

**ACP Science and Technology Programme  
Capacity building in South Africa, Namibia and Ghana to create  
sustainable non-food biofuel supply chains (FED/2009/217066)**

**Introduction**

The ACP Science and Technology Survey was sent to workshop participants in South Africa, Ghana and Namibia. The reason for the survey was to create a platform and opportunity for stakeholders to share their thoughts so that we can shape the bioenergy business in a way that considers their views. The ACP Science and Technology survey was open for response from 1 April 2013 until 8 May 2013.

**ACP Questionnaire Development**

Turner & Townsend, in consultation with Corrisia and University of Greenwich, created and designed a customised ACP survey on SurveyMonkey. The ACP survey consisted out of nine (9) questions and took less than 10 minutes to complete. Attached as Annexure please find Questionnaire.

**Distribution of ACP Surveys**

An email message containing a personalised stakeholder text was sent to all Workshop participants with the following web link to complete the survey. The partners were excluded in the survey.

<http://www.surveymonkey.com/s/NGXFLNN>

Reminder emails were sent to the stakeholders. The survey was distributed to a total of 123 respondents (excluding partners and excluding emails that bounced back). Approximately 35 emails bounced back due to the following reasons:

- Mailbox full
- No longer working for the company
- Recipient email server rejected the message
- Incorrect email address:
- This user doesn't have a account or the account was discontinued

**Responses**

Out of the 123 possible respondents only 35 completed the questionnaire, response rate of 29%. 37 respondents started the survey and 33 (89.2%) answered all the questions. The highest response rate (45.7%) was for the Namibia 2013 workshop (the latest workshop) and this could be attributed to the fact that people tend to retain the most complete knowledge about the most recent events. Below is a table of the total of stakeholders the survey link was sent to.

<b>Workshop Stakeholders</b>	<b>Nr of Stakeholders Survey was sent</b>	<b>Response Count per workshop</b>
SS1 South Africa Kick Off Workshop Jan 2010	16	5 (31%)
WS 2 Namibia Workshop June 2010	25	4 (16%)
WS 3 Ghana - October 2010	46	4 (9%)
WS 4 South Africa March 2011	14	4 (29%)
WS 6 South Africa March 2013	6	2 (33%)
WS 7 Ghana Workshop April 2013	21	10 (48%)
WS 8 Namibia Workshop April 2013	30	16 (53%)
Did not attend any workshop/ Italy Workshop		3
<b>Nr of Stakeholders survey was sent to</b>	<b>158</b>	<b>48*</b>
<b>Total Emails bounced</b>	<b>35</b>	
<b>Total Stakeholders</b>	<b>123</b>	
<b>Total Respondents &amp; Response Rate</b>	<b>35 (29%)</b>	

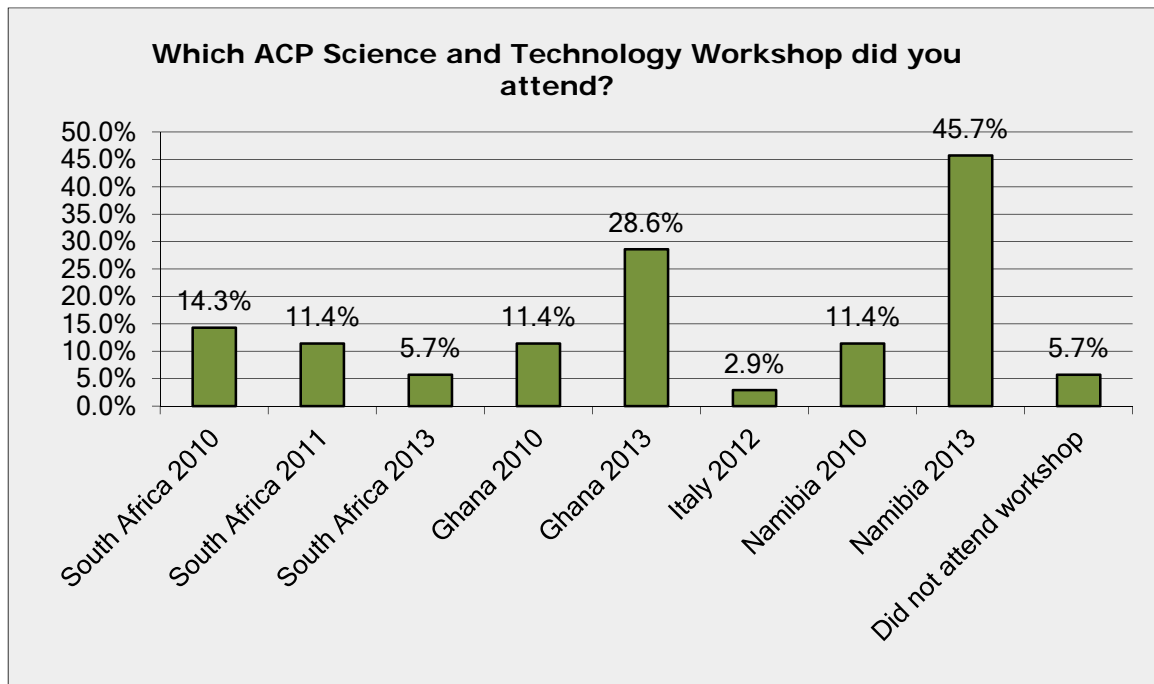
\*It should be noted that some stakeholders attended more than one workshop.

