



Covey Consulting to design biorefinery for BRA

Covey Consulting has been commissioned to design a new line for extracting pyrethrum oleoresin at Botanical Resources Australia's works in Ulverstone Tasmania.

The new line will have almost twice the capacity of the existing line, which was upgraded to Covey Consulting designs two years ago. Our tasks will include engineering and process design, design of most of the process equipment used, project management, procurement, construction management, commissioning and involvement in licensing and most other aspects of the project.

Start up is planned for early 2012.

Novel features of the new line include a wide variety of energy and water saving measures. A by-product oil will provide 80% of the process's boiler fuel needs.

Covey Consulting has undertaken many previous projects for BRA including upgrades and expansions for the existing extraction line, upgrades of Refinery line 1 and design and construction supervision of Refinery line 2.



ABOUT BRA



B Botanical Resources Australia Pty Ltd (BRA) is the Australian grower of over 60 % of the world's pyrethrum, the botanical insecticide, and runs the most high-tech pyrethrum industry in the world. Whilst the majority of the production is sourced from the fertile soils of Tasmania, from 2011, a portion of the production will be sourced from Ballarat in Victoria.

The move to having a portion of BRA's production in Victoria will provide the opportunity for rapid expansion of production in the future, if required, and will also diversify the seasonal production risk.

BRA contracts growers to cultivate in excess of 10,000 tonnes of pyrethrum flowers a year. The product is extracted and refined in BRA's state-of-the-art plants and formulated to exacting conditions to be used in pyrethrum-based insecticide products for the world market.

BRA was formed in 1996 when British Oxygen Company (BOC) sold its ownership of the fledgling Tasmanian pyrethrum industry. In 1981, a subsidiary of BOC, (CIG), began to develop the pyrethrum industry in Tasmania into a commercial proposition, initially entering an agreement with the Tasmanian Government and the University of Tasmania.

Fifteen years and many million dollars of investment later, the industry was up and running but was at the point where new and more efficient technologies needed to be developed. A staff buy-out from BOC created BRA and the company has gone from strength to strength. The main reasons for its success have been the passion and commitment of its staff, the support of the growers, the support of the overseas customers, funding support from the Federal Government, research and development and highly focused management.

Visit our stand in Rotorua



ALSO IN THIS EDITION

How to Calculate Your Own Carbon Footprint

Computer Speech Recognition

O Peregrino to El Peregrino - Part 2

All About the 65th Appita Conference

Covey Consulting News

Welcome to another new member of the Covey Team

Introducing yet another Covey Consulting Associate ...Joanne Moore

Geoff Covey Presents—Again!

Those of you heading to Europe in the next couple of months may like to visit the:

Pira 3rd Biennial Fibre Engineering Conference and concurrent 4th annual Biorefining for the Pulp and Paper Industry conference

24-26th May in Barcelona



Among the many excellent speakers is our own Geoff Covey who has been invited to present a paper on “Starting points for biorefining - An Australian perspective”.

More details are available from www.biorefining-conference.com

Biorefining for the Pulp and Paper Industry

or www.fibre-engineering.com

3rd biennial
Fibre Engineering

As a new recruit to Covey Consulting, I have been asked to introduce myself. The majority of my professional career (20+ years) has been spent in pulp and paper. I also have experience in technical writing for the oil & gas and pulp & paper industries, decommissioning environmental sites and coal processing.

My alma mater is Lakehead University, in Thunder Bay, Ontario, Canada where I graduated in 1976 with a Bachelor of Engineering in Chemical Engineering. My career started as a Process Engineer in a Specialty Fine Paper mill (Kraft). Since then, I've worked on projects in stone groundwood, linerboard, magnesium-bisulphite pulping and Kraft pulping and papermaking. I've also held management roles as a Quality Control Supervisor and a Groundwood Shift Supervisor.

In 1994, after doing some master's level pulp and paper engineering courses at the University of British Columbia, Vancouver, I worked for various engineering consulting companies. Some of the services I was involved in included writing an operating manual for a lime kiln, performing third party hazardous operability reviews (HAZOPS), developing specifications for coal processing equipment, and producing training plans, process manuals and procedures for the oil & gas industry using Amec's training system.

