Electronic voting and counting in the Australian Capital Territory

Phillip Green
Electoral Commissioner
ACT Electoral Commission

Elections ACT Australian Capital Territory Electoral Commission

Elections in the Australian Capital Territory

❑ Self-governing Territory since 1989

❑ City-State of around 320,000 people

❑ 220,000 enrolled voters

❑ Fixed election dates every 4 years

❑ Independent ACT Electoral Commission

❑ 6 permanent staff

❑ Single transferable vote multi-member electorates with "Robson rotation"

❑ 17 Members elected in 3 electorates

Electronic Voting

- ❑ Used for the 1st time at the 20 October 2001 ACT Legislative Assembly election

- ❑ Used again at 16 October 2004 election

- ❑ 4 pre-poll voting centres for 3 weeks

- ❑ 8 polling places on polling day (out of 83)

- ❑ 28,169 electronic votes taken (16,559 in 2001)

- ❑ 13.4% of all votes counted (8.3% in 2001)

Why did the ACT adopt electronic voting?

- ❑ 1998 election - 2 candidates 5 votes apart - recount of 75,000 ballots

- ❑ Extended counting by 10 days

- ❑ Hand counting prone to errors

- ❑ Handwritten preferences difficult to interpret

- ❑ Many voters make mistakes marking their ballots

- ❑ Paper ballots not accessible

How electronic voting worked

❑ Normal polling places
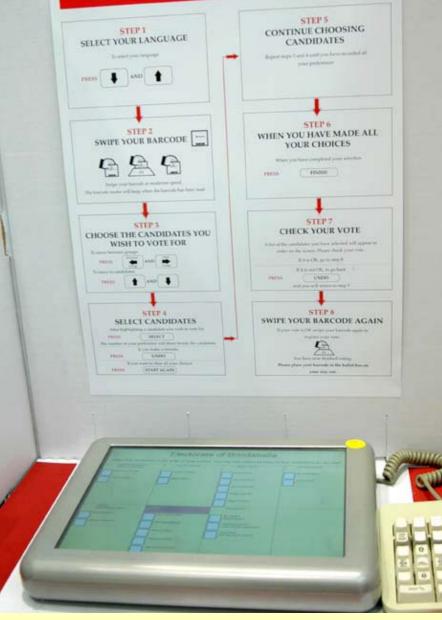
❑ Local area network, standard PCs with small keyboard and barcode reader

❑ Voters' names marked of printed electoral roll

❑ Voters issued with barcode for their electorate (if they chose e-voting)

❑ The screens looked like this …

Welcome
to the ACT's Electronic Voting System
Please swipe your barcode to start voting

English

Español
Italiano
Português
Српски
ESPAÑOL
Türkçe
TIẾNG VIỆT

STEPS TO ELECTRONIC VOTING

STEP 1 SELECT YOUR LANGUAGE	STEP 5 CONTINUE CHOOSING CANDIDATES
STEP 2 SWIPE YOUR BARCODE	STEP 6 WHEN YOU HAVE MADE ALL YOUR CHOICES
STEP 3 CHOOSE THE CANDIDATES YOU WISH TO VOTE FOR	STEP 7 CHECK YOUR VOTE
STEP 4 SELECT CANDIDATES	STEP 8 SWIPE YOUR BARCODE AGAIN

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Press ↑ and ↓ to select language.	**English**
إضغط ↓ و ↑ اختار اللغة	عربي *Arabic*
请按↑和↓来选择您的语言	中文 *Chinese*
Pritisnite ↑ i ↓ da odaberete jezik.	**HRVATSKI** *Croatian*
Πατήστε↑και↓να διαλέξετε τη γλώσσα	Ελληνικά *Greek*
Premere ↑ e ↓ per scegliere la lingua.	**Italiano** *Italian*
برای انتخاب زبان دگمه های ↓ و ↑ را فشار دهید	فارسی *Persian*
Aperte↑e↓para selecionar língua	Português *Portuguese*
Притисните ↑ и ↓ како бисте одабрали језик.	**Српски** *Serbian*
Apriete ↑ y ↓ para elegir el idioma.	ESPAÑOL *Spanish*
Dili seçmek için ↑ ve ↓ bastırınız.	Türkçe *Turkish*
Bấm ↑ và ↓ để chọn ngôn ngữ.	TIẾNG VIỆT *Vietnamese*

Electorate of Ginninderra

Select five candidates in the order of your choice. You may then select as many further candidates as you wish.

A AUSTRALIAN DEMOCRATS	B THE ACT GREENS	C GUNGAHLIN EQUALITY PARTY
☐ Roslyn DUNDAS	☐ Shane RATTENBURY	☐ John SIMSONS
☐ Dan McMILLAN	☐ Patricia WOODCROFT-LEE	☐ Gail JONES
☐ Anthony DAVID		

D DAVE RUGENDYKE	E LIBERAL DEMOCRATIC PARTY	F
☐ Ian BROWN	☐ Susan MORRISSEY	☐ Geoff CLARKE
☐ Dave RUGENDYKE	☐ John HUMPHREYS	☐ Darcy HENRY

G LIBERAL PARTY	H AUSTRALIAN LABOR PARTY	UNGROUPED
☐ Vicki DUNNE	☐ Wayne BERRY	☐ Rhonda JAMES NURSES GOOD GOVERNMENT PARTY
☐ Ilona FRASER	☐ Vic REBIKOFF	☐ Chris GARVIE INDEPENDENT
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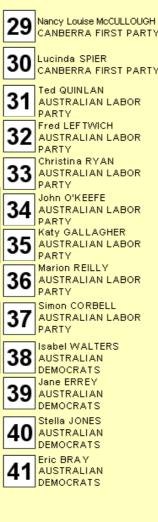| G LIBERAL PARTY	H AUSTRALIAN LABOR PARTY	UNGROUPED
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Please check your vote.

