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ICT
Green discussion paper

Smart green economics

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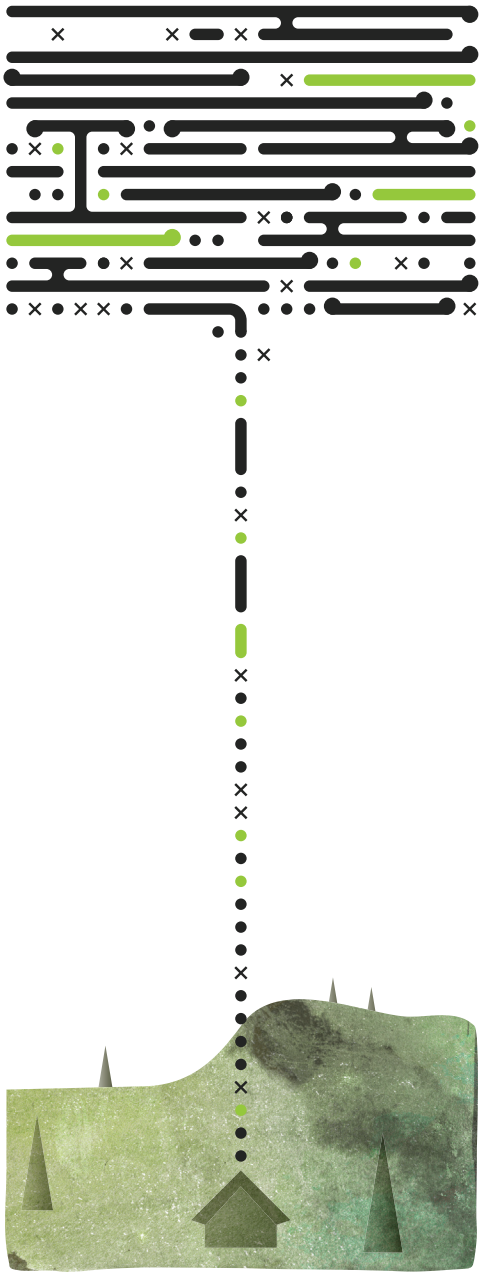
Green Party of Aotearoa New Zealand



Introduction

A smart green economy is one which delivers prosperity while looking after the planet and all the people who live on it. A smart green economy is jobs-rich, fair, innovative, produces less pollution, uses fewer resources, is mostly New Zealand owned, and is in a good financial balance with the rest of the world.

We believe that the information and communication technologies (ICT) sector can make a significant contribution to a smart green economy in New Zealand. This Green discussion paper proposes three initiatives that will enable the ICT sector to accelerate the creation of new jobs and put our economy onto a more sustainable footing. It is a discussion paper focused on key issues, not a comprehensive policy.

We welcome your feedback
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The ICT sector is nearly seven times bigger than New Zealand's mining sector – the sector that the National Government is backing – and is relatively jobs rich, employing five times more people than the mining sector.

Our ICT industry

New Zealand's ICT industry includes areas as diverse as wireless infrastructure, health IT, cloud computing, data hosting, software development, geospatial mapping, telecommunications, and agricultural technology.

Our ICT industry contributed around 6.2 percent of GDP last year.[1] There are now approximately 2,200 businesses in the sector employing 42,800 people and paying average hourly wages 28 percent higher than the national average.[2]

The ICT sector is nearly seven times bigger than New Zealand's mining sector[3] – the sector that the National Government is backing – and is relatively jobs rich, employing five times more people than the mining sector. [4]

Growth over the last ten years has been spectacular. In the ten years to 2010, ICT exports have increased 118% while total sales have grown 80% to $19.5 billion.[5] Outstanding New Zealand ICT successes include: SilverStripe, creators of a content management system used in the successful election campaigns of Barak Obama in the USA and Francois Hollande in France; Xero, a global market leader in cloud-based small business accounting software; and Datacom, one of Australasia's largest private companies, with more than 4,000 staff and revenues of $788 million – half of which is earned in Australia and Asia.

Value

A thriving ICT sector brings many benefits to the New Zealand economy – from more well-paid jobs to increased overseas export earnings – positioning us well to benefit from a high-growth area internationally.

A more connected New Zealand with better, cheaper internet benefits everyone, particularly those who are economically disadvantaged, facing accessibility issues, or those with no internet access at all.

The value of improved connectivity to New Zealand extends far beyond the ICT sector.

The value of improved connectivity to New Zealand extends far beyond the ICT sector. For example, a US study has found that well connected rural regions have better economic performance.[6] By promoting a greater exchange of ideas and increasing the adoption of new farm technology, the internet will enhance New Zealand's agricultural competitive advantage.