I am a member of Appita and have presented a paper at an Appita one-day conference on web-based training.



Outside of my career, my activities include my family, an assortment of sports and volunteering.

My expertise is in:

Process trouble shooting: Kraft pulping, sulphite, groundwood, linerboard, recycling fibres

HAZOPS facilitation: using guide-words as 'what if' situations with new designs

Technical writing, specifications, operating procedures & lesson & assessment questionnaires

Environmental: decommissioning, assessments & wastewater treatment

Training: operators & personnel on how the process works

As Project Engineers, Covey has seen it all. All too often the well known “Six Stages of a Project” are all too true. On this page we depict the first 3 stages and you will find the other 3 on page 7.

1 Enthusiasm



2 Consideration



3 Perplexity





Best Exhibitor Award Appita conference 2010

65th Appita Annual Conference & Exhibition
CONFERENCE PROGRAM
 10 - 13 April 2011
 Energy Events Centre, Rotorua, New Zealand

The 2011 Appita Annual Conference & Exhibition features the following:

- Three Technical Streams on
 - Resources
 - Pulp and Papermaking
 - Print/Packaging/End-use
- Safety Seminar
- Bioresource Forum
- Forest to Market Summit
- Industry Innovation Sessions
- Packaging Seminar
- Troubleshooting Workshop
- Training course
 - Wet End Chemistry
- Mill Managers' Forum
- Trade Exhibition

Proudly hosted and sponsored by: **CarterHotHarvey Pulp&Paper**



We look forward to seeing you at the Covey booth (number 29) at the Appita Conference in beautiful Rotorua for an experience that is "out of this World"

Forest to Market Summit
 Wednesday 13 April 2011

In conjunction with the 65th Appita Annual Conference & Exhibition Energy Events Centre, Rotorua, New Zealand

Hosted by the Appita International Business Committee, the one-day Forest to Market Summit will focus on market and end-user requirements for pulp and paper. The Summit will explore market drivers and the future sustainability of paper and packaging from the perspective of the manufacturer and end user.

The Summit will cover:

- Macroeconomic Outlook & Emerging Markets
- Technology & Future Markets
- Wood Resources
- Print & Packaging Markets
- Tissue & Hygiene Markets

Keynote Speaker:
 Mr David Walker
 Director
 Kauri Capital
 Mr Walker will provide a general macroeconomic outlook for the industry and discuss some of the key issues shaping the future of the Pulp & Paper industry.

Invited Speakers:
 Hui Ken Young - Vice President Crisis Operations, Papyrus Management Consulting
 John Kettle - International Development Manager, VTT
 Spring Hemphreys - National Eco Efficiency Manager, Forams
 Tim Plankowski - Chief Executive, Newspaper Publishers Association
 Kerwin Thomson - Director, Supply, SCA Hygiene Australasia
 Gerard Horgan - Senior Policy Analyst, Ministry of Agriculture and Forestry, New Zealand
 Sarel Anrede - Vice President, Strategy & Business Development, Norske Skog, Australia

The Forest to Market Summit is included in the Full Conference Registration
 For Day Registrations: Member NZD 736.00 Non-Member NZD 897.00

One day Bioresource Forum: Member NZD 736.00 Non-Member NZD 897.00

For updated program details please refer to the Conference Program
 To register fill out the Conference Individual Delegate Registration form
 For more information go to: www.appita.com

As usual Covey Consulting will be making presentations at the Conference

Preparing for commissioning
G Covey, R Harvey, G Faber, D Shore

(Bio)Products from old Pulp and Paper Mills
B Allender

Eucalypt chip thickness pulping study
P deMorton, M Philipp, N Vanderhoek, K White

Linerboard quality revisited - Part 1: Combining theory with practice
R J Allan, P DeMorton, N Vanderhoek



How to calculate your very own carbon hoof print

Regular readers of Covey Newsletter will recognise the unique interpretation that only Reg Harvey can bring to a subject. Reg may well have excelled himself for this edition!