## Analysis

### Question 1

#### Which ACP Science and Technology Workshop did you attend?

Answer Options	Response Percent	Response Count
South Africa 2010	14.3%	5
South Africa 2011	11.4%	4
South Africa 2013	5.7%	2
Ghana 2010	11.4%	4
Ghana 2013	28.6%	10
Italy 2012	2.9%	1
Namibia 2010	11.4%	4
Namibia 2013	45.7%	16
Did not attend workshop	5.7%	2
<b>answered question</b>		<b>35</b>
<b>skipped question</b>		<b>2</b>

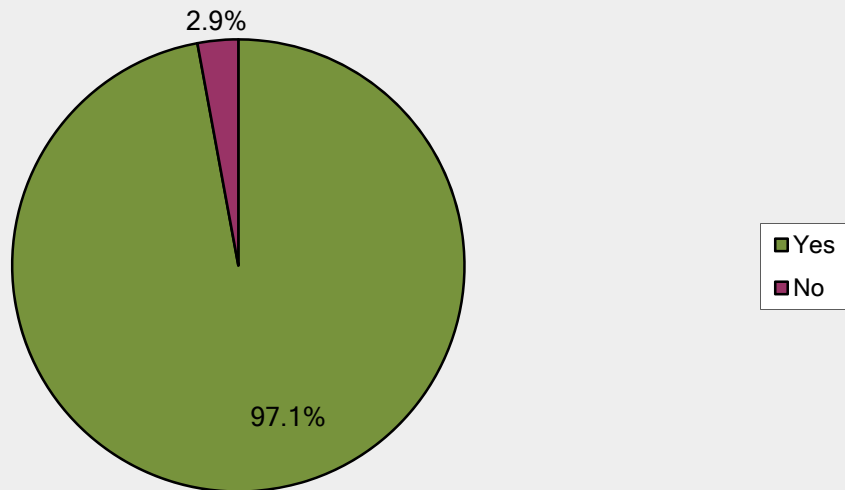


Question 2

Are you positive about the use of biofuel CHP technology to provide renewable energy in your locality?

Answer Options	Response Percent	Response Count
Yes	97.1%	34
No	2.9%	1
<i>answered question</i>		<b>35</b>
<i>skipped question</i>		<b>2</b>

Are you positive about the use of biofuel CHP technology to provide renewable energy in your locality?

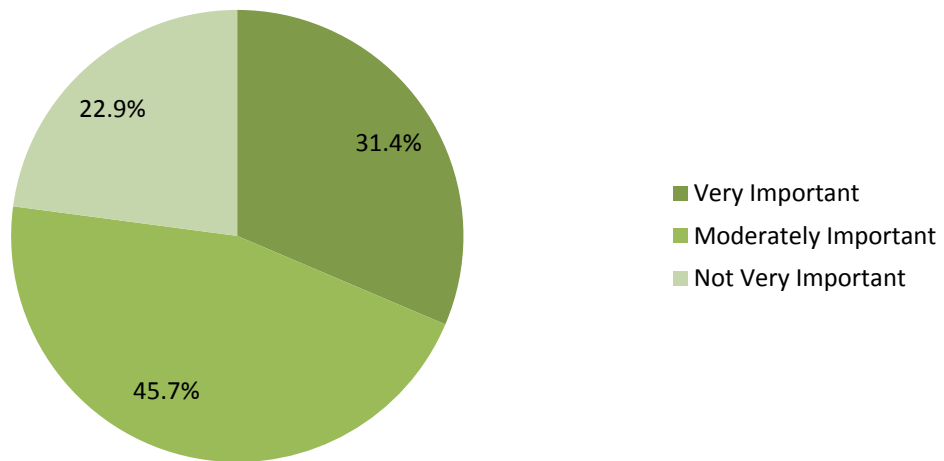


Question 3

How important was awareness of the ACP project aim in helping you to deliver your activities during the past 3 years?

