A primer on voting systems

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SOME RIGHTS RESERVED

Why proportional representation?

It's the critical issue....

…. to the urgent ones we care about.

Fair Voting

1)Why FPTP doesn't serve voters

2)History of the mouvement

3)Voting system concepts

4)Different voting systems

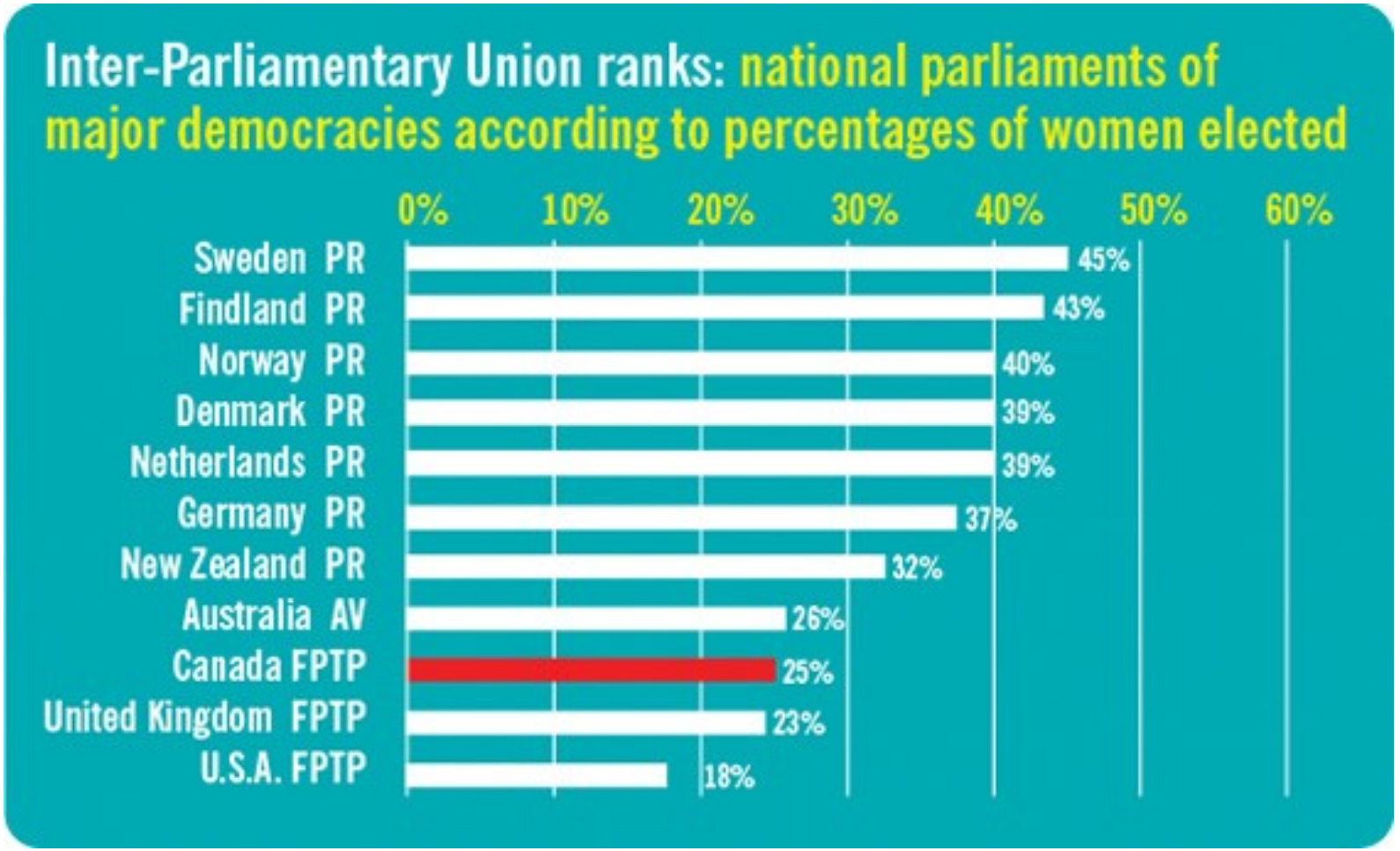
5)Where to go from here?

FPTP doesn't serve voters

- Phony majorties
  - Ontario (since 1937)
  - Canada (since 1984)
  - Quebec (since 1985)
- How can institutions be accountable?

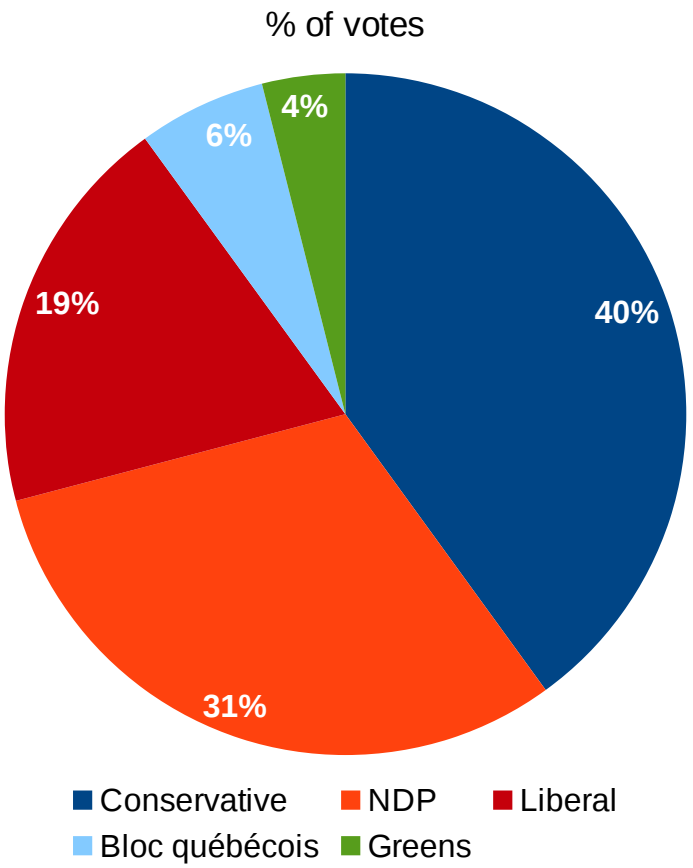
~50%

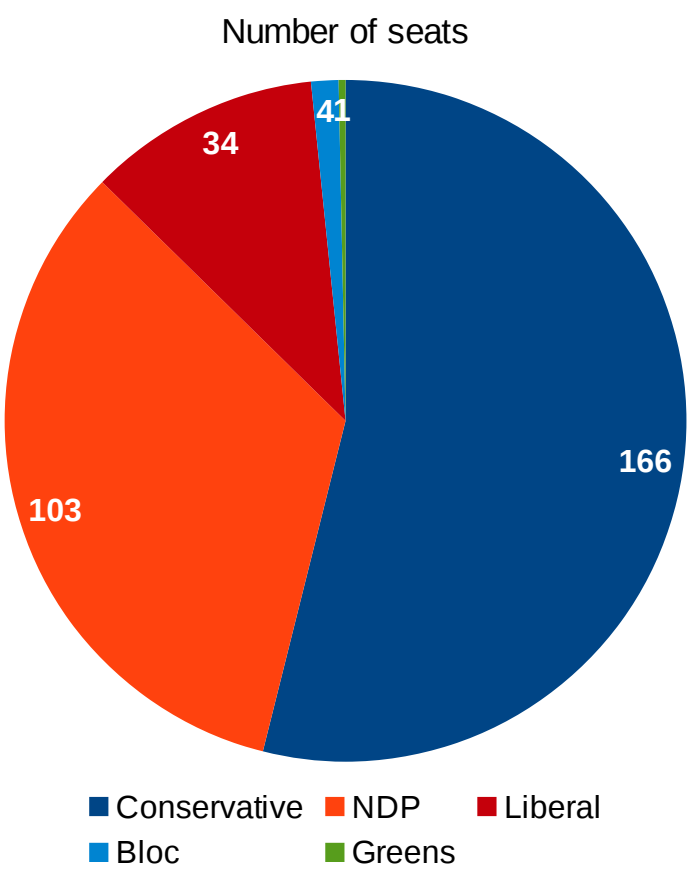
Proportion of women elected in legislatures of OECD* countries



