADD A PROJECT

Select PIDA Project

or

Enter non-PIDA Project Name

+ Add Project

Name your project here and click
“Add Project”

Project Information Sheet

- Adding the project into the toolkit takes the user to the following window (on the next page)

Test Project Name Here

Essential Information

Preparation Phase

Construction Phase

O&M Phase

Job Estimates

Approval and Confidentiality

PROJECT OWNERS AND NEPAD PARTNERS: Each project's job estimates can be published on the Toolkit to enhance outreach to providers of technical support and investment, and stakeholders in the local and broader communities. A project's job estimates include direct, indirect, induced, and secondary jobs over its useful life.

Show more

SaveResetBenchmark Estimates

Name: *

Test Project Name Here

Regional Economic Community(ies):

Sector: *

Select a sector

Select a subsector

Host Countries: *

Select a country

Add Country

Beneficiary Countries: *

Select a country

Add Country

Phase	Cost (US\$MM)	Duration (Years)*	Start Date
Preparation TOTAL COST	<div><div></div><div>i</div></div>	<div><div></div><div>i</div></div>	<div><div></div><div></div><div></div><div></div></div>
Construction TOTAL COST*	<div><div></div><div>i</div></div>	<div><div></div><div>i</div></div>	<div><div></div><div></div><div></div><div></div></div>
Operation & Maintenance AVERAGE ANNUAL COST	<div><div></div><div>i</div></div>	<div><div></div><div>i</div></div>	<div><div></div><div></div><div></div><div></div></div>

Choosing project sector

Choosing host and beneficiary countries

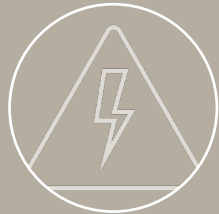
Inputting project phase duration and costs

Selecting host and beneficiary countries

- “Host countries”: the user selects countries set to host the infrastructure project.
 - In some cases, an infrastructure project can have multiple host countries (i.e., a railway from one country to another). Multiple host countries can, therefore, be added
- “Beneficiary Countries”: the user selects countries set to benefit from the infrastructure project
 - Again, multiple countries can be considered beneficiaries.
- Should the host country also be the beneficiary, the users are free to select the same country in both cases.

Essential Information Sheet: Choosing Sectors

- “Select a sector” requires the user to choose between Energy, Transport, ICT or Water. This depends on the project being added into the toolkit.
- “Select a subsector” asks the user to provide more detail to their sector choice by considering specific types of Energy, Transport, ICT or Water projects



Energy

- Hydropower plant
- Transmissions
- Solar power plant



Transport

- Bridges
- Roads
- Ports
- Rail



ICT

- Fibre Optic Cable
- Internet Exchange Points



Water

- Multi-purpose reservoir

Project phases and primary job estimates

Project Phase Costs and Duration

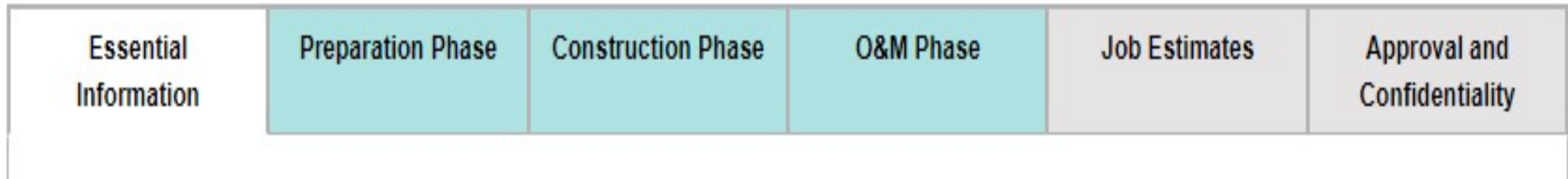
- Once project sectors and host/beneficiary countries are selected, the toolkit asks the users to input project cost and duration information by phase (preparation, construction, and operation and maintenance or O&M)
- Costs should be included in millions of USD.
- Duration should be included in years
 - The start date of each project can also be included in the toolkit

