

Document 90

25 July 2016 - email from Phil Townsend re STBIFM projects in the Namoi

From: Phil Townsend
Sent: Monday, 25 July 2016 1:22 PM
To: 'Namoi Water'
Subject: RE: STBIFM project summary

Hi Jon

Thank you for sending this through. I have incorporated this into the modelling as well as the option of all further water recovery for the Namoi coming from Wee Waa, as discussed. I will talk to KPMG this afternoon about including the flow-on effect for reduced employment from the infrastructure projects. Appreciate your help. Are you able to pass on David's contact number so I can give him a call regarding the history of surface water recovery (similar to what Jonno outlined for groundwater)?

Regards

Phil

From: Namoi Water [mailto:eo@namoiwater.com.au]
Sent: Friday, 22 July 2016 4:39 PM
To: Phil Townsend
Subject: FW: STBIFM project summary

Hi Phil

All of these projects are for STBIFM in the Namoi downstream of Mollee Weir. The bottom one is getting pretty close to Walgett.

Round 1 & 4 are Boggabri projects.

Cheers

Jon

Funding Round	Approved	Total Savings	Water sold	
1	1	122	118	97%
3	1			
4	1	329	230	70%
5	1	540	390	72%
6	1	230	214	93%
7		308	264	86%
3	1	789	483	61%
4	1	163	95	58%
6	1	567	299	53%
8		178	148	83%
4	1	400	300	75%
6	1	640	496	78%
7		304	282	93%
8		473	259	55%
8		304	219	72%

	Total Savings	Water Sold	%
Approved	3,780	2,625	69%
All Applications	5,347	3,797	71%

Document 91

15 August 2016 - email from Phil Townsend arranging meeting with JMB in Wee Waa

From: Phil Townsend
Sent: Monday, 15 August 2016 3:32 PM
To: 'eo@namoiwater.com.au'
Subject: RE: availability on Wednesday afternoon-evening [SEC=UNOFFICIAL]

Hi Jon
I will give you a call when leaving Moree.
Regards
Phil

From: eo@namoiwater.com.au [mailto:namoiwater@gmail.com]
Sent: Monday, 15 August 2016 3:27 PM
To: Phil Townsend
Subject: Re: availability on Wednesday afternoon-evening [SEC=UNOFFICIAL]

Thanks that would be great see you then

Sent from my iPhone
Namoi Water
Ph : 0488 925222

On 15 Aug 2016, at 1:58 PM, Phil Townsend <Phil.Townsend@mdba.gov.au> wrote:

Hi Jon
Just wondering if you might have some time available on Wednesday afternoon? I will be up in Moree and could drop you off the next version of the model for you to use. Only requires a few basic instructions.

Regards
Phil

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Document 92

18 August 2016 - email from Phil Townsend re social and economic modelling spreadsheets

From: Phil Townsend
Sent: Thursday, 18 August 2016 8:52 AM
To: mrff@bigpond.com
Subject: social and economic modelling spreadsheets

Hi Grant

just letting you know I will send through a version of two of the modelling spreadsheets for your consideration over the next day or so. I provided copies to Tim Napier, Zara Lowein and Jon Maree Baker yesterday. I need to re-work a refinement for the Moree model (coming out of a discussion with Zara yesterday) and will then send them through to you. I can then lead you through the content over the phone and tell you where to introduce changes for the different water recovery scenarios.

regards

Phil

Document 93

22 August 2016 - email from Boyd Blackwell re update of modelling files

From: Boyd Blackwell <bblackw2@une.edu.au>
Sent: Monday, 22 August 2016 11:52 AM
To: Phil Townsend
Cc: Jim McFarlane; Richard Stayner
Subject: Re: update of modelling files

Importance: High

Hi Phil,

In reply to your request this morning I provide the following rapid and brief response.

It is always difficult to model reality - as most modellers know - but what you have done here is commendable, particularly when you consider the nuance and context captured for each community.

I also like how you have reported the details of the approach, assumptions and results for each in the word document (though I note this is a work in progress and not yet complete) - I think this will be particularly important for each community and the growers in these communities.

I believe the process you have followed is one that is preferred - where you have attempted to model reality as best you can and then further refined this and adjusted the model appropriately to better match what actually occurred.

I have a few further suggestions:

- I liked seeing the econometric results (standard errors and adjusted R squared) for the regressions but suggest providing a F statistic along with the adjusted R squared.
- Some estimates for specific communities did not well represent what occurred in the past - are there some good explanations here and why will these models perform well in predicting the future (water reductions) over the past - I think you have the answers for these - I think it just needs to be documented so communities are clear that you are conscious of these aspects?
- I know we have discussed this previously and the KPMG report explicitly addresses this, but have you undertaken the required diagnostic testing in regards to modelling variables over time (i.e. time series analysis as per our previous report). Cross sectional analysis will suffer a number of shortcomings in that regard, with results appearing far more favourable than they should do?
- Have you spent more time modelling one community over another and will this cause angst - maybe an explanation for doing so may reduce any angst?