A long time ago, someone (probably Lord Rayleigh) said that ‘unless you can measure something, you do not know anything about it’. So for anyone who is concerned about climate change, it is useful to calculate your carbon footprint.

This is fairly easy to do – well, sort of – so long as you dodge the hard bits.

In my case, the main emissions seem to be:

- (a) electricity usage
- (b) car
- (c) food
- (d) air travel

Food

To calculate the CO₂ emissions due to the production & transport of the food I consume looks rather difficult to me, so I have dodged this one.

Air travel

This is easy - if you buy the carbon offsets on offer it then becomes zero. If you are not interested in buying offsets, then you probably have not read this far anyway!

This leaves the petrol (or diesel), and the electricity.

Car

The CO₂ emissions for each Litre of fuel burnt are roughly 3 kg per Litre, or you can scale up from the manufacturer’s data for your car.

In my case, the figure for my nifty European diesel is 4.2 L/100 km = 120 g/km.

I can’t quite make the 4.2, but I do average about 4.3. So, 120 x 4.3/4.2 = 125 g CO₂ per km, & for 21,000 km per year this = 2.6 t/a CO₂.

Electricity

The concept of CO₂ emissions related to your power usage is a bit more nebulous than the fuel you burn in your car. For example, if you live in Tasmania as I do, all the electricity is generated from hydro - or at least when the dams are reasonably full. Which they have been for the last year or two.

As hydro in Tasmania generates effectively zero CO₂ emissions, one approach is to say that power usage in Tasmania is greenhouse neutral. However, allowing for the fact that there is an interstate grid along the east coast of Australia, it would seem more appropriate to use the Australian average for power generation. The Australian average is (I think) about 0.75 kg CO₂/kWh. Coal fired power stations are about 1 kg CO₂/kWh, so allowing for natural gas, hydro, and a dash of wind, this seems about right.

The average power consumption at the Harvey household has averaged about 0.8 kW over the last three years. At 8760 hours per year, this equates to 7.0 tonnes CO₂ per year. However, as her indoors and me (I?) are a Darby and Joan household, my share is only half of this, i.e. 3.5 tonnes pa.

General waffle

So the electricity is 3.5 t/a and the horseless carriage is 2.6 t/a giving a total of 6.1 t/a.

The Australian average is quite pathetic at around 20 t/a per capita, but presumably a lot of this is due to industrial emissions.

I rather suspect that the aluminium industry is responsible for a sizeable chunk of the 20 tonnes, but I have been too lazy to look this up.

Having calculated my footprint for the last five or six years, it is nice to find that I have made a 35% reduction in that period. This has been without any extra expenditure, apart from the \$5000 I paid for a diesel powered car rather than an equivalent petrol driven one.

So it is fairly easy to do if you try.

The two main factors seem to be:

- (a) do the sums, and
- (b) as a general rule, if the Tasmanian greenies oppose it, it is probably effective, efficient, and well worth considering!

Here is how Reg’s nifty diesel compares with average Australian transport.

Transport mode	Energy use (MJ per passenger -km)	Emissions (g CO ₂ -e per passenger -km)
Petrol Car	3.7	286
LPG Car	3.7	256
Ethanol (E10) Car	3.7	253
Electric Tram	0.15	52
Diesel Bus	0.28	22
Ethanol (E10) Bus	0.28	19
Natural Gas Bus	0.28	18
Diesel Train (V/Line)	0.2	16
Electric Train	0.04	14
250cc Motorcycle	1.6	124
1000cc Motorcycle	2.3	178

Source: Australian Greenhouse Office Factors and Methods Workbook 2006

Computer speech recognition

Do readers ever wonder about those speech recognition programs that are guaranteed to all but eliminate typing & have 99.9% recognition capabilities?

Chairman Geoff Covey saw such a program as an opportunity to significantly increase his already conspicuous productivity & made the leap of faith. He bought a dictation package & how better to try out said package by writing an article for the Newsletter. The editor is a most accommodating person but gave up after a few paragraphs & decided to save the remaining pages for a future edition in the interest of space—and the sanity of all concerned!