*Organization for Economic Cooperation and Development

Distortion of representation (2011)





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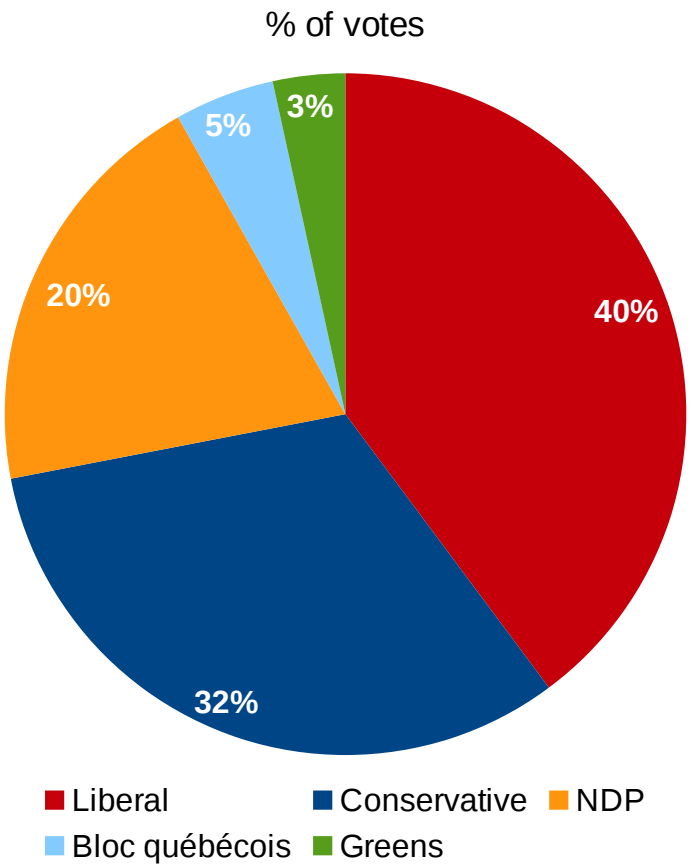

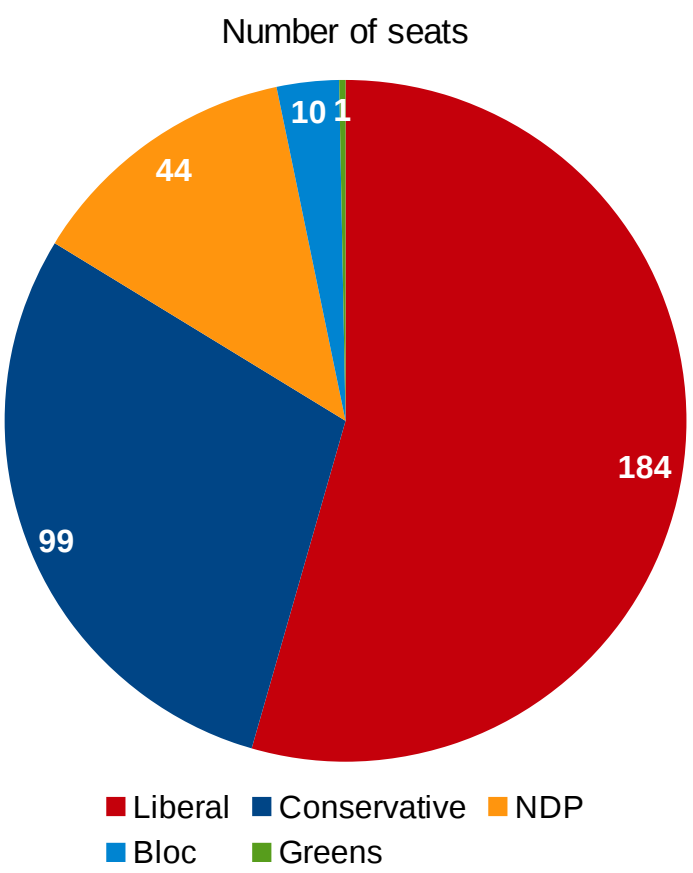

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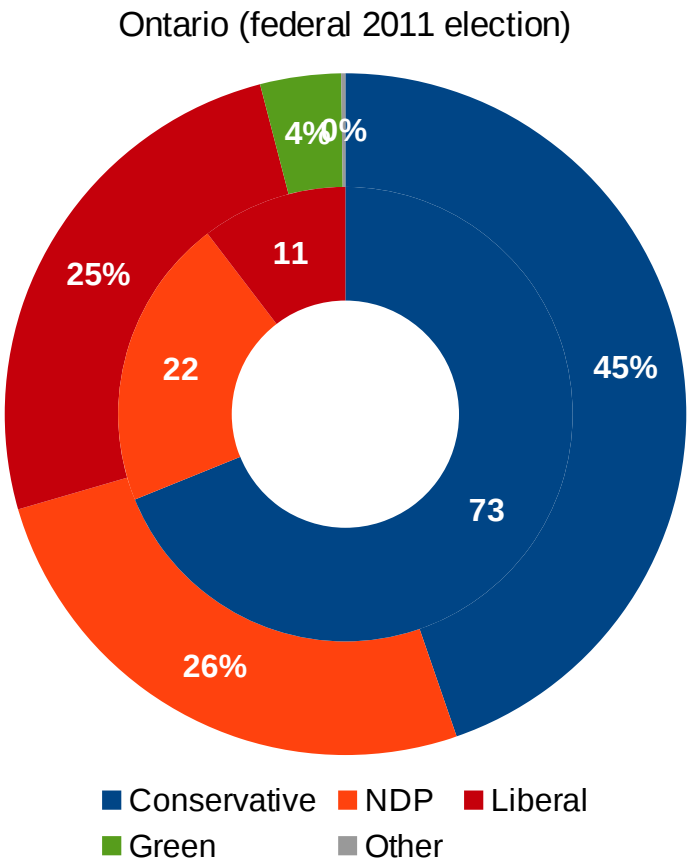