The use of benchmarks

- In some cases, users might not have some information regarding the project that they are inputting into the toolkit.
- In these cases, the user is also able to rely on in-built benchmarks. This is not advised given the wide variance in the types of projects, but provides some insight nevertheless.
- To use such benchmarks, the user is required to input the following information and click on the “Benchmark Estimates” button:
 - Sector
 - Subsector
 - At least one host country
 - Construction phase total cost
 - Duration of all project phases

Phase specific information

- Once the essential project information is completed, the user is able to provide more detail of the costs associated with the preparation, construction and O&M phase of the project by clicking on the following tabs towards the top of the page:



Potential data sources for preparation, construction and O&M project phases

- The majority of project-specific cost information should be held in project planning documentation.
- However, it is possible that this project documentation is not sufficiently granular to provide the user with the ability to fill in the entire set of toolkit data required.
- In such cases, the user should rely on a blend of the following data sources to ensure that project information in the toolkit is as complete as is feasible:
 - Project feasibility and costing studies
 - Project financial report and budget documents
 - Discussions with project managers, construction companies and implementing agents
 - Discussions with sector experts
 - Literature (grey or scientific) on similar projects implemented in similar geographical regions

Preparation Phase

- The preparation phase requires the input of three kinds of cost information in millions of US\$ (with a reference on the next page):



Project management cost

- Internal costs of all full- and part-time staff and contracted professionals required to manage the project



Technical support cost

- Costs associated with prefeasibility and feasibility analyses, as well as legal, financial, environmental and social impact studies among other things



Other preparation costs

- Costs not elsewhere specified which might take into account the cost of communication between consultants, transportation of employees and so forth.