Read the results yourself

Eye bore Tay Dick Tay shone pack H and thaw tie wood ewe sit two right a peace four thee new slitter. Hear wee go:

Won day an engine ear sett of four thee sight. He Fick's Ed. thee tray le too the toe ball on thee toe bah on his Ka and low dead thee tray le with steal. Heed rove of too thee Con's truck shone sight.

Wen hear I've dare heed E side eat to weight four thee man ager beef or he star Ted un-low ding thee steal from thee tray le. Wily was weigh ting haem aid ace and witch with B fromage N Tina and rank ache oak heed bort Earl Ear.

Even tulle either man ager turn tup Andy re-moo fed thirst eel....

After much effort & application of great interpretive skill it seems the actual article went somewhat as follows:

One day an engineer set off for the site. He fixed the trailer to the tow ball on the tow-bar on his car and loaded the trailer with steel. He drove off to the construction site.

When he arrived there he decided to wait for the manager before he started unloading the steel from the trailer. While he was waiting he made a sandwich with beef from Argentina and drank a Coke he'd bought earlier.

Eventually the manager turned up and he removed the steel....

Subsequent evidence suggests that the equipment being used to capture the voice signal may explain why the results were less satisfactory than expected!



Legends and Urban Legends

In this Newsletter we have been privileged to read the outcomes of applied personal research from a legend in his own lunch-time; Reg Harvey.

There are also Urban Legends, some with such compelling information that we want to believe them.

As will be well known to many Covey clients, we have done quite a lot of work related to insurance claims, but we hasten to add, not this particular claim.

The following story is so good it just has to be true. It goes something like this:

This incident allegedly took place in Charlotte North Carolina, USA.

A lawyer purchased a box of very rare & expensive cigars, then insured them against, among other things, fire.

Within a month, having smoked his entire stockpile of these great cigars, the lawyer filed a claim against the insurance company.

In his claim, the lawyer stated the cigars were lost 'in a series of small fires'. The insurance company refused to pay, citing the obvious reason, that the man had consumed the cigars in the normal fashion.

Covey Consulting News

The lawyer sued and WON! (Stay with it!) Delivering the ruling, the judge agreed with the insurance company that the claim was frivolous. The judge stated nevertheless, that the lawyer held a policy from the company, in which it had warranted that the cigars were insurable and also guaranteed that it would insure them against fire, without defining what is considered to be unacceptable 'fire' and was obligated to pay the claim.

Rather than endure lengthy and costly appeal process, the insurance company accepted the ruling and paid \$15,000 to the lawyer for his loss of the cigars that perished in the 'fires'.

NOW FOR THE BEST PART...

After the lawyer cashed the cheque, the insurance company had him arrested on 24 counts of ARSON!!!

With his own insurance claim and testimony from the previous case being used against him, the lawyer was convicted of intentionally burning his insured property and was sentenced to 24 months in jail and a \$24,000 fine. This true story won First Place in last year's Criminal Lawyers Award contest.

Sadly according to Snopes not only is the story not true but we have had around 50 years to know that it is not true.; yes the story has been circulating since 1965 (www.snopes.com).

In 2003 this theme was the basis of a song—"The Cigar Song", composed and sung by someone called Brad Paisley (no we have not heard of him either) and if you are keen on the song you can have it downloaded as a ringtone! So put that in your pipe and smoke it!



Insurance policies generally state that payouts cannot be triggered by deliberate actions. Snopes claim that burning your own property is not arson if there is no intention to defraud. Given the courts ruled the insurance company was required to pay, no fraud was committed.

Try that in Australia and see what happens!

This records the recent peregrinations of **St. Bruce (Allender)**

To recap from part 1, The journey from Waymark 1 has led Bruce on a journey of spiritual awakening or perhaps more a recognition of muscles he never knew that he had.