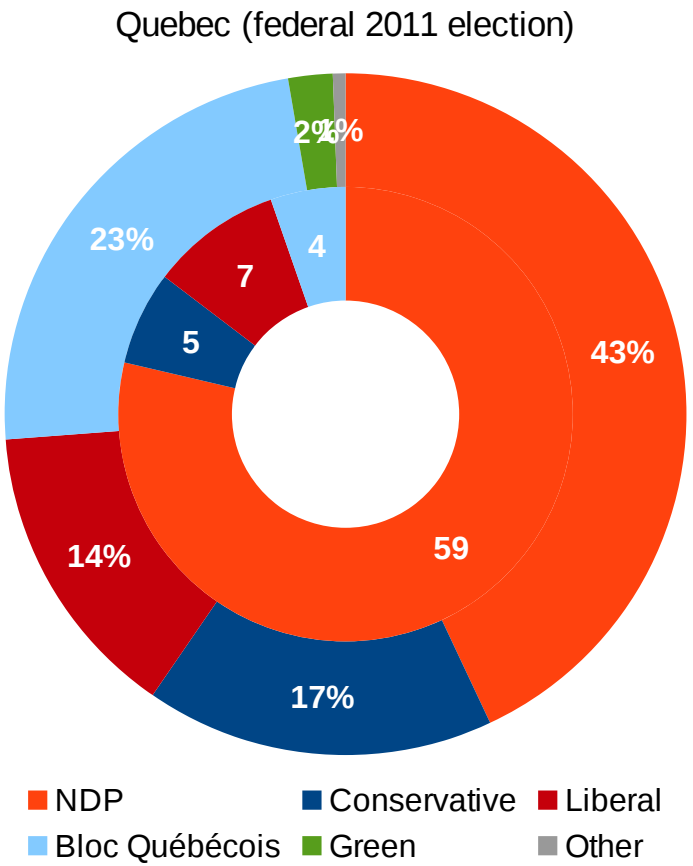

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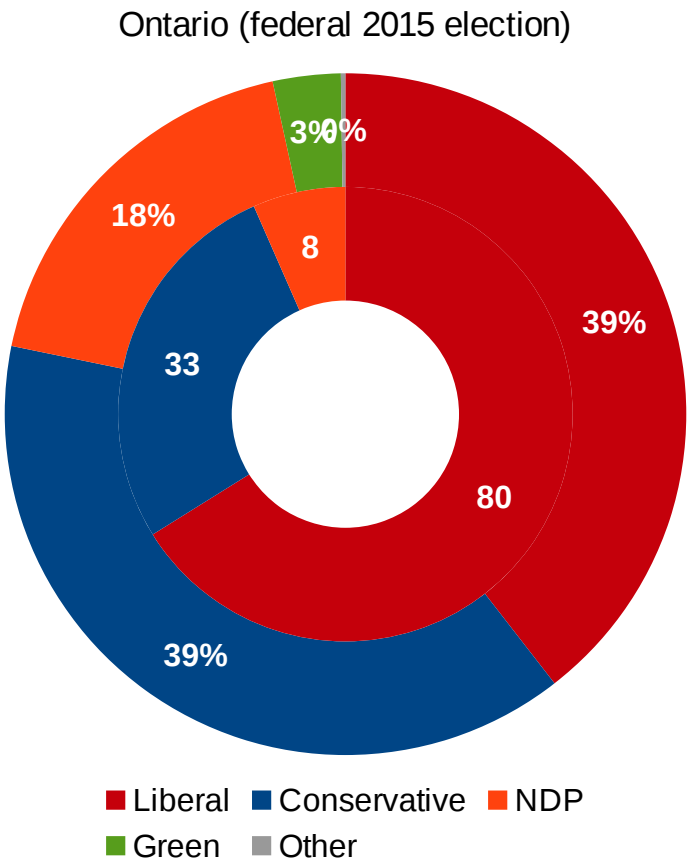
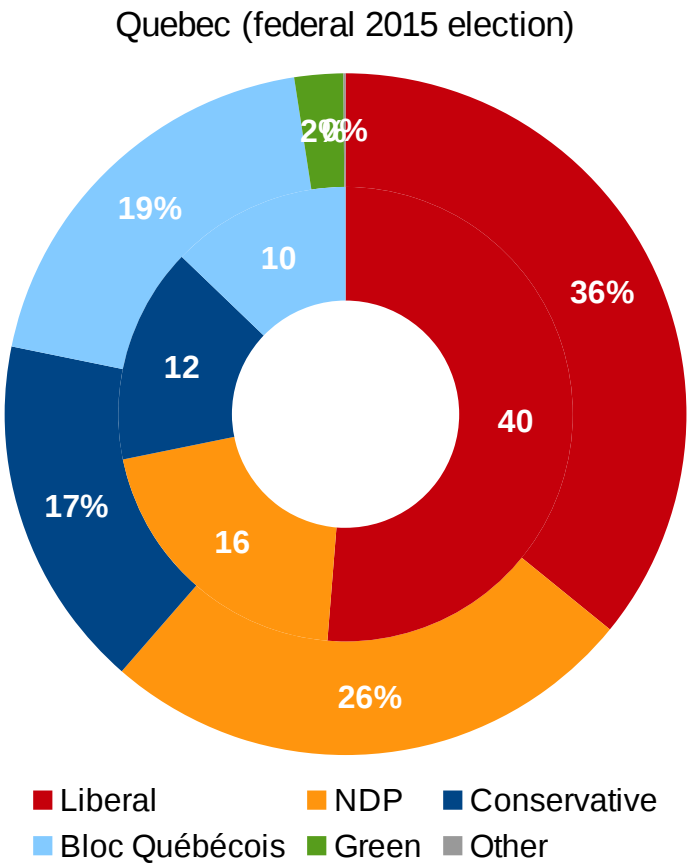
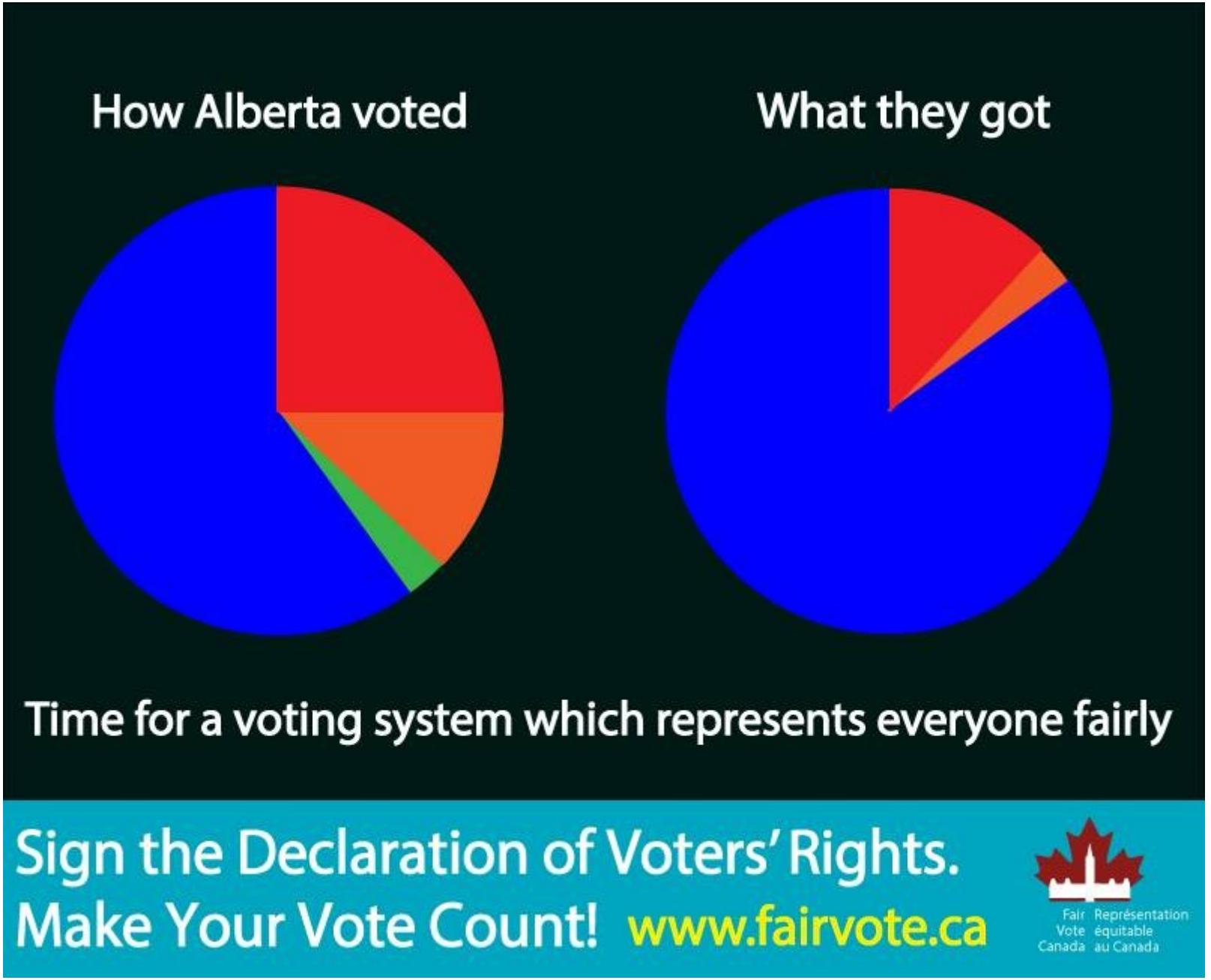
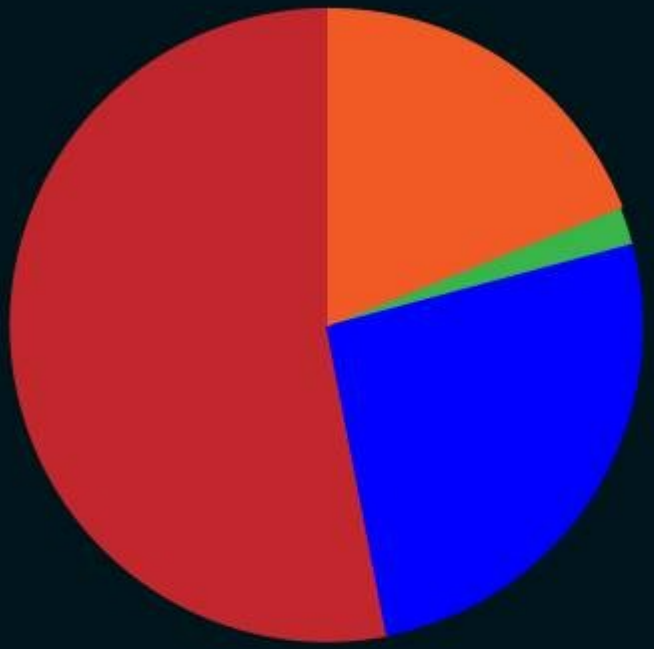