Project Management Cost: ⓘ

US\$MM: USD Percent: %

Technical Support Cost: ⓘ

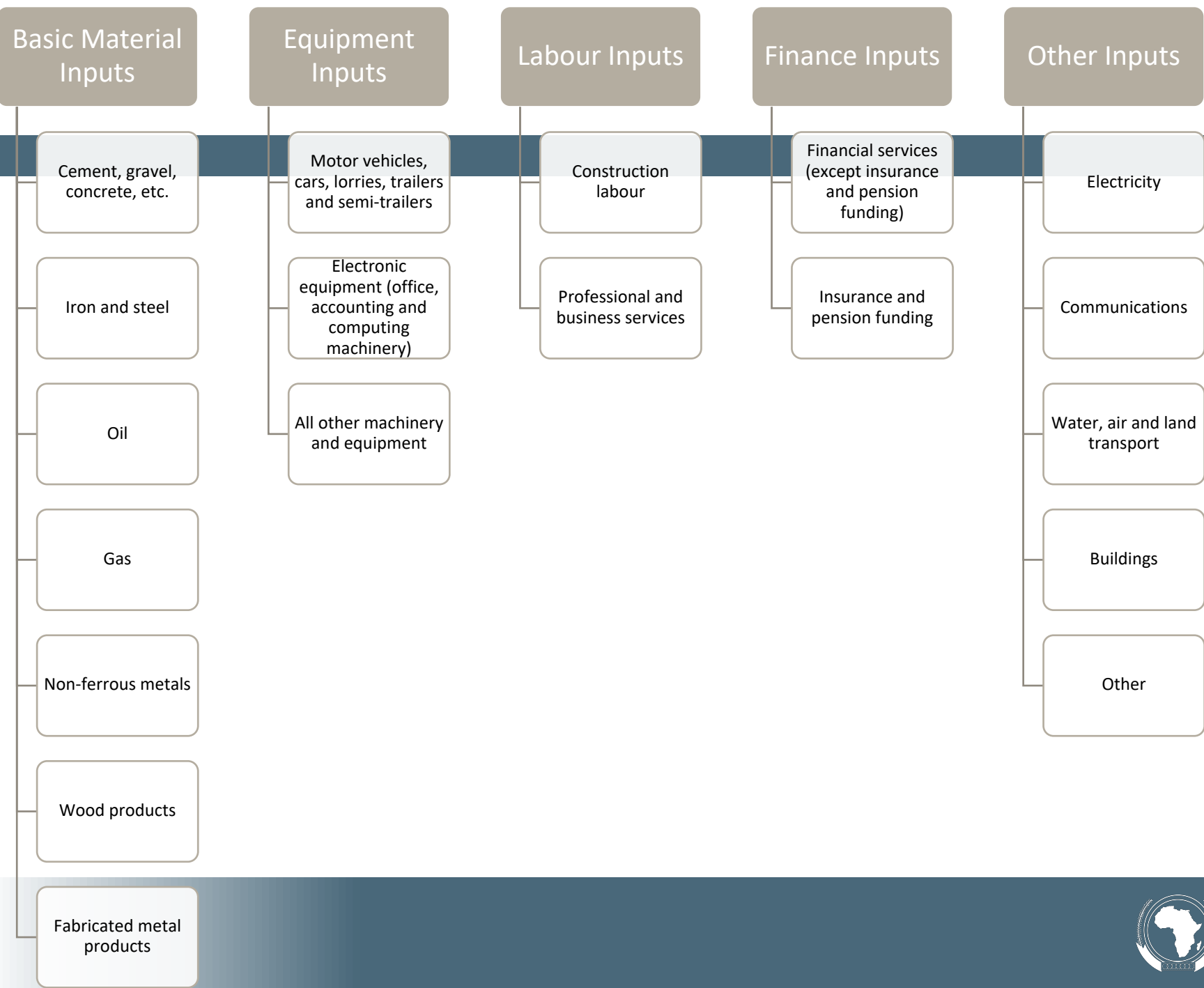
US\$MM: USD Percent: %

Other Preparation Cost: ⓘ

US\$MM: USD Percent: %

Construction and O&M Phases

- The construction phase requires the input of cost information, in millions of US\$, across five cost categories
 - Basic material,
 - Equipment,
 - Labour,
 - Finance,
 - Other
- These cost categories also form part of the O&M phase.
- As a result, both O&M and construction phases require the same information as shown on the next page



Altering the source of costs

- Across preparation, construction and O&M phases, the toolkit also allows for costs to be allocated across countries.
- Underneath each cost item across the phases are a set of textboxes and buttons, as shown below:



The screenshot shows a user interface for allocating costs. It features two dropdown menus: the first is labeled 'African Source' and the second is labeled 'Non-African Source'. To the right of these dropdowns is a green button with a plus sign and the text 'Add Source'. Further to the right is a small yellow square icon with a black 'h' inside.

- Should the user wish to allocate the cost to an African country, the user should simply click “African Source”, select the relevant country to which the cost item should be allocated, click the “Add source” button, and decide on the % of costs to be allocated to the country in question. Users can also allocate costs to non-African sources by clicking the “Non-African Source” dropdown, choosing a relevant continent, clicking the “Add source” button and allocating the cost as a %.
- This can be repeated for as many sources as needed, and benchmarks can also be drawn from by clicking on the yellow icon next to the “Add Source” button

Infrastructure sectors and secondary job estimates

Sector specific information

- The toolkit also requests specific information depending on the sectors chosen. Each of these is described in more detail in the following pages

Electricity Generation (Hydropower/Solar)

- The toolkit requires four pieces of user-input information related to electricity generation:
 - **P1-** The current average electricity price per Kilowatt hour (KWh) for the countries in which the project is taking place in USD
 - **Q1-** The current quantity of electricity produced by the country in Megawatts (MW) or Terajoules (TJ)
 - **Q2-** The additional energy capacity expected to be created by the energy project in MW or TJ
 - **P2-** The expected average electricity price per KWh across the country once the energy generation project is up and running
- This information can be obtained through a google search for the country in question. However, some of the following sources/methods might be useful as a starting point:
 - **P1-** https://www.globalpetrolprices.com/electricity_prices/ (if country is not included here, might require further google search)
 - **Q1-** <https://www.iea.org/data-and-statistics/data-browser?country=WORLD&fuel=Energy%20supply&indicator=TESbySource> (if country is not included here, might require further google search).
 - **Q2-** Information accessible from project documentation on expected new capacity.