So, while this paper focuses on the ICT sector, the network benefits will spill over to the rest of the economy in a widespread way that is difficult to measure.

ICT firms need a high level of creativity to be successful – something we have a reputation for.

Our opportunities

Why is the ICT sector a key component of our vision for a smart, green economy?

- **ICT exports are 'weightless'** and can be exported with low carbon and oil costs. Growing weightless exports is critical for us in a country far away from our main markets, especially given the likely price path of carbon and oil.
- **The ICT industry relies heavily on electricity and New Zealand's electricity generation is some of the greenest in the world**. When selling our ICT products and services to the world, we can leverage our clean, green, low carbon brand.
- **ICT firms need a high level of creativity to be successful – something we have a reputation for**. [7] The OECD found in their review of innovation in New Zealand that we are a resourceful and entrepreneurial population with "pockets of excellence" in the software industry and great opportunities to apply ICT in a wide range of sectors.[8] This is complemented by a very strong design community.
- **New Zealand's neutrality offers some[9] opportunities to host data centres** that would not only have access to renewable energy to operate but also sit geopolitically and geographically between the two giant economies of the Pacific – China and the USA.

Proposed second cable
Existing Southern Cross Cable

Challenges

Our ICT industry faces several key challenges.

New Zealand is reliant on a single fibre optic cable system connecting us to the rest of the world.[10] This vulnerability is an issue for the entire New Zealand economy, not just the ICT sector. Reliance on a single provider for our internet means higher prices,[11] data caps, and less innovation for services.[12] In time, international capacity will also become an issue. And a single cable system means that our link has less resilience. If the cable breaks or a technical fault occurs (as it did on November 9, 2012) then New Zealand may remain disconnected from the rest of the world until the connection is repaired.

The New Zealand Government is indifferent to the local ICT sector in its current procurement policies, resulting in the purchasing of proprietary software from foreign companies. For example, the first part of a $2 billion Inland Revenue IT contract was awarded to French firm Capgemini and was designed in a way to make it nearly impossible for any New Zealand provider or group of providers to bid for the contract.

New Zealand's isolation makes it difficult to benchmark local ICT production against the very best from overseas. While ICT services can travel weightlessly across the globe, there are still significant disadvantages in being so far away from the main centres of innovation offshore.

The growing demand for staff means that we increasingly don't have enough skilled people to fill many of the roles in the current ICT industry, let alone a larger one. Part of this reflects the digital divide – the gap between those that have access to the internet and those that don't – and part of this is due to an education and training system which is slow to switch on to the opportunities in ICT.

1 Our proposal to facilitate the development of the ICT industry

A second cable system will support the growth of the ICT industry directly through cheaper, faster internet access and provide wider indirect economic benefits through firm efficiency and innovation.

Second cable cornerstone investor

The Green Party proposes that the Government takes a $100 million cornerstone investment in a second fibre optic cable to ensure it is successfully constructed and stays in New Zealand control.[13]

Like electricity, broadband is now considered basic infrastructure. A second cable system will support the growth of the ICT industry directly through cheaper, faster internet access and provide wider indirect economic benefits through firm efficiency and innovation. A second cable system will unlock the full potential of the Government's investment in ultra-fast broadband, ensuring it doesn't simply become an ultra-fast intranet.[14] [15]

A 25 percent cornerstone investment by the New Zealand Government would provide the certainty to attract further private investors, subject to competitive tender, for the $400 million for-profit joint venture.

While this is a significant investment, it amounts to 0.8 percent of the National Government's $12 billion spend on new motorways. Reprioritising this spending would enable a $100 million investment in a second cable without adding to Government debt.[16]

2 *Our proposal to facilitate the development of the ICT industry*

Open source software can be cheaper and more secure, and empowers smaller New Zealand providers to bid for the work.

Smarter government procurement

We propose that government agencies be required to consider the wider economic benefits to New Zealand of supporting the local ICT industry when making purchasing decisions.[17] Government contracts can provide local ICT companies with the secure customer base from which they can then expand into overseas markets.[18] Both the UK and Australia have recently moved to make large government IT contracts more available to small IT firms.[19]

As a first step towards developing awareness, government agencies will have to measure how much of their current ICT spend is going to local companies and report on it. Government agencies would then be required to look at the full costs and benefits of new procurement decisions, including the multiplier and tax revenue benefits that come with buying Kiwi made.

Government agencies will be required to use open standards for new projects and use open source software, where possible. Open standards support interoperability and cloud computing.[20] Open source software can be cheaper and more secure, and empowers smaller New Zealand providers to bid for the work.

3 *Our proposal to facilitate the development of the ICT industry*

We can include ICT in our apprenticeship scheme and encourage IT companies to develop their own apprenticeship/ internship schemes, investing in staff development at home rather than buying it from overseas.