Answer Options	Response Percent	Response Count
Very Important	31.4%	11
Moderately Important	45.7%	16
Not Very Important	22.9%	8
<b>answered question</b>		<b>35</b>
<b>skipped question</b>		<b>2</b>

How important was awareness of the ACP project aim in helping you to deliver your activities during the past 3 years?

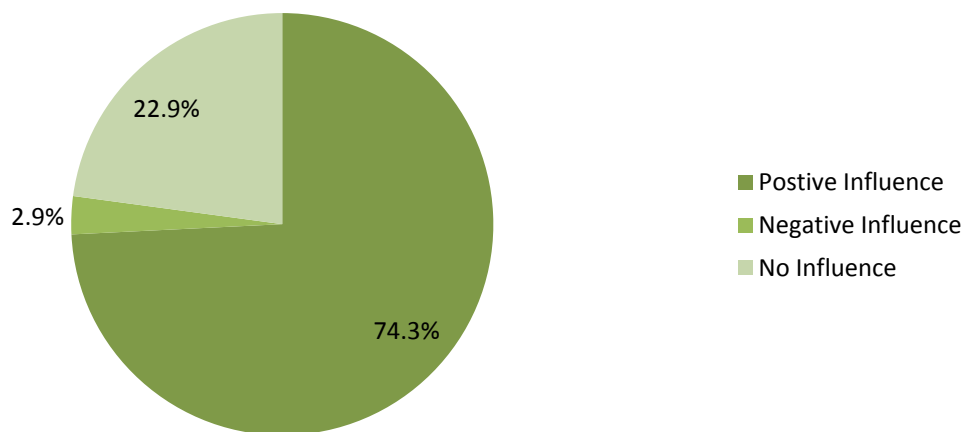


#### Question 4

Did the awareness raising of Biofuel CHP technology received during the workshops or other means e.g. project partners, media influence your decision making in any way?

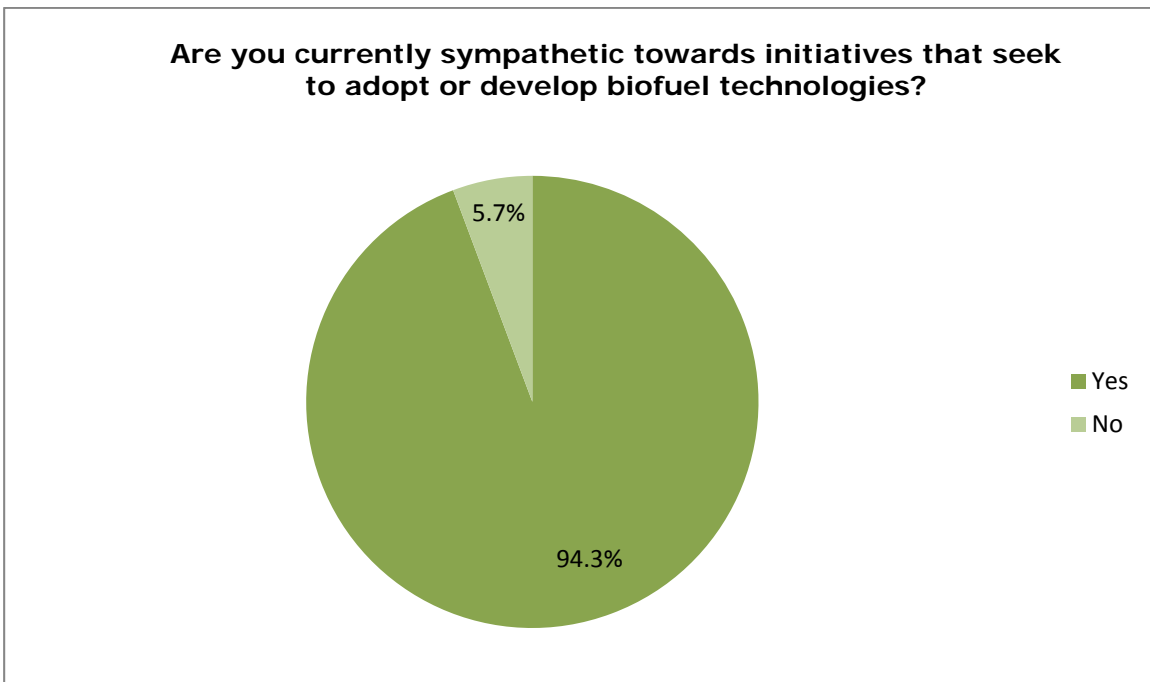
Answer Options	Response Percent	Response Count
Positive Influence	74.3%	26
Negative Influence	2.9%	1
No Influence	22.9%	8
<b>answered question</b>		<b>35</b>
<b>skipped question</b>		<b>2</b>