Electricity Generation (Hydropower, continued)

- Information on P2 requires a back-of-the-envelope calculation from the user.
- The user must first search for the **price elasticity of electricity** in the country (countries) in which the project is based.
- This is a negative number, usually between 0 and -1, that tells individuals the relationship between electricity price increases and electricity quantity changes. To calculate this, the user can simply use the following formula:
- $$P2 = P1 * (1 + elasticity * \left(\frac{Q2}{Q1}\right))$$

Electricity Generation (Hydropower, worked example)

- The following worked example provides some insight for the user. Assume an electricity generation project in Algeria:
 - **P1**- https://www.globalpetrolprices.com/electricity_prices/ suggests that the price of electricity sits between 0.033 and 0.039 US\$ per KWh. For simplicity, we shall use the midpoint of 0.036.
 - **Q1**- <https://www.iea.org/data-and-statistics/data-browser?country=WORLD&fuel=Energy%20supply&indicator=TESbySource> shows that the total energy supply for Algeria is roughly 2.6 million TJs.
 - **Q2**- Assume that the project documentation suggests an additional 50 000 TJs of additional power
 - Assuming a price elasticity of -0.5 (usually taken from the literature), applying the following formula: $P2 = P1 * \left(1 + elasticity * \left(\frac{Q2}{Q1} \right) \right)$ to our information suggests that the new price for electricity (**P2**) will be 0.0356 US\$.
 - **Q1**, **Q2**, **P1** and **P2** will then all be added into the toolkit by the user to estimate the secondary effects of the electricity generation project.

Electricity Transmission

- The toolkit requires one piece of user-input information related to electricity transmission:
 - ΔQ - The % change of increased network stability or transmission capacity for the country as a whole.
- This, again, requires some further research. It is suggested that the user of the toolkit use the project documentation in this way to answer either of the following questions:
 - By what % will blackouts decrease as a result of increased transmission?
 - By what % will electrification increase as a result of increased transmission?
 - In other words, what % of households and businesses will now have access to electricity that previously didn't.
 - By what % will the length of transmission lines increase as a result of the infrastructure project?

Electricity Transmission (worked example)

- Assume a transmission project is set for South Africa. According to the following source (<https://www.globaltransmission.info/archive.php?id=40703#:~:text=Currently%20C%20the%20power%20utility%20owns,underground%20cables%20in%20South%20Africa.>), South Africa has roughly 7 734 kilometres of underground transmission cable
- Assume further that the project documentation proposes an additional 200 kilometres of transmission line
- The user can simply calculate the percentage increase in quantity of electricity transmission as:

$$\Delta Q = \left(\frac{New - Old}{Old} \right) * 100 = \left(\frac{(7\,734 + 200) - 7\,734}{7\,734} \right) * 100 = 2.6\%$$

Which the user can input into the toolkit.

Transportation

- The toolkit requires one piece of user-input information related to transmission:
 - ΔQ - The % increase in transport capacity for the country as a whole arising from the infrastructure project
- This is specific to the type of infrastructure project as well. Should an individual choose a “road” infrastructure project, the individual will only require information regarding by how much the road transport network capacity is increasing.
- Some of this base information (i.e., the size each particular type of transport network before the infrastructure project) can be found for most countries using the following website link: <https://databank.worldbank.org/source/world-development-indicators/Series/IS.RRS.TOTL.KM>
- However, most of the information requires further searches by the user of the toolkit.

Transportation (continued)

- Because there are different types of transport project, the following table indicates some of the indicators of transport capacity that a user may look for to assist in completing the inputs in the toolkit:

Transport Project Type	Important metrics/indicators
Bridges	<ul style="list-style-type: none">• Existing load capacity (trucks or large vehicles) of existing bridges for a given country in <u>tons</u>• Total existing bridge network length for a given country in <u>kilometres</u>• Average <u>number</u> of vehicles using bridges daily for a given country
Roads	<ul style="list-style-type: none">• Existing load capacity (trucks or large vehicles) of existing roads for a given country in <u>tons</u>• Total existing road network length for a given country in <u>kilometres</u>• Average <u>number</u> of vehicles using roads daily for a given country
Ports	<ul style="list-style-type: none">• Existing cargo <u>tonnage</u> capacity going through ports for a given country• Existing cargo <u>twenty-foot equivalent unit (TEU) capacity</u> going through ports for a given country• Average <u>number</u> of vessel calls by container, dry bulk, other freight and other support categories
Rail	<ul style="list-style-type: none">• Existing rail <u>throughput (number of trains, capacity tonnage, and train-miles)</u> for a given country• Existing level of service (<u>LOS- terminal dwell time, punctuality or delay time</u>) for a given country• Degree of <u>asset utilisation (infrastructure occupation time)</u> for a given country• Total existing train network length for a given country in <u>kilometres</u>