Swipe the barcode to register your vote OR press UNDO to go back.

If you need help with the barcode, press SELECT to hide your vote, and ask an official for help.

1 Victoria YOUNG THE ACT GREENS	**15** Jacqui BURKE LIBERAL PARTY	**29** Nancy Louise McCULLOUGH CANBERRA FIRST PARTY
2 Michael NOLAN THE ACT GREENS	**16** Helen CROSS LIBERAL PARTY	**30** Lucinda SPIER CANBERRA FIRST PARTY
3 Kerrie TUCKER THE ACT GREENS	**17** Greg CORNWELL LIBERAL PARTY	**31** Ted QUINLAN AUSTRALIAN LABOR PARTY
4 Deb FOSKEY THE ACT GREENS	**18** Gary HUMPHRIES LIBERAL PARTY	**32** Fred LEFTWICH AUSTRALIAN LABOR PARTY
5 Robyn STANIFORTH NURSES GOOD GOVERNMENT PARTY	**19** Amalia MATHESON LIBERAL PARTY	**33** Christina RYAN AUSTRALIAN LABOR PARTY
6 Phillip HICKOX NURSES GOOD GOVERNMENT PARTY	**20** Brett GRAHAM LIBERAL DEMOCRATIC PARTY	**34** John O'KEEFE AUSTRALIAN LABOR PARTY
7 Hilary BACK NON-PARTY GROUP COLUMN I	**21** Duncan SPENDER LIBERAL DEMOCRATIC PARTY	**35** Katy GALLAGHER AUSTRALIAN LABOR PARTY
8 Melanie MARSHALL NON-PARTY GROUP COLUMN I	**22** John PURNELL-WEBB LIBERAL DEMOCRATIC PARTY	**36** Marion REILLY AUSTRALIAN LABOR PARTY
9 Ian BLACK NON-PARTY GROUP COLUMN L	**23** Alan PARKER KAINE INDEPENDENT GROUP	**37** Simon CORBELL AUSTRALIAN LABOR PARTY
10 Marnie BLACK NON-PARTY GROUP COLUMN L	**24** Colin CARTWRIGHT KAINE INDEPENDENT GROUP	**38** Isabel WALTERS AUSTRALIAN DEMOCRATS
11 Tania GELONESI NON-PARTY GROUP COLUMN G	**25** Jonathon REYNOLDS GUNGAHLIN EQUALITY PARTY	**39** Jane ERREY AUSTRALIAN DEMOCRATS
12 Pamela AYSON NON-PARTY GROUP COLUMN G	**26** Ian RUECROFT GUNGAHLIN EQUALITY PARTY	**40** Stella JONES AUSTRALIAN DEMOCRATS
13 Mark SPILL LIBERAL PARTY	**27** Joel PASTERNAK CANBERRA FIRST PARTY	**41** Eric BRAY AUSTRALIAN DEMOCRATS
14 Manuel XYRAKIS LIBERAL PARTY	**28** Claire JAMES CANBERRA FIRST PARTY	

Your vote has been accepted.

Thank you for using the ACT's Electronic Voting System.

Please place your barcode in the ballot box
on your way out of the polling place.

Elections ACT Australian Capital Territory Electoral Commission

Benefits of electronic voting

- ❑ No manual counting

- ❑ Reliable, secure and transparent – open source software

- ❑ Eliminated unintentional voter errors

- ❑ Reduced informal votes

- ❑ Audio version for sight-impaired

- ❑ Instructions in 12 languages

Electronic counting

- ❑ 176,340 paper ballots data-entered in 2004

- ❑ Every ballot entered twice by independent operators

- ❑ Electronically checked for errors

- ❑ Manually corrected by supervisors

- ❑ Final result announced 11 days after polling day

Benefits of electronic counting

- ❑ Extremely accurate count

- ❑ Effectively eliminated sorting and counting errors

- ❑ Reduced time needed to produce accurate count

- ❑ Casual vacancies can be filled "at the touch of a button" using count-back method

Problems?

❑ Minor problems in 2001 overcome in 2004

❑ No votes were lost through computer failure

❑ 86% found e-voting easy to use

❑ Major parties accepted result – support more e-voting

❑ Some minor candidates wanted a "voter verified paper trail"

How reliable was e-voting?

- ❑ E-voting in 2001 and 2004 took place on local area networks

- ❑ Tight security - data transferred on CD-ROMs

- ❑ Failsafes and backups used

- ❑ Extensive testing and auditing

- ❑ Publicly available software code

The future: internet voting?

❑ In the short term, there are concerns about internet voting

❑ Security of voting database

❑ Proving voter identity – no national identity system

❑ Possibility of voter coercion or vote selling

❑ Resistance to cultural change

❑ In the long term, these concerns may be overcome

Where to from here?

- ❑ We want to take more e-votes at the 2008 election – but how?

    - ▪ "Super" polling places?
    - ▪ Voting tablets?
    - ▪ Internet?

- ❑ Watch this space …

- ❑ www.elections.act.gov.au

- ❑ elections@act.gov.au