Did the awareness raising of Biofuel CHP technology received during the workshops or other means e.g. project partners, media influence your decision making in any way?



Question 5

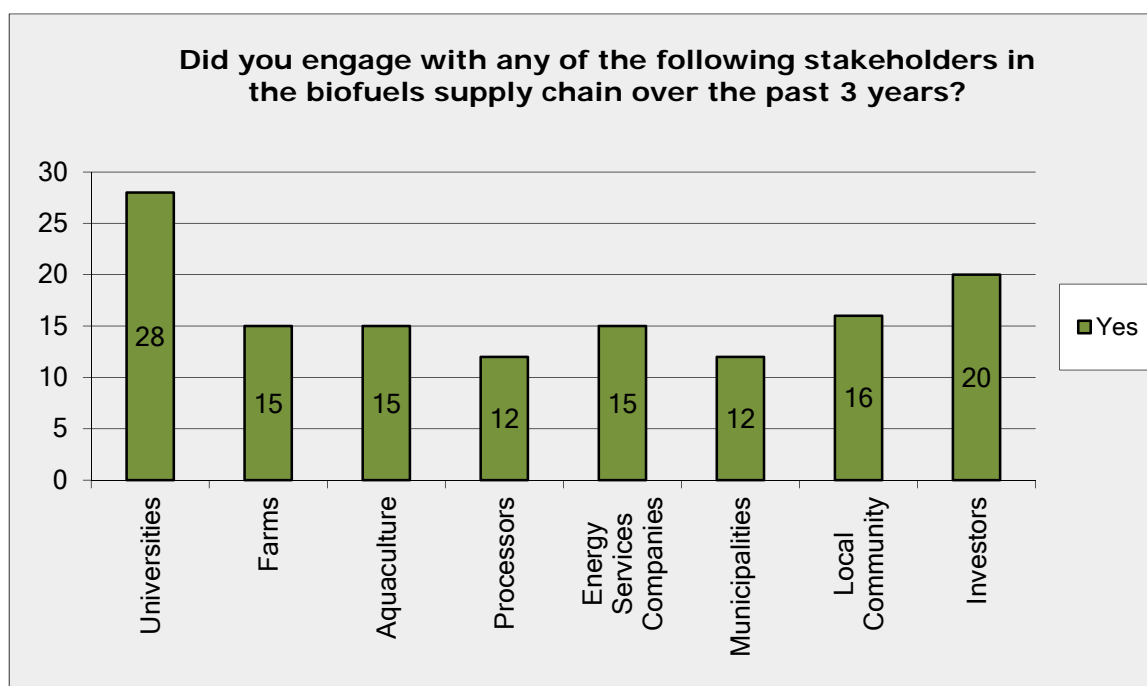
Are you currently sympathetic towards initiatives that seek to adopt or develop biofuel technologies?		
Answer Options	Response Percent	Response Count
Yes	94.3%	33
No	5.7%	2
<i>answered question</i>		<b>35</b>
<i>skipped question</i>		<b>2</b>



## Question 6

**Did you engage with any of the following stakeholders in the biofuels supply chain over the past 3 years?**

Answer Options	Yes	No	Response Count
Universities	28	7	35
Farms	15	20	35
Aquaculture	15	20	35
Processors	12	23	35
Energy Services Companies	15	20	35
Municipalities	12	23	35
Local Community	16	19	35
Investors	20	15	35
Other (please specify)			5
<b>answered question</b>			<b>35</b>
<b>skipped question</b>			<b>2</b>