Transportation (worked example)

- Assume that there is a railway project undertaken in Angola. As it stands, Angola's total railway length sits at 2 761 kilometres and comprises of three main railway lines.
- Assume further that an infrastructure project in Angola aims to connect these three lines by introducing an additional 500 kilometres of railway line.
- The user can simply calculate the percentage increase in quantity of railway capacity as:

$$\Delta Q = \left(\frac{New - Old}{Old} \right) * 100 = \left(\frac{(500 + 2\,761) - 2\,761}{2\,761} \right) * 100 = \mathbf{18.1\%}$$

Which the user can input into the toolkit.

Transportation (worked example 2)

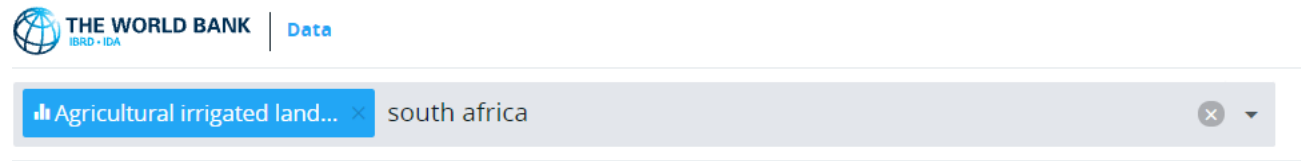
- Assume that there is a port project undertaken in Nigeria. As it stands, in 2020, there were 3 972 vessel calls into the country (<https://www.vanguardngr.com/2021/02/npa-records-6-6-decline-in-vessel-call/>)
- Assume further that an infrastructure project in Nigeria aims to increase vessel calls to pre-COVID levels (by roughly 300 vessel calls).
- The user can simply calculate the percentage increase in quantity of port capacity as:

$$\Delta Q = \left(\frac{New - Old}{Old} \right) * 100 = \left(\frac{(300 + 3\,972) - 3\,972}{3\,972} \right) * 100 = 7.6\%$$

Which the user can input into the toolkit.

Irrigation

- The toolkit requires one piece of user-input information related to improving the country's irrigation capacity:
 - ΔL - The % increase in the amount of irrigated land as a result of the infrastructure project
- The total proportion of land that is irrigated can be found at the following link (<https://data.worldbank.org/indicator/AG.LND.IRIG.AG.ZS>). The user can then type in the name of the relevant country next to the indicator name in the search bar as follows (example of South Africa):



- Project documentation can then indicate by how much irrigation coverage will increase as a result of the infrastructure project.

Irrigation (worked example)

- Assume that a multi-purpose reservoir is earmarked for development in Ethiopia to improve irrigation. According to the most recent statistics accessed here (<https://data.worldbank.org/indicator/AG.LND.IRIG.AG.ZS?locations=ET>), roughly 0.5% of the country's arable land is irrigated.
- According to this source (<https://data.worldbank.org/indicator/AG.LND.AGRI.K2?locations=ET>), roughly 379 030 square kilometres in Ethiopia are arable. By multiplying the above % and the arable land mass, Ethiopia's arable and irrigated land mass sits at 1 900 square kilometres.
- Assume that the project wishes to increase access to irrigation by an additional 300 square kilometres.

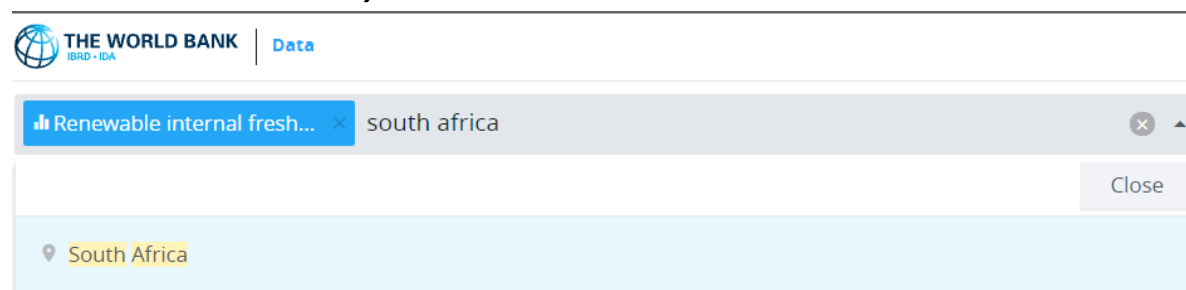
- The user can simply calculate the percentage increase in quantity of arable land as:

$$\Delta L = \left(\frac{New - Old}{Old} \right) * 100 = \left(\frac{(300 + 1\,900) - 1\,900}{1\,900} \right) * 100 = \mathbf{15.7\%}$$

Which the user can input into the toolkit.

Water supply

- The toolkit requires one piece of user-input information related to improving the country's water supply:
 - **ΔPW** - The % increase in potable water for the country as a whole arising from the infrastructure project
- The total amount of potable water in each country can be viewed by using the following link (<https://data.worldbank.org/indicator/ER.H2O.INTR.K3>) and then typing in the name of the country next to the indicator name in the search bar as follows (example of South Africa):



- Project documentation can then indicate by how much potable water will increase (i.e., the additional capacity of water supply due to the project)

Water supply (worked example)

- Assume that there is a multi-purpose reservoir earmarked for development in Eritrea, with the goal of increasing potable water.
- According to the following source (<https://data.worldbank.org/indicator/ER.H2O.INTR.K3?locations=ER>), Eritrea has roughly 2.8 billion cubic metres of renewable freshwater resources. The water supply project aims to provide an additional 0.2 billion cubic metres of renewable fresh water supply to the country.
- The user can simply calculate the percentage increase in quantity of arable land as:

$$\Delta PW = \left(\frac{New - Old}{Old} \right) * 100 = \left(\frac{(0.2 + 2.8) - 2.8}{2.8} \right) * 100 = 7.1\%$$

Which the user can input into the toolkit.

Note on Irrigation and Water Projects

- Although World Bank data provides some indication of the stock of arable land being irrigated or the amount of potable water available within each country, these databases rely on estimates from national masterplans.
- As a result, data from World Bank and other large data repositories may provide an indication, but not be as specific as project documentation.
- It is, therefore, recommended that project documentation be more deeply unpacked to assess region-specific water capacity increases, and almost as a measure of last resort, World Bank and other data can be used to supplement what is not made available in the project documentation.

Project scenarios

The use of alternate project scenarios

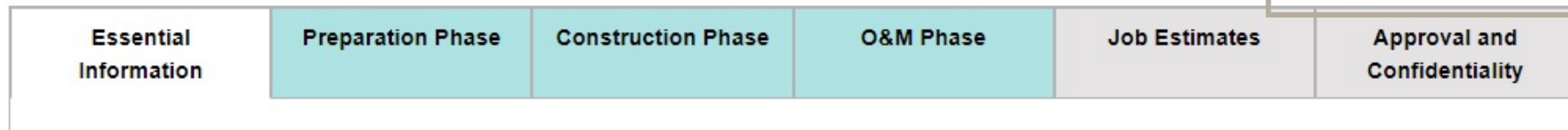
- Once all available information and data has been used to fill out toolkit inputs, the user is able to estimate the number of jobs that are likely to be created as a result of the project.
- With that said, it is possible that the information provided to the user by project documents, literature analysis and discussions with experts do not converge to one answer. For example, it is possible that the information provides project costs within a band.
- Because of this, the evidence might naturally create different scenarios which each have a differentiated impact on the number of jobs likely to be created through the project process.
- The toolkit, therefore, makes provision for different scenarios based on different project input data.

The use of alternate project scenarios (2)

- On the top right hand side of each project with a complete set of information, below the “Select Project” button, is a button relating to project scenarios. This is shown for a project between Ghana, Togo and Benin below:

Estimate Jobs Module: Project Information

330 kV Ghana – Togo – Benin Transmission Interconnection Project



- This button appears on every tab of a project with a complete set of basic information (essential information, preparation phase, construction phase, etc.)

The use of alternate project scenarios (3)

- By clicking on the “Project Baseline | Scenarios” button, a drop-down list will appear and allow the user to access the scenario manager for the toolkit.