One caveat on the approach is that while the modelling for many of the communities may perform well in predicting the past - can it perform well in predicting the future which are two different things (i.e. converse to dot point 2 above)?

I hope these comments help.

Cheers,

Boyd

Dr Boyd D Blackwell BCom, BEcon, PGBEcon(Hons-1st), PhD *UQ*
Principal Research Leader

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error and email confirmation to the sender.

From: Phil Townsend **Sent:** Friday, 19 August 2016 2:02:34 PM **To:** Boyd Blackwell **Subject:** Fw: update of modelling files Hi Boyd I will try calling you later regarding these three documents. regards Phil

From: Phil Townsend **Sent:** Friday, 19 August 2016 2:01 PM **To:** mrff@bigpond.com; gvia@gvia.org.au; tim.napier@brff.com.au; eo@namoiwater.com.au **Subject:** update of modelling files Hi

all attached are updates of the files provided to you earlier this week (except for Grant). This version has an update of the Moree model in each document. I understand you will be catching up on Monday. If you would like to organise a time to go through the models next week, let me know what might suit you? I will try to finish the documentation (Word document attached) for the NthBasin rain allocn ag spreadsheet over the weekend and get it through to you early next week. That spreadsheet contains all of the working versions for the models. If they aren't written up in the Word document at the moment, you can find the preferred model(s) for the various catchment/sub-catchments by going to cell A1 on each spreadsheet page. All of the preferred models have been incorporated into the NBR hydro-landuse model spreadsheet. If you want to change the scenarios of water recovery it is possible to do this on the spreadsheet page labelled 'Recover' in cells F12 to F17 by copying across one of the water recovery scenarios found in cells L12 to

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Q17. The number in L21 to Q21 represents the total volume of water recovery (and therefore the scenario being considered). Changing cells F12 to F17 as indicated will make all the necessary changes for the individual communities. regards

Phil

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Document 94

26 August 2016 - email from Phil Townsend re social and economic modelling

From: Phil Townsend
Sent: Friday, 26 August 2016 4:38 PM
To: 'Zara Lowien'; eo@namoiwater.com.au; tim.napier@brff.com.au; 'mrff@bigpond.com'
Cc: 'Michael Murray'
Subject: RE: social and economic modelling [SEC=UNOFFICIAL]

Hi Zara

As indicated at the public meetings, we were looking for inputs/insights on the modelling results as presented to those groups. As a consequence of the input received, we needed to update some of the modelling (eg. input from you around High Security water recovery and modelling design with respect to 2003 for the Moree community, other insights from Wee Waa on the proportion of infrastructure program water savings that were kept by the irrigators). I just checked the data presented at Moree for the effects of water recovery for the 278 and 415 GL water recovery scenarios relative to those which are in the models provided today. There is little change in the results (eg. effect of water recovery on maximum area of production) between the two. Virtually the same for the Wee Waa landuse modelling (as another example).

KPMG will receive the revised hydrology-landuse modelling outputs and re-run those through their community model. People at the University of New England have the role of peer-reviewing all of the social and economic modelling. Part of the independent reviewer's role is to understand the matters people raised with us during the consultations and to consider how we have addressed those matters in the economic modelling. Does that answer your questions?

Regards

Phil

From: Zara Lowien [mailto:zara.lowien@gvia.org.au]
Sent: Friday, 26 August 2016 4:15 PM
To: Phil Townsend ; eo@namoiwater.com.au; tim.napier@brff.com.au; 'mrff@bigpond.com'
Cc: 'Michael Murray'
Subject: RE: social and economic modelling [SEC=UNOFFICIAL]

Hi Phil

Are KPMG re-working or peer reviewing the job analysis as linked to the scenarios?

The previous information as presented at the public sessions has changed?

Zara Lowien
Executive Officer
Gwydir Valley Irrigators Association Inc



100 Balo Street
(PO Box 1451)
Moree NSW 2400

0427521399
0267521399

From: Phil Townsend [<mailto:Phil.Townsend@mdba.gov.au>] **Sent:** Friday, 26 August 2016 3:34 PM **To:** eo@namoiwater.com.au; Zara Lowien <zara.lowien@gvia.org.au>; tim.napier@brff.com.au; 'mrff@bigpond.com' <mrff@bigpond.com> **Cc:** 'Michael Murray' <michaelm@cotton.org.au> **Subject:** social and economic modelling [SEC=UNOFFICIAL]

Hi all Please find attached 3 documents for your consideration and examination, which are an update of the files you have received previously.