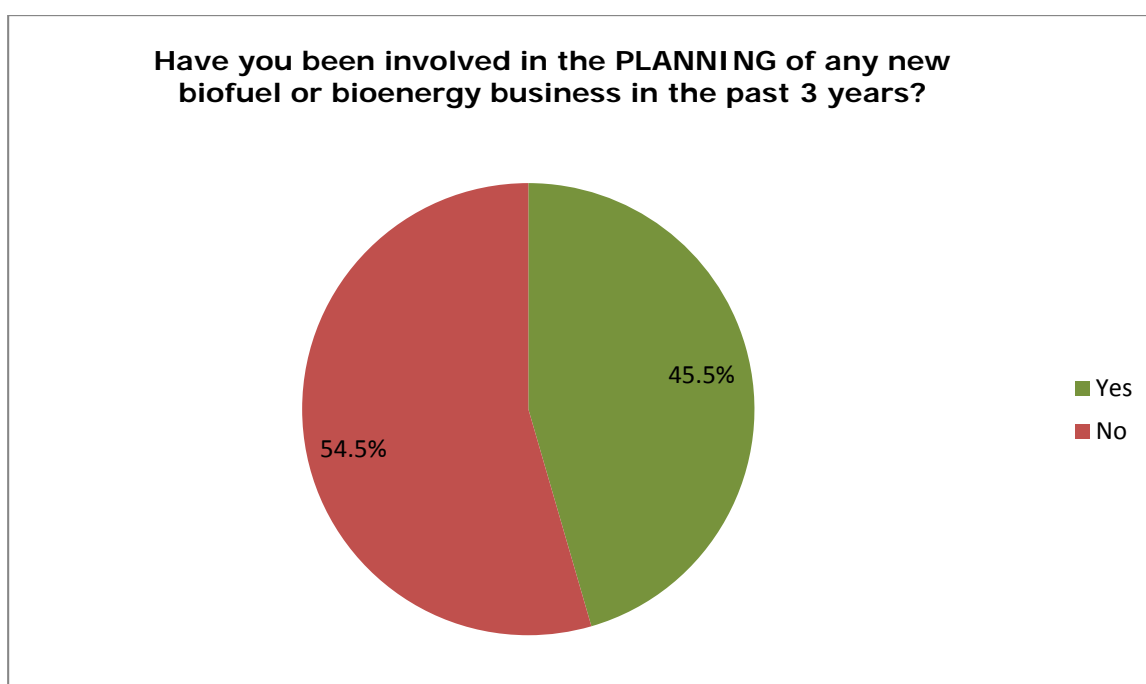
### Other Stakeholders

- Project developers
- Local Government
- We participated in the Ghana 2010 but were not informed of 2013 we would have attended. We are working with more than 5000 cocoa farmers by introducing them to Zero-waste conservation Agriculture and are using jatropha in establishing boundaries between farms. We are also setting up training program to train technicians and assembling Gasifiers which we intend to deploy in cocoa settlement cocoa farms that do not have any kind of electricity power. We would like to deploy the Generators that were introduced during the workshop. We have had problems with follow-up after the workshop. Could this be addressed ASAP?
- I founded a private R&D Centre for renewable energy from algae and non-food plant biomass
- NGO's and media platforms

## Question 7

**Have you been involved in the PLANNING of any new biofuel or bioenergy business in the past 3 years?**

Answer Options	Response Percent	Response Count
Yes	45.5%	15
No	54.5%	18
If yes, what? If no, why not?		20
<b>answered question</b>		<b>33</b>
<b>skipped question</b>		<b>4</b>



Comments:

- Still confidential at this stage
- The planning of the bioenergy business is occurring now. The past 9 months it was being discussed possibilities of business and my involvement on it is mainly related to research possibilities to help establish an appropriated business plan for Namibia.
- Algal biofuel
- Biomass to energy feedstock and securing manufacture and operating license for CHP gassifier technology
- Not enough background information on biofuel business
- Securing incentives / financial support for the canola biodiesel project in East Cape (Phyto-Energy project)
- Not yet, but there are plans to explore opportunities in a bioenergy business
- The planned eMonthi Green Hub Biorefinery for municipal biowaste resources in Buffalo City Metro (East London)... presently completing a full bankability study with design, EIA and authorisations for this facility. Planning a sweetshorghum to biomethane facility in the Eastern Cape.. Feasibility studies underway. Planning a central anaerobic digester for Queenstown. Feasibility Study complete. Schools integrated resource management system with integrated biogas and algal sanitation system to provide energy for cooking of school meals and biofertilizer on site fresh produce production.
- Bush to electricity, bush to pellets, bush to briquettes