How Alberta voted
What they got
Time for a voting system which represents everyone fairly
Sign the Declaration of Voters' Rights.
Make Your Vote Count! www.fairvote.ca
Fair Vote Canada
Représentation équitable au Canada

A diverse city meets an 800 year old voting system



How Toronto voted

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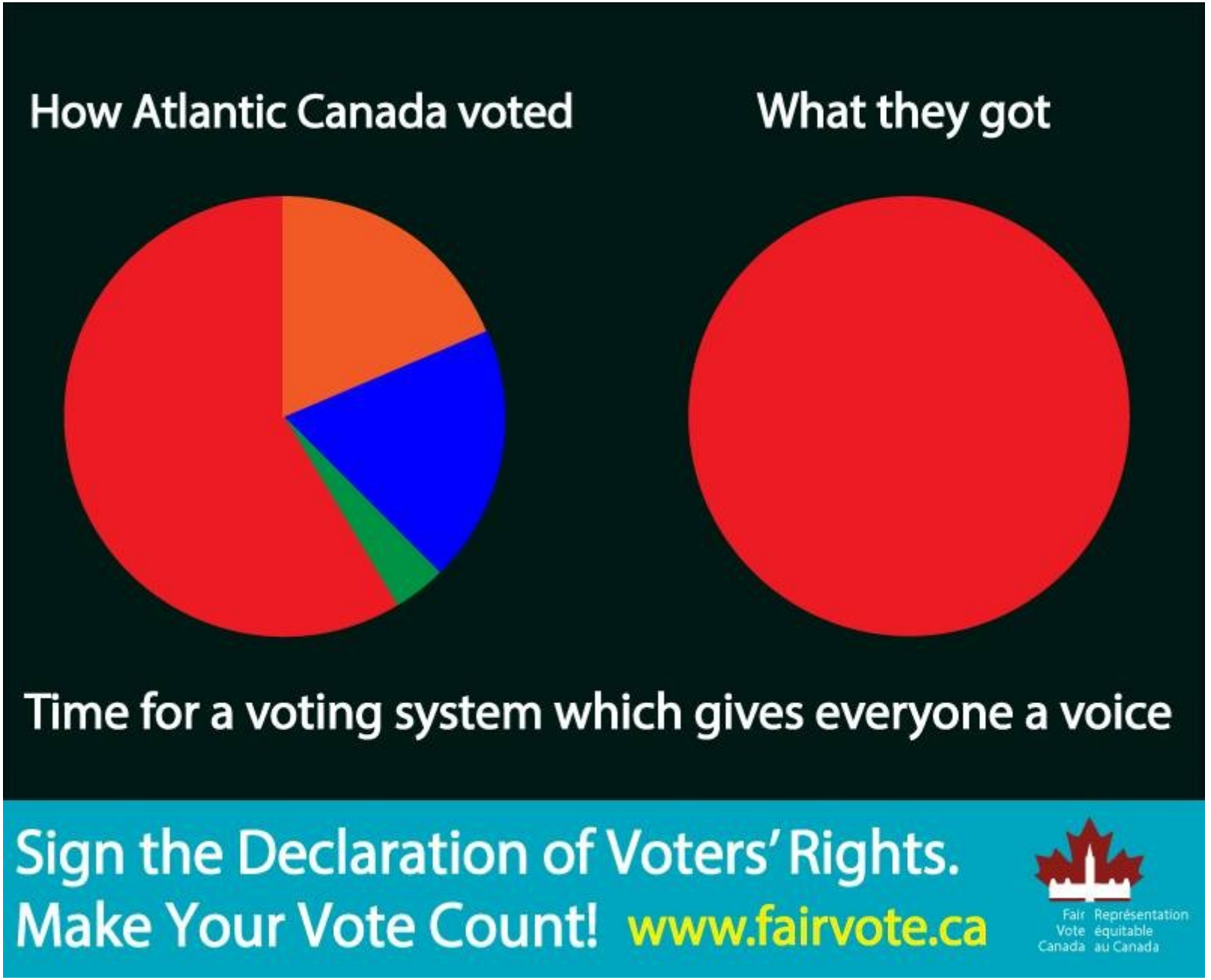
How Atlantic Canada voted
What they got
Time for a voting system which gives everyone a voice
Sign the Declaration of Voters' Rights.
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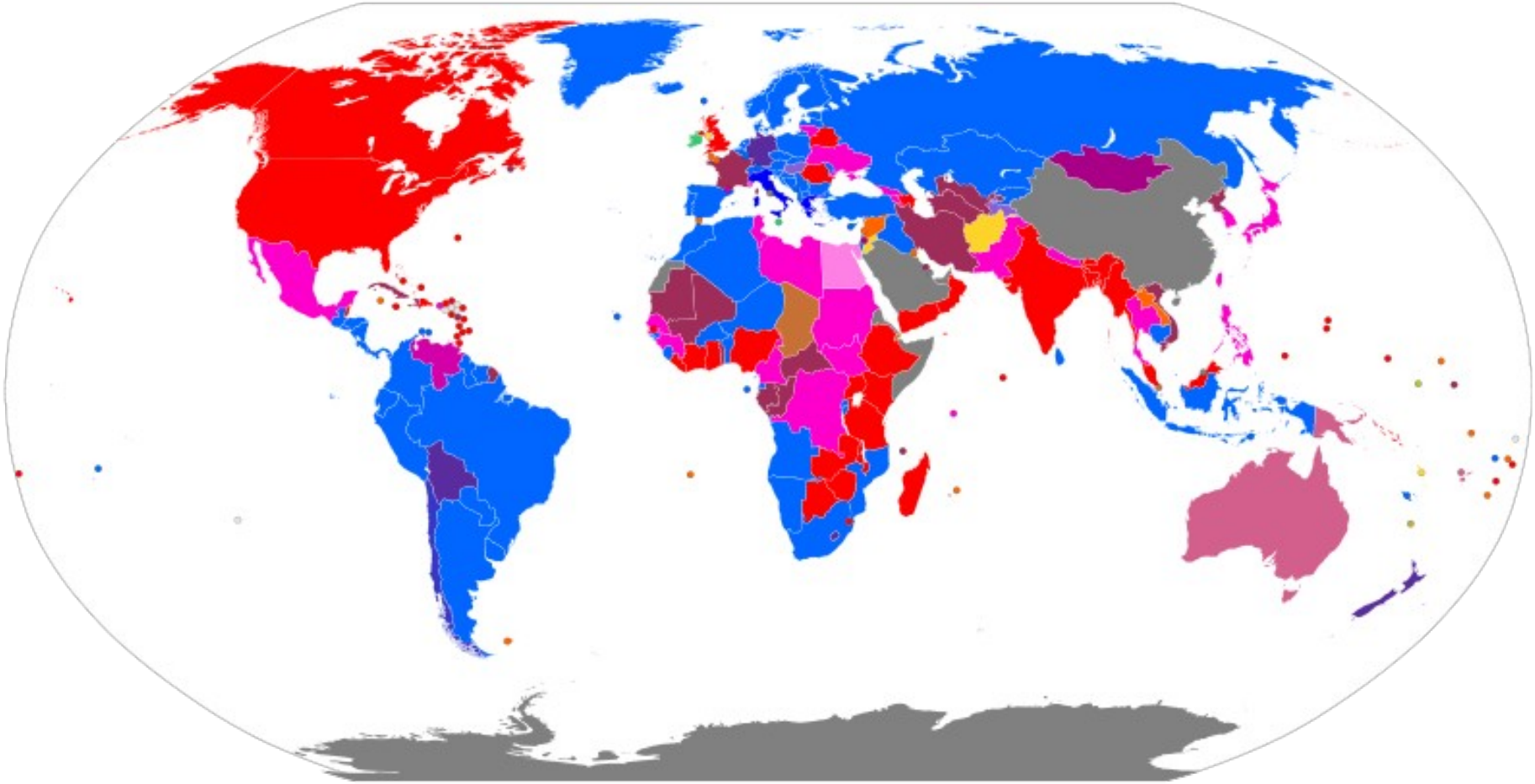
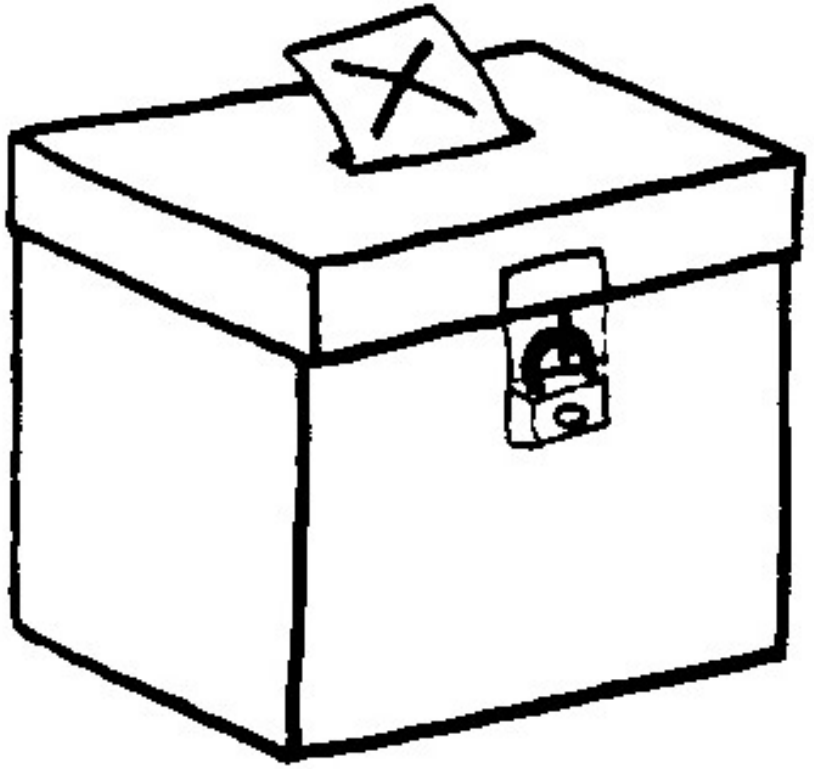
Who uses FPTP?



Legend : http://en.wikipedia.org/wiki/File:Electoral_systems_map.svg

Voting systems



- The ballot
- Seats per electoral districts
- The algorithm (votes → seats)

Single member plurality (First past the post)

The ballot:	One X per vote
Seats per electoral district:	308 ridings of one seat
The algorithm:	The seat is given to the candidate with at least 1 more vote than everyone else.

What is an electoral district?

- A bounded geographical area who's voters are represented by one ***or more*** legislators
- **Canada** : 308 electoral districts represented by 308 MPs
- **Australian senate** : 6 staes, each represented by 12 elected senators
- **Norway legislature** : 19 counties, each represented by 4 to 17 legislators

History of voting reform in the world