- Clicking “Manage Scenarios” allows the user to create a new project scenario under different project input assumptions. The user is then taken to the window on the next page.

The use of alternate project scenarios (4)

Manage Scenarios



On this page you can create up to ten alternative scenarios to test how alternative project inputs and sourcing could impact the project's impact on potential African job creation.

Show more

Save

Reset

Scenarios

New one

Edit

Delete

Make Baseline

Add Scenario

Scenario Name:

Scenario Name

Scenario Description:

Scenario Description

Scenario Baseline:

Project

+ Add Scenario

User to add in scenario name, description, and choose a baseline scenario to start off of.

Once this is done, the user can then click “Add Scenario” before going back through the toolkit tabs and adjusting project inputs as they desire.

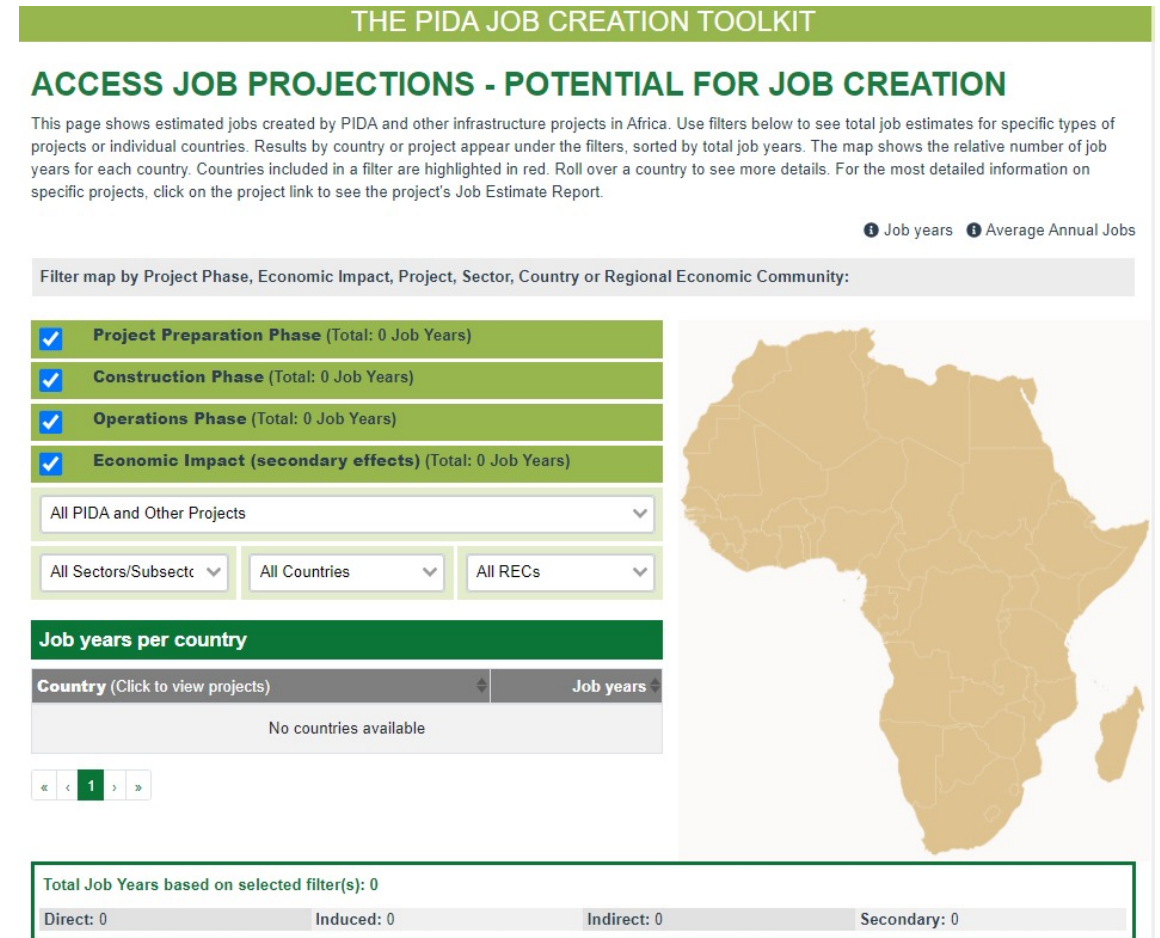
The use of alternate project scenarios (5)

- Importantly, the estimates from all pre-existing scenarios are kept in PIDA toolkit memory, meaning that the user can create a maximum of 10 scenarios without worrying about losing any prior scenarios or project input data.