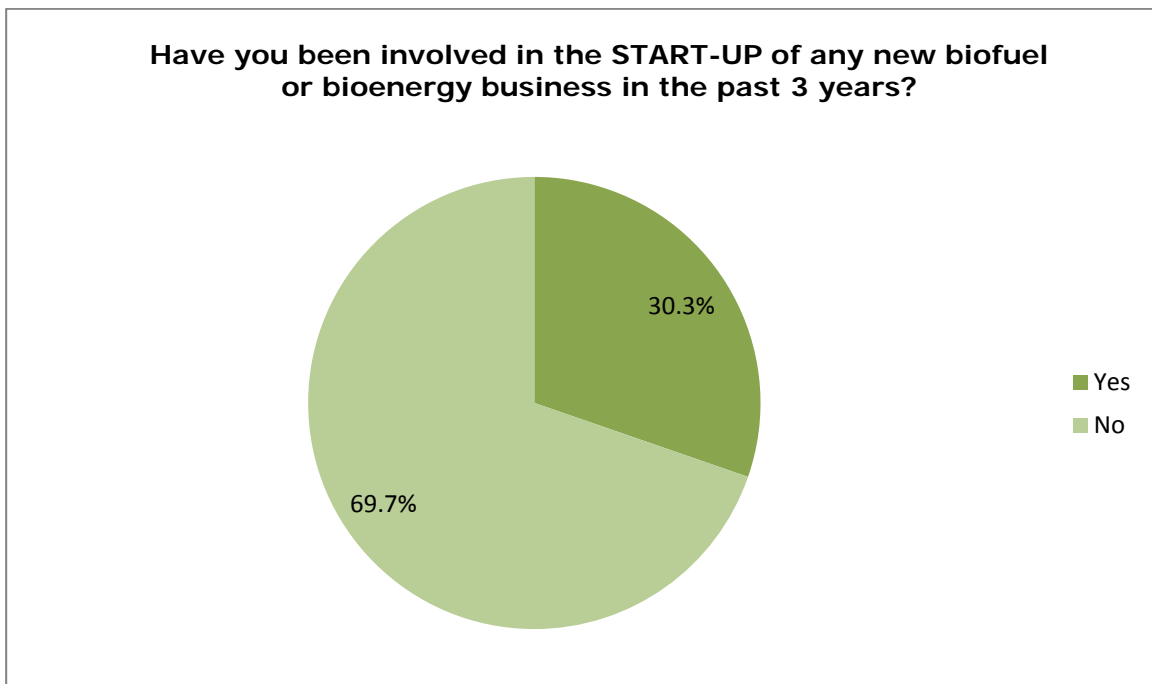


- We have been trying to develop new concept and plan means to create the awareness in our localities but this effort involves sponsorship.
- Yes we plan to use our sustainable bioenergy program to deploy as much of the waste on all farms associated with our program to produce a mix of bioenergy as we can. Out of our integrated livestock, we are linked up with a company that designs digesters and have installed several of them in Schools and other institutions to produce bioenergy. We are exploring looking for some assistance in establishing similar systems in towns and villages in Ghana that have problems with toilets. We are looking to initiate contact with the BOPB of the ESMAP program of the world Bank. We are also currently having discussions with the Kwame Nkrumah University of Science and Technology for joining training and deployment of these technologies in the Ashanti and Brong Ahafo regions of Ghana.
- Dunaliella in Namibia
- Primarily involved with water-related research, not biofuels business
- Algae biomass-based bioenergy
- Primary objective is in technology development and demonstration i.e. R&D, not product for sale.
- Biogas Plant
- Just got introduced to the idea
- I'd not heard of it by then.
- Indeed, the right opportunities have not come but hope to be a partner of such a venture
- The use of algae in third generation biofuels

Question 8

Have you been involved in the START-UP of any new biofuel or bioenergy business in the past 3 years?