- 1924-1957 : Alberta uses STV (Edmonton & Calgary) & AV (rest of province) to elect MLAs
- 1993 : New Zealand switches to Mixed Member Proportional (MMP) with 54% support
- 2011 : UK votes against AV (68% against)
- 2011 : New Zealand votes to keep MMP with 58% support

Recent history of voting reform in Canada

- 1984 : Electoral Representation Commission (Québec)
- 1997 : Federal Majority government with lowest support
- 2001 : Fair Vote Canada is founded
- 2002 : Quebec's Estates-General on the Reform of Democratic Institutions
- 2004 : Quebec government study (Charest)
- 2004 : Law Commission of Canada report on ER
- 2005 : NB Commission on Legislative Democracy
- 2005 : PEI Plebiscite on voting reform
- 2005 : BC Citizens Assembly recommends Single Transferable Vote
- 2005 : In a referendum, BC-STV receives 58% support
- 2006 : Quebec Citizens Committee Report
- 2007 : Ontario Citizens Assembly recommends Mixed Member proportional
- 2007 : Quebec's Chief Electoral Officer's Report
- 2009 : Second referendum on BC-STV

Voting systems considered in Canada

- Single Member Plurality (First past the post) (FPTP)

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- Alternative Vote (Preferential Voting) (AV)

Voting systems considered in Canada

- Single Member Plurality (First past the post) (FPTP)
- Mixed member proportional (MMP)
  - Law Commission 2004
  - Jenkins-Day
  - Dual Member Mixed Proportional
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Voting systems considered in Canada