- NthBasin rain allocn ag spreadsheet contains information on the models developed for each community, including statistical analysis (t-test on coefficients, F-test on models, adjusted R2 estimates);

- hydrology landuse documentation is a Word document describing the content and development of each of the models, including the variables and sources of data used to construct the models in the NthBasin rain allocn ag spreadsheet;

- NBR hydro-landuse model is a spreadsheet containing all the individual community models - essentially the scenarios of water recovery are provided at cells L12 to Q18. Copying one set of water recovery such as L12 to L18 across to cells F12 to F18 makes it possible to calculate through the effects of the water recovery scenarios with the results presented for each community at the specified tabs. This will update the information for all of the communities except Dirranbandi and St George. For those two communities, a couple of extra steps are required – on the StGDirran page, go to cell S1. That is where the scenario data should be entered. To get the scenario data, go across to cell AN1. From there, the hydrology data for the individual scenarios is provided. To select the data for Scenario A, highlight cells AO1 to

AS206, copy and then past to cell S1. That will update the hydrology data for that scenario. Two further steps are required before going to the results. For St George, go to cell AC268. In the formula, you need to revise the second last value. For example, if considering Scenario A, leave the 42 unchanged. If considering Scenario C, replace 42 with 15 (as indicated in cell AF270. For Dirranbandi, you need to alter cell T377. In that function, if considering Scenario A, leave the second last value unchanged as 98; if considering Scenario C, for example, replace the 98 with 76 from cell T381. I can explain this one to you over the phone (and will write the documentation for it next). Results for Dirranbandi are at cell Z361 and at cell Z286 for St George. The outputs from this spreadsheet provides the inputs to the KPMG modelling.

With regards to the next level of information (effects on employment in the ag and non-ag private sector for each of the communities) I will provide the hydrology-landuse scenarios to KPMG this afternoon and expect to receive the results of that analysis next week then look to share those results with you early the following week. They will contain additional information, such as the flow-on effect between Collarenebri water recovery and Moree, flow-on effects of Dirran water recovery on St George, consideration of groundwater and surface water reductions for Wee Waa and a couple of other scenarios. regards Phil

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Document 95

4 September 2016 - email from Phil Townsend re employment data for the northern basin review

From: Phil Townsend
Sent: Sunday, 4 September 2016 7:28 PM
To: tim.napier@brff.com.au; eo@namoiwater.com.au; 'mrff@bigpond.com'; gvia@gvia.org.au
Cc: 'Michael Murray'; Frank Walker
Subject: employment data for the northern basin review
Attachments: KPMG Summary jobs data 1sep16.xlsx

Hi all

Please find attached a spreadsheet which contains an estimate of the effects on jobs in each of the communities examined as a consequence of the different water recovery scenarios. I can talk to this tomorrow (don't expect you would have time to look at it between now and then). The change in employment outputs from the KPMG community modelling. uses inputs from the NBR hydro-landuse model (as updated and provided mid-week).

There are four pages in this spreadhseet – the Ag page contains graphs of how water recovery options are expected to impact on jobs in the ag (farm and farm supply sector); the Non-ag pvt page provides graphs on changes to employment in the non-ag private sector for each community across the water recovery scenarios; baseline page/sheet has the baseline (modelled) job numbers in the different sectors across the communities and for each year, and the sensitivity page/sheet has graphs which consider the effects of the ground and surface water recovery in Wee Waa and estimates the effects in Moree of the reduction in Collarenebri as well as the reduction in Dirranbandi on St George. Still working on this sensitivity analysis, but can explain the results tomorrow.

Regards

Phil

Document 96 has employment data for the 21 towns.

Document 97 7 September 2016 - email from Phil Townsend re employment data for the northern basin review

From:

Sent: To: Subject:

Hi Grant Yes, I made the changes to Trangie and Narromine before the information was run through the KPMG models to generate the employment results provided. Regards Phil

From: Macquarie River Food & Fibre [mailto:mrff@bigpond.com] **Sent:** Wednesday, 7 September 2016 10:23 AM **To:** Phil Townsend **Subject:** RE: employment data for the northern basin review

Hi Phil,

Thanks again for your time on the phone earlier this week. I just wanted to confirm if the employment impacts that KPMG provided took into account the updated information you made to the Narromine and Trangie landuse model?

Thanks, Grant.

From: Phil Townsend [mailto:Phil.Townsend@mdba.gov.au] **Sent:** Sunday, September 4, 2016 7:28 PM **To:** tim.napier@brff.com.au; eo@namoiwater.com.au; 'mrff@bigpond.com'; gvia@gvia.org.au **Cc:** 'Michael Murray'; Frank Walker **Subject:** employment data for the northern basin review

Phil Townsend Wednesday, 7 September 2016 11:30 AM 'Macquarie

River Food & Fibre'

RE: employment data for the northern basin review
[SEC=UNOFFICIAL]

Hi all Please find attached a spreadsheet which contains an estimate of the effects on jobs in each of the communities examined as a consequence of the different water recovery scenarios. I can talk to this tomorrow (don't expect you would have time to look at it between now and then). The change in employment outputs from the KPMG community modelling. uses inputs from the NBR hydro-landuse model (as updated and provided mid-week).

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Regards Phil