We are over five days in, it has stopped raining, I can cope with the back and leg pain (either numbed or easing) and now keep up with a couple of blokes, which helps with navigation (forget the guide book). So we walk along, in our own worlds, not talking, often only just within sight of each other. There is a rhythm to nature, you look around, look down and see footprints in the mud, and let your mind escape. The next discovery is the *menu do peregrino*. In most towns (not all hostels are in towns, but that is another story) there is at least one restaurant that serves this fixed price menu, which also makes ordering easy. We never have to show our *Credencial* but I guess we look and sound foreign enough to get a three-course feed with coffee and a choice of bottle of wine or water – all for a few Euros. The wine or water option seems a no-brainer but in fact bottles of spring water and cheap wine actually do cost the same in the shops.

By now I am carrying the universal symbol of the Camino peregrino.

Carrying anything extra is a real burden now, but not this one. The bleached scallop shell pilgrims used as a cup to drink from the fountains & streams along the way. Not sure I will do that, but the symbol remains.

Now it is across the border into Spain, the only immediate difference being that everything is 30% more expensive, and I still cannot understand the language.



The hostels fill rapidly each night now, but interestingly you see very few pilgrims actually on the road – everyone just goes at their own pace, so again it is about finding your own rhythm. We took to starting early & reaching the hostel early afternoon to ensure a bunk & time to do some washing. Once filled the hostel turned pilgrims away. Although the system is meant to give preference to pilgrims who are genuinely walking with packs, often enough a group of gigglers would rock up with their vanload of luggage delivered to the door.

Those who imagined they were taking their pilgrimage more seriously thought this and other tricks a bit poor, but on reflection agreed that everyone has to live with their own conscience, so as long as they did not seriously interfere with others, good luck. That is what a pilgrimage does to you.

The hostels worked really well, with complete strangers, although probably like minds, living together in bunk bed dormitories reminiscent of boarding school.

Management – no drinking & smoking, doors locked at 10pm & everyone out by 8am - enforced the rules. So not much chance for fun & games, but everyone is too stuffed anyway. And of course you get the official hostel stamp in your pilgrim's passport.

The Spanish towns have a more prosperous feel, as we walk further north along the usual mix of subsidiary roads, tracks & forest trails. Not that it got any easier, but you reach a sort of steady state where you felt comfortable within yourself & could now keep walking. We are at the town of Padron. Reputedly this was where the body of St Anthony was brought from Haifa by boat, which then moored to a rock bollard. The bollard itself was reputedly a Roman altar to the god Neptune, and is now in turn safely stored (and viewable if you are lucky) under the church altar.

Returning to more earthly interests, the *menu's del peregrino* are still there to be enjoyed, & here the famous tapas of Padron peppers. This is a plate of small grilled green peppers, where 1 in 20 is supposed to be chilli pepper hot – but which one? Two of us played Russian roulette & ate all with no effect. Disappointed. Presumably there were at least 2 in the next plate.

As we close in on SdeC, the road is now a line of walkers (it is a week-end) all sizes, ages and capabilities. We look a bit out of place with our packs and tired clothes. Lycraed mountain bike riders wiz past too – all with the same urgency now that the Cathedral is almost within reach.

We arrive at the steps of the Cathedral of Santiago and face an enormous crowd of day-trippers and pilgrims in the surrounding squares. A long queue of pilgrims is waiting to enter the Pilgrims' office to get their *Compostela* accreditation. Enough already, we find a hostel first.

There is a massive pilgrim hostel on the outskirts of town, but we choose a private hostel (really a subdivided flat) in the heart of town and listen to the hubbub all night. Nice to be back in society, but sad that the solitude has ended.

Every noon a pilgrims' mass is said in the impressive Cathedral - get there early to sit, or later to stand and pack in. This is not my scene at all, but the pomp and ritual is moving and the Bishop sermonising in Spanish (or is it Latin?) is strangely moving and seems to be talking personally to me. A tiny nun sings soulfully and unaccompanied. Then the really moving bit (intended) begins.

Six sturdy monks lower a giant incense burner that had been suspended from the top of the nave by a thick rope. Once lit, the burner (botafumeiro) is then swung across the transept in a 20 metre arc - absolutely fabulous. Nowadays it is all part of the ritual, but the incense burning whirling was originally to fumigate and perfume the filthy pilgrims packed into the church and provide relief to the church dignitaries. But looking around maybe it still does serve that purpose.