Answer Options	Response Percent	Response Count
Yes	30.3%	10
No	69.7%	23
If yes, what? If no, why not?		20
<b>answered question</b>		<b>33</b>
<b>skipped question</b>		<b>4</b>



Comments:

- Still confidential at this stage
- The project for a biofuel business is now at the stage of planning. The idea for potential business only started to be developed in the past 9 months.
- Green Fuel, USA
- I am currently being trained on how to culture Dunaliella algae in aquaculture laboratory for the glycerol production purpose.
- Establishing market presence first and exploring legislative environment.
- not enough background information on biofuel business
- I am unaware of any commercialise biofuel project in S Africa over the past 3 years (except the conversion of the old pesticide plant in Berlin/East Cape to abattoir waste-to-biodiesel)
- Not yet, but there are plans to explore opportunities in a bioenergy business
- Our focus has been dealing with dealing with municipalities and schools and dealing with the public sector is slow.
- bush to electricity bush to pellets bush to briquettes
- I was invited to start a pilot base biodiesel plant at the Kwame Nkrumah University Of Science And Technology but unfortunately the one in charge Prof. Abeiku Harmon died early this year and it has been postponed.
- We are in the process of designing one such project on a new program we are setting up as the Center for excellence for small and medium farmers who have registered to participate in the zero-waste conservation agriculture. This is at the district of one of the

districts which is headquarters of the Program. The center is setting up the first commercial operation for operating production and use of biochar and pyrolytic oil from the green waste from the farm. Commercial composting is another as joint program with a local company with assistance from the University of Illinois in Champaign Urbana, USA

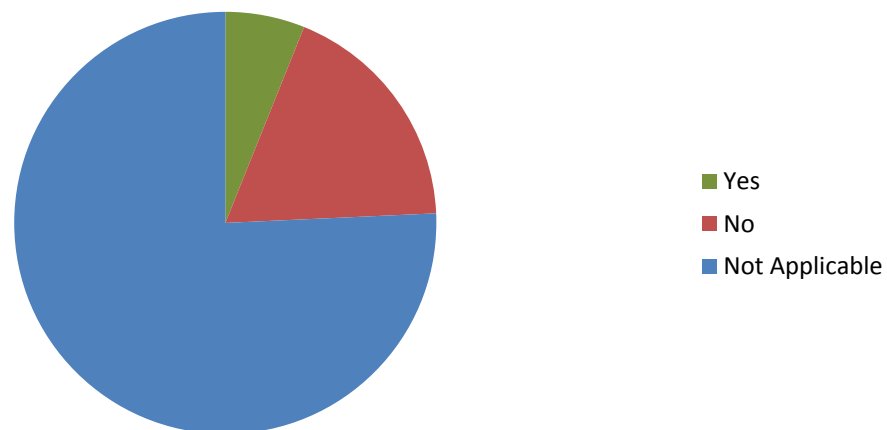
- We are in the process of getting something stated
- Primarily involved with water-related research, not biofuels business
- Biodiesel form non-food agro-waste seeds
- Not core activity. Restrict to R&D and technology demonstration.
- Just got introduced to the idea
- I'd not heard of it by then.
- indeed, the right opportunities have not come but hope to be a partner of such a venture
- I tried using algae, but met with challenges.

### Question 9

**If you are a biofuel producer, have you been able to sell your product on a new biofuel market, or do you know of anyone who has been able to do so?**

Answer Options	Response Percent	Response Count
Yes	6.1%	2
No	18.2%	6
Not Applicable	75.8%	25
If yes, how? If no, why not?		6
<b>answered question</b>		<b>33</b>
<b>skipped question</b>		<b>4</b>

**If you are a biofuel producer, have you been able to sell your product on a new biofuel market, or do you know of anyone who has been able to do so?**



Comments:

- The bioenergy business requires investment to support the unlocking of potentials.... Conventional funders are not stepping up to the table on this... Companies in the EU who are doing this are reluctant to set up operations in South Africa, presumably because of the complex REBID process and the low returns on investment from the sale of electricity at current grid prices as well as the limited industrial demand for heat from CHP generation.
- We have renewable energy policy problems in this country.
- We intend to first use the biofuel we produce locally in the communities that are engaged in this program. As we grow the program, we shall be in a position to establish strategic partnerships with probable users and sign binding agreements with them for the sale of the products.
- Our R&D centre is currently negotiating with investors to start production of biodiesel for non-food agro-waste seeds that available in massive quantities in Egypt
- High operating costs
- Professor Frimpong Boateng.