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- P3

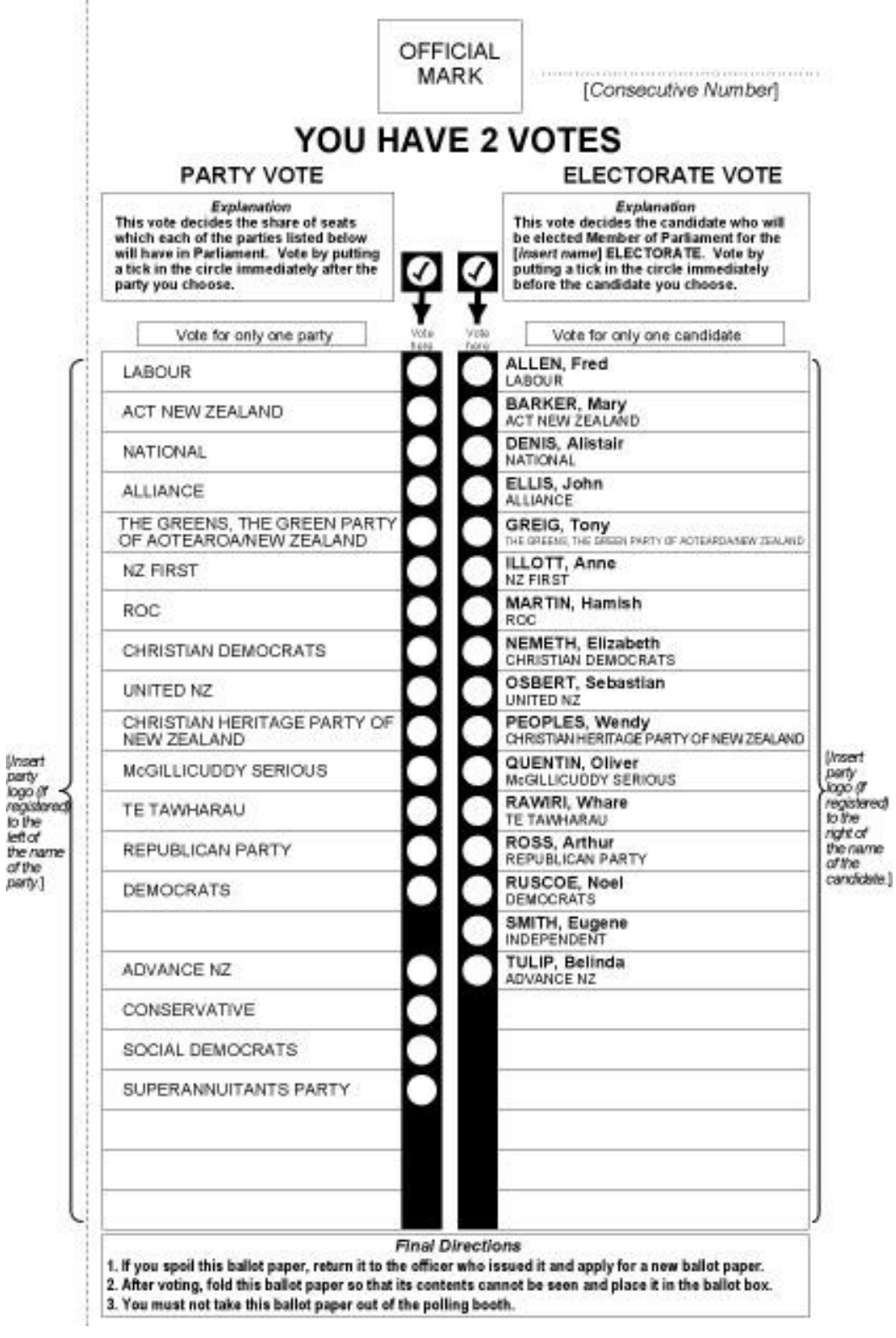
Not a voting system

- Ranked ballot
- Preferential ballot

Clarification

- All candidates face voters
- All systems keep local or near-local representation

Mixed Member Proportional



OFFICIAL MARK

[Consecutive Number]

YOU HAVE 2 VOTES

PARTY VOTE

Explanation
This vote decides the share of seats which each of the parties listed below will have in Parliament. Vote by putting a tick in the circle immediately after the party you choose.

Vote for only one party

ELECTORATE VOTE

Explanation
This vote decides the candidate who will be elected Member of Parliament for the [*insert name*] ELECTORATE. Vote by putting a tick in the circle immediately before the candidate you choose.

Vote for only one candidate

Party vote	Electorate vote
LABOUR	ALLEN, Fred — LABOUR
ACT NEW ZEALAND	BARKER, Mary — ACT NEW ZEALAND
NATIONAL	DENIS, Alistair — NATIONAL
ALLIANCE	ELLIS, John — ALLIANCE
THE GREENS, THE GREEN PARTY OF AOTEAROA/NEW ZEALAND	GREIG, Tony — THE GREENS, THE GREEN PARTY OF AOTEAROA/NEW ZEALAND
NZ FIRST	ILLOTT, Anne — NZ FIRST
ROC	MARTIN, Hamish — ROC
CHRISTIAN DEMOCRATS	NEMETH, Elizabeth — CHRISTIAN DEMOCRATS
UNITED NZ	OSBERT, Sebastian — UNITED NZ
CHRISTIAN HERITAGE PARTY OF NEW ZEALAND	PEOPLES, Wendy — CHRISTIAN HERITAGE PARTY OF NEW ZEALAND
McGILLICUDDY SERIOUS	QUENTIN, Oliver — McGILLICUDDY SERIOUS
TE TAWHARAU	RAWIRI, Whare — TE TAWHARAU
REPUBLICAN PARTY	ROSS, Arthur — REPUBLICAN PARTY
DEMOCRATS	RUSCOE, Noel — DEMOCRATS
	SMITH, Eugene — INDEPENDENT
ADVANCE NZ	TULIP, Belinda — ADVANCE NZ
CONSERVATIVE	
SOCIAL DEMOCRATS	
SUPERANNUITANTS PARTY	

[*Insert party logo (if registered) to the left of the name of the party.*]

[*Insert party logo (if registered) to the right of the name of the candidate.*]

Final Directions

1. If you spoil this ballot paper, return it to the officer who issued it and apply for a new ballot paper.
2. After voting, fold this ballot paper so that its contents cannot be seen and place it in the ballot box.
3. You must not take this ballot paper out of the polling booth.

Mixed Member Proportional : The ballot

- Two votes :
  - One for local candidate
  - One for party

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Mixed Member Proportional
The algorithm

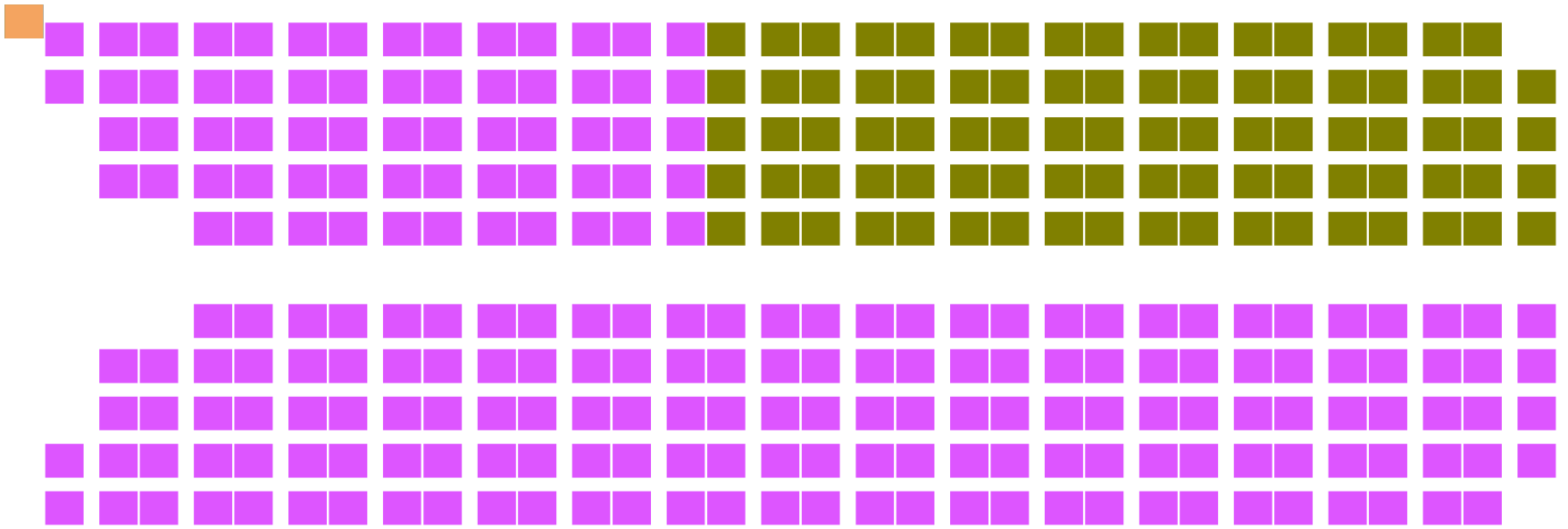
- Winner of geographic seats are determined first
- List seats compensate for lack of proportionality