Now this is the end, my pilgrimage is finished - but not complete.

There are two last things. One to do is get my *Compostela*, so when the office opens next morning bounce up the stairs (refreshed, no queue) and in to be lightly interrogated: "Credential please, and why did you do this pilgrimage - religious, spiritual or secular?"

A hard choice. I already knew if I said secular, you receive a document in English. If not, then in traditional Latin. I want the real thing, and think a spiritual answer is not unreasonable. My beautiful Latin *Compostela* is now safely home.

And the final task is to hug St James (the Greater). In the back of the Cathedral is a tiny narrow stairway leading up to a bronze bust of the great man.

I join a mercifully short line of people with the same objective (by mid-day the line snakes out into the square and takes 1-2 hours), and yes I do say thanks for everything, aware also of the dubious hygienic experience shared against his greasy shoulders.

Then down below to the crypt to view a silver casket containing the Saint's last mortal remains (donations accepted). Now I am truly done and it is time to go home. It will take a long while to fully appreciate the pilgrimage.

Reflections

No the earth's energy did not move for me, sorry Shirley, but it was humbling to walk on the worn rocks of the Roman Ways and in the footprints of pilgrims made centuries earlier. And the simplicity was wonderful, with time for thinking and feeling, and time for easy comfortable companionship.

Would I do it again? Yes, and probably a similar route, because there will be time to take time and absorb all the surrounding impressions without thinking about the practicalities of the journey. Join me.

From Waymark



To Waymark



And to complete the evolution of the 6 stages of a project—we are confident that Covey Consulting will do a much better job!

4 Detection of culprits



5 Punishment of innocents



Reward of non-participants





1st Floor, 660 High Street, Kew East, Victoria
Telephone: (03) 9859 4290
Fax: (03) 9859 4630
Mail: PO Box 99
Kew East, VIC 3102
Australia
Email: enquiries@coveyconsulting.com.au
Web: www.coveyconsulting.com.au

The Covey team

Dr. Geoff Covey
Mr. Gerke Faber
Mr. Reg Harvey

Chairman & chemical Engineer
Engineering Manager
Process Manager

Mr. Dennis Shore
Dr. Dennis Creasy
Mr. Roger Canty
Dr. Ajit Ghosh
Dr. Bruce Allender
Dr. Nafty Vanderhoek
Ms. Jo-Ann Moore
Mr. Steve Grist
Mr. Ross Werne
Mr. Ross Patterson
Mr. Murray Orchard
Dr. Alan Harvey
Mr. David Wood
Mr. Peter Brett
Mr. Kam (Charlie) Chan
Mr. John Trewick
Mrs. Dianne Jones
Dr. Alan Farrington
Mr. Robin Johnson
Mr. David Allan
Mr. Norm Lasslett
Mr. Koh Hoo Beng

General Manager (Projects/Strategies/Markets)
Chemical Engineer (Emeritus)
Chemical Engineer
Chemical Engineer
Environmental, microscopy & procurement
Paper Technologist
Process Engineer
Chemical Analyst
Chemical Analyst
Mechanical Engineer
Mechanical Engineer
Image processing/computing, electronics & control systems
SCADA, PLC and telemetry systems
Electrical Engineer
Commercial, Marketing & Logistics
Information Consultant
Information Consultant
Chemist/Fibre Technologist
Consultant Process Chemist
Sustainable Strategist
Process & Control Engineer
Malaysia Country Representative

- Australian-based, Australian-owned
- Intimate knowledge of Australian process industry
- 25 professionals, over 600 years total experience
- Broad range of professional disciplines
- Daily interaction with major manufacturing sites
- Access to global information
- Ready-access to other specialist knowledge

Professional Links:

Covey Consulting has a close working relationship with a network of associates who can provide specialist knowledge outside our direct area of expertise. These include Civil and Structural Engineers, Chemical Analytical Laboratories and Technical Information Services.

Covey Consulting regularly uses the scientific resources and equipment located at the universities of Melbourne, Monash and RMIT as well as the CSIRO.



**Let Covey Consulting connect
all the pieces for you**