Job Projections and Maximising Jobs web pages

Aggregating Job Projections

- The “Job Projections” page allows for the aggregation of job estimates that have been saved in the JCT. These can be aggregated and filtered according to:
 - Whether the project is an official PIDA project
 - The infrastructure sector
 - The country
 - The regional economic community (REC)
- Job Projections can also be aggregated according to the job estimate phase (preparation, construction, operations, secondary)



Job Maximisation

- The “Job Maximisation” page provides detailed policy guidance on actions that can be undertaken to maximise job creation through infrastructure projects
 - Each action can be clicked on to display more detailed information
 - Within each action, each action step can be clicked on to provide more detailed information

THE PIDA JOB CREATION TOOLKIT

PIDA JOB MAXIMISATION GUIDE

OBJECTIVE

The Toolkit's *Maximise Jobs Module* provides a “job lens” of possible interventions and actions steps that could be used to develop, finance, and operate African infrastructure projects joining the twin priority goals of: (1) delivering on African infrastructure and (2) increasing the impact of infrastructure on African job creation. Both goals are of utmost political and economic importance: **Increasing African jobs can work hand-in-hand with the accelerated development of investable African infrastructure assets that meet the investment criteria of private sector investment (including institutional investment).**

The *Maximise Jobs Module* is a living document which the NEPAD Agency will update and refine dynamically with input from experts and practitioners, adding interventions, examples, and resources. **To provide suggestions, please contact the Toolkit Manager at pidajobs@nepad.org.**

To access information on the rationale for job maximization and ways to “fast-forward” job creation, please [click here](#).

10 JOB MAXIMISATION ACTIONS

Below are 10 actions for job maximisation:

- ACTION 1: Develop African Infrastructure Skills
- ACTION 2: Implement a Project Social Impact Management Plan
- ACTION 3: Create a Project Local Content Policy
- ACTION 4: Selectively Implement Labour-Intensive Methods
- ACTION 5: Require Project Procurement Programmes to Use Local Suppliers
- ACTION 6: Focus National Procurement Policies on Youth & Gender
- ACTION 7: Launch Sector Investment Programme with Local Content Requirements or Incentives
- ACTION 8: Implement Tax Incentives to Increase Local Content
- ACTION 9: Adapt & Scale Educational Programmes
- ACTION 10: Crowd in Investors that Prioritize African Job Creation

To access one of the above ACTIONS, please click on one of the below buttons. Each action is explained with sections on: (1) the situation; (2) specific actions steps; (3) type of impact; (4) examples; and (5) resources. To access all 10 actions, [please click here](#).

ACTION 1: Develop African Infrastructure Skills & Suppliers

ACTION 1: Develop African Infrastructure Skills & Suppliers — Situation

The preparation and finance of infrastructure requires highly-skilled professionals, notably in infrastructure and project finance, engineering, legal contract negotiations (debt and equity finance, special purpose vehicles, service and equipment contracts), environmental and social impact analysis, sector requirements, etc. Given acute shortages of experienced African infrastructure professionals, Africa's infrastructure projects are largely implemented by international experts. In addition, project suppliers outside of Africa often provide project inputs, including equipment and in some cases even basic materials such as cement, steel, and iron.

As infrastructure projects take years to prepare and finance, the lack of an adequate supply of highly-skilled African professionals results in both higher costs and delays. The lack of investable African infrastructure projects is directly related to the lack of African infrastructure development, finance, and supplier ecosystems required for the effective preparation and finance of Africa's infrastructure projects.

The delays in developing Africa's infrastructure projects also result in large job creation opportunity costs. For example, one large hydro project can employ over a thousand workers during the construction phase. In turn, induced jobs are created from worker spending on food, agriculture, other goods and services, housing, etc. Moreover, large-scale secondary jobs result from the economic impact of improved infrastructure services across the entire economy, increasing productivity, competitiveness, trade, and investment.

Enjoy the new and improved toolkit!