MMP : The algorithm

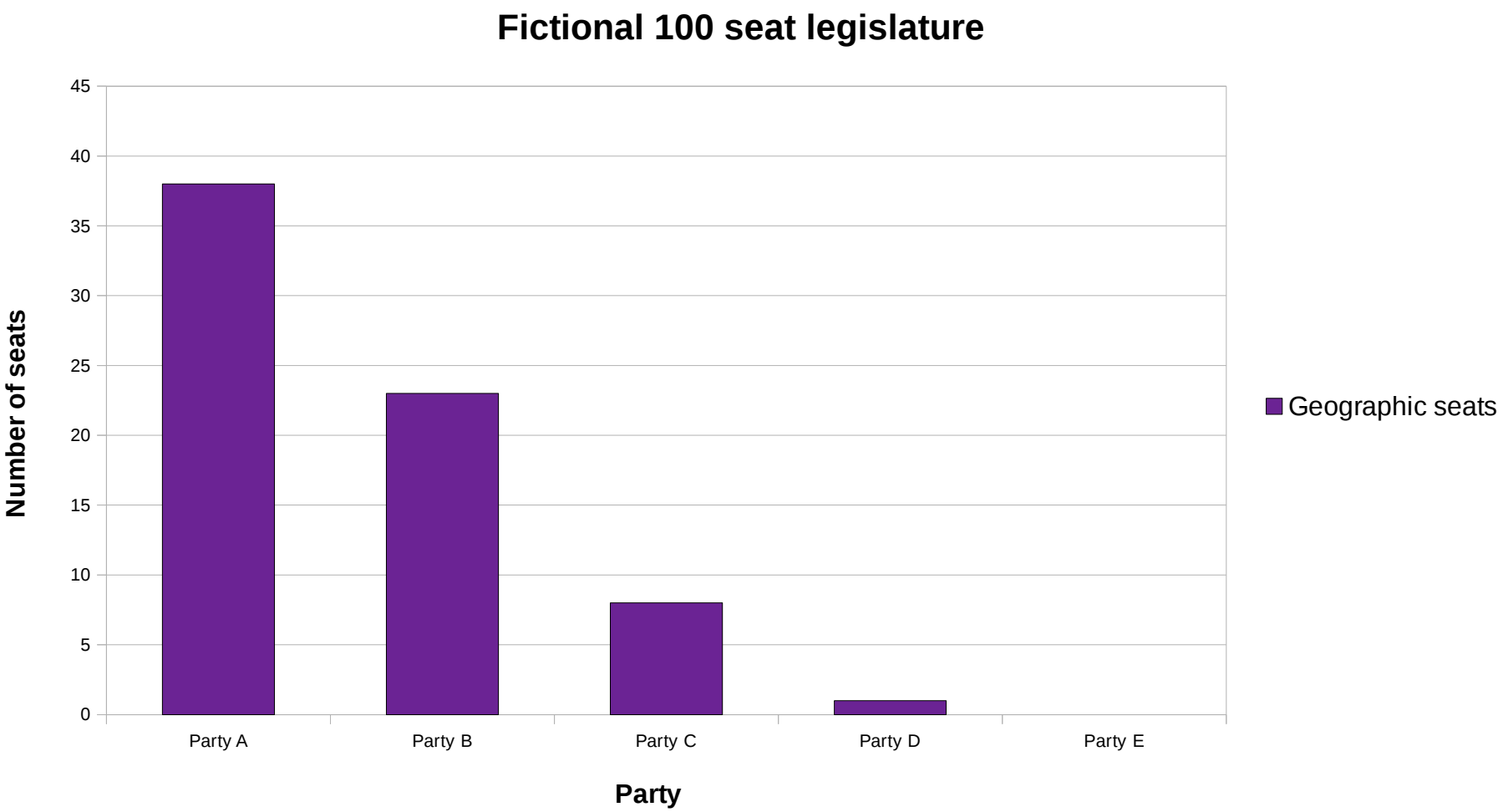
Fictional legislature of 100 seats			
	Geographic seats	**% of vote**	**List seats**
Party A	38	40%	2
Party B	23	31%	8
Party C	8	19%	11
Party D	1	6%	5
Party E	0	4%	4
Total	70	100%	30

Mixed Member Proportional
The seats & riding

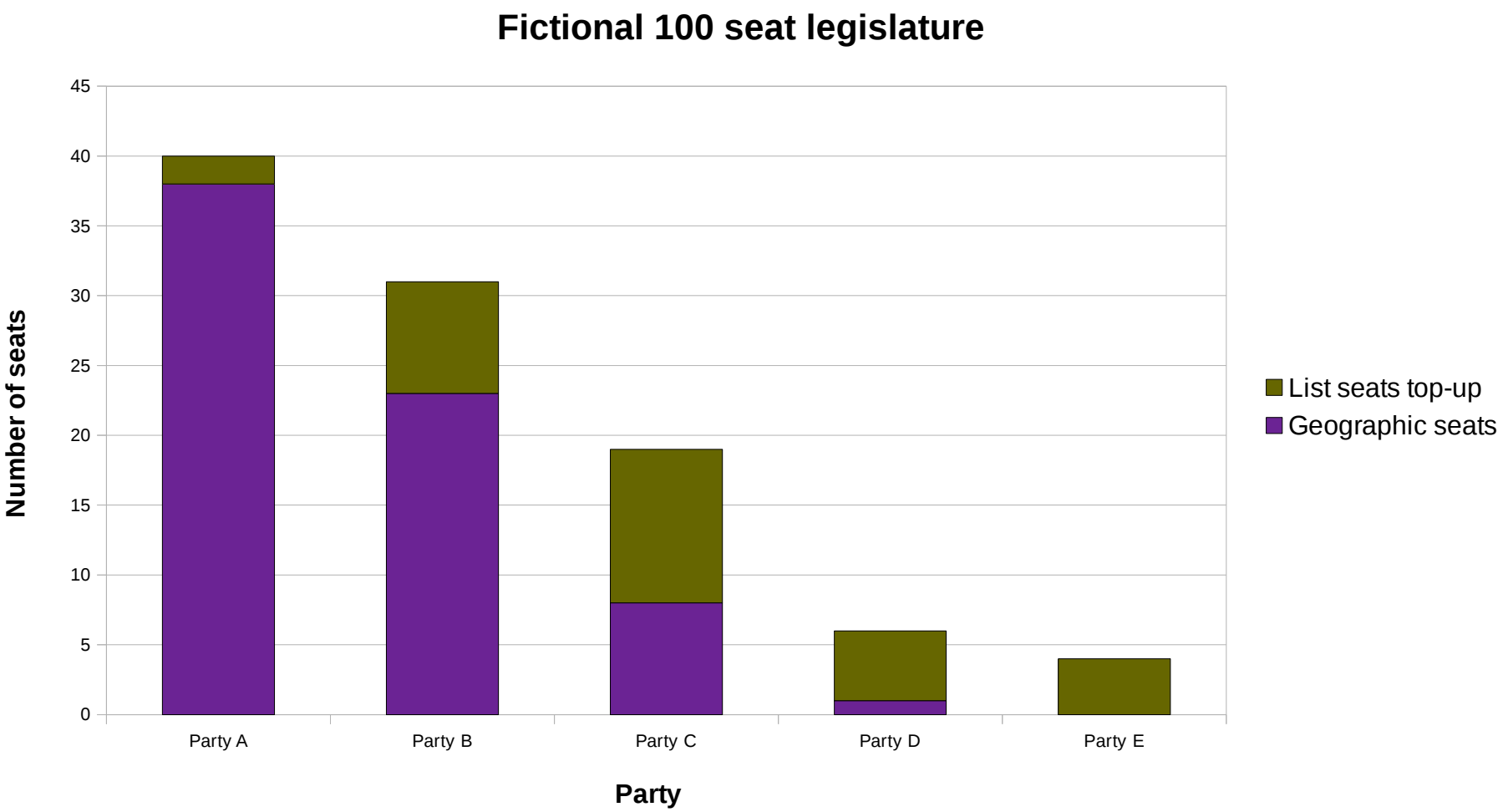
- One seat per geographic ridings;
- List seats for ridings that span the entirety or parts of the jurisdiction;



MMP : The algorithm

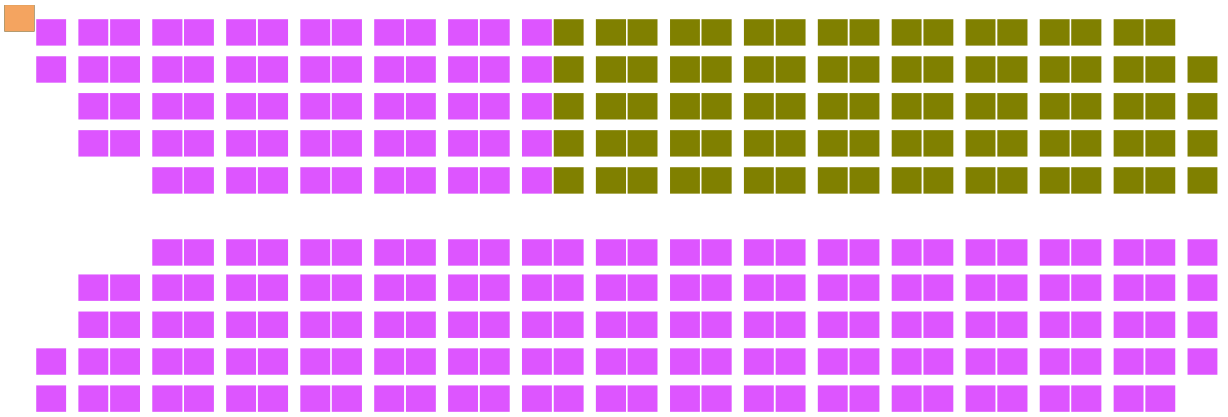


MMP : The algorithm



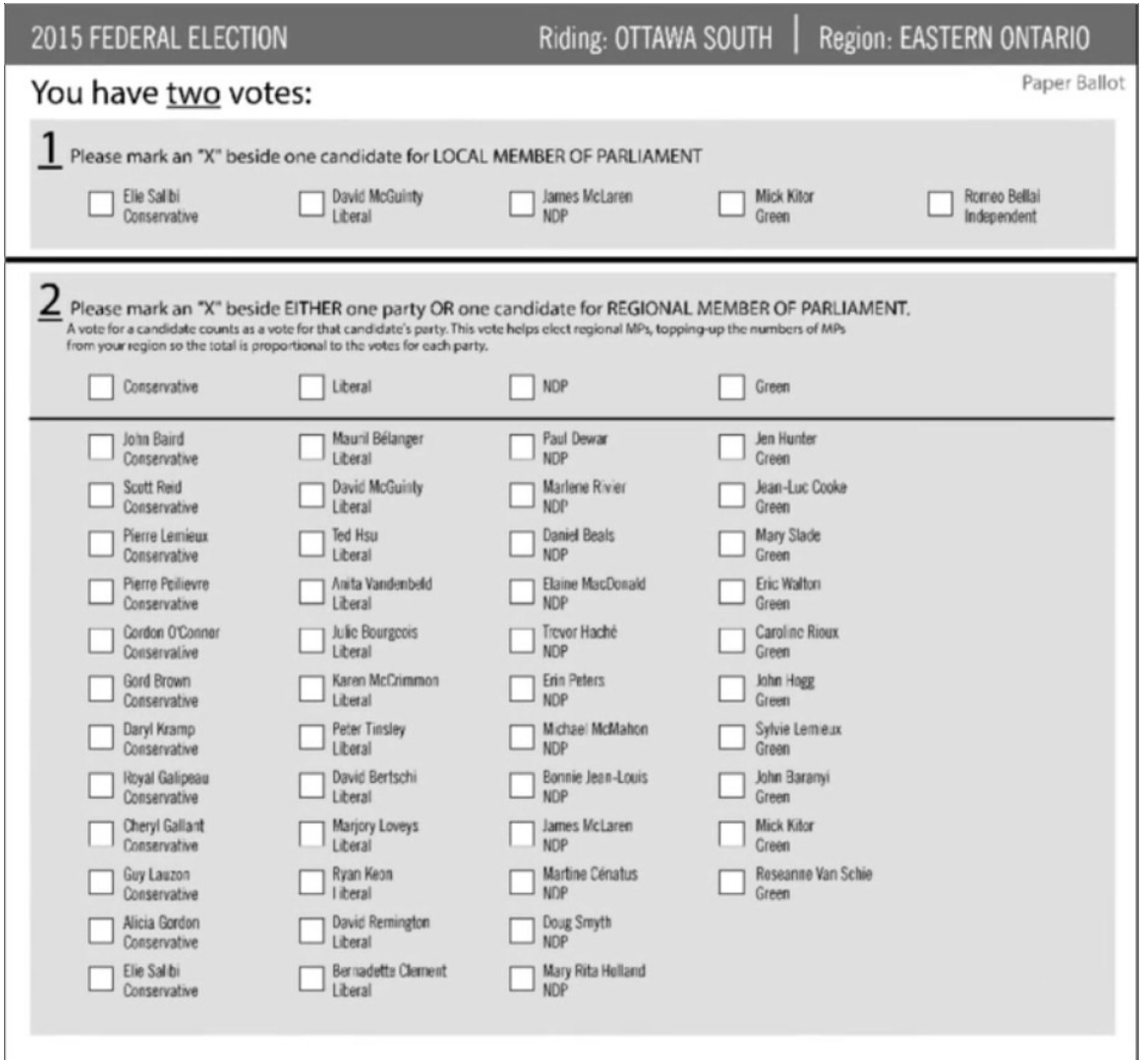
List seats

- **Closed list**
  (Ontario MMP 2007)
- **Open lists**
  (Voting Counts: Electoral