Other initiatives – education, clustering, and patent reform

We can take steps now to invest and grow the ICT talent pool here at home.

We can include ICT in our apprenticeship scheme and encourage IT companies to develop their own apprenticeship/internship schemes, investing in staff development at home rather than buying it from overseas.

We can help the ICT sector to overcome the distance from markets by supporting promising local developers to visit key ICT clusters overseas and gain experience there.

Finally, we need to amend the Patents Bill to prevent the patenting of software, which is chilling software development overseas. [21] [22]

In Conclusion

The Green Party believes that the New Zealand ICT industry offers great opportunities for job growth in the smart, green economy. To unlock these opportunities, central government needs to work collaboratively with industry to put in place the right drivers for green growth. I look forward to receiving your feedback.

Russel

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[1] Statistics New Zealand (2012), *Gross Domestic Product*, in 1995/96 dollars.

[2] Statistics New Zealand, *Household Labour Force Survey* (2012) Retrieved from: http://www.stats.govt.nz/infoshare/ViewTable.aspx?pxID=4346d0e8-040b-4432-8fec-d92b0022c10b

Earnings and Employment Survey, (2012) Retrieved from: http://www.stats.govt.nz/infoshare/ViewTable.aspx?pxID=889b28a4-356b-4fe2-92e3-e5e88e012b2d

[3] In terms of contribution to GDP, year ended June 2012 (1995/96 dollars)

[4] Statistics New Zealand, *Household Labour Force Survey*, Table 7, and *New Zealand Business Demography Statistics*, Table 1 (February 2012)

[5] Statistics New Zealand, *Information and Communication Technology Supply Survey* (2010). Retrieved from: http://www.stats.govt.nz/~/media/Statistics/Browse%20for%20stats/ICTSupplySurvey/HOTP09-10/ictss-09-10-tables.xls

Information Technology Survey (2002). Retrieved from: http://www.stats.govt.nz/~/media/Statistics/Browse%20for%20stats/ITSurvey/HOTP02financialyr/its-02-financial-y-all-tables.xls

[6] P Stenberg, et al. (2009). *Broadband Internet's Value for Rural America*

[7] *OECD Reviews of Innovation Policy: New Zealand* (2007), p200

[8] *Ibid*

[9] Limited by our physical distance from the rest of the world, and the fractional time delays that result.

[10] The Southern Cross Cable is laid out in a figure eight configuration.

[11] Vikram Kumar, InternetNZ, RadioNZ, August 2, 2012. Retrieved from: http://www.radionz.co.nz/national/programmes/morningreport/audio/2526913/dumping-of-onternet-cable-a-blow-consumer-advocates

[12] Sarah Putt, Editor, Computer World NZ, RadioNZ, August 2, 2012. Retrieved from: http://www.radionz.co.nz/national/programmes/ninetonoon/audio/2526937/new-technology-with-sarah-putt.asx

[13] A cheaper but less effective alternative is to invest in a second cable to Australia with a total project cost of approximately $150 million.

[14] Rod Drury, September 2012

[15] In a supply driven market, the Government is unlikely to achieve the step-change in the ICT economy without significant new internet capacity from overseas. Greater capacity allows for more sophisticated demand which drives innovation. New Zealand users who get used to frictionless multiparty video conferencing through Skype and Google, for example, will fundamentally change the way business is done.

[16] For a more detailed breakdown of the fiscal implications of Green Party spending priorities, refer to *Green Jobs* (2011). Available from: www.greens.org.nz/greenjobs

[17] Economics New Zealand Ltd (2011), *The Benefits of Local IT Procurement*. Retrieved from: http://catalyst.net.nz/sites/default/files/Catalyst-benefits-of-local-IT-procurement.pdf

[18] For an example, see NZ Herald, *EROAD gears up for overseas*. Retrieved from: http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10853631

[19] See: http://www.archive.dcita.gov.au/2008/january/procurement_and_industry_development/sme_participation_in_major_australian_government_ict_procurements/sme_participation_in_australian_government_ict_contracts_over_$20_million_200203_and_200304 and http://www.cabinetoffice.gov.uk/content/government-ict-strategy

[20] The UK has taken the lead on open standards. Refer to http://www.cabinetoffice.gov.uk/news/government-bodies-must-comply-open-standards-principles

[21] Bessen & Meurer, *The Private Costs of Patent Litigation* (2008). Retrieved from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=983736

[22] Apple and Google are reported to now spend more on patent acquisition and defense than what they invest in research and development. Refer to: http://www.wired.com/opinion/2012/11/ff-steven-levy-the-patent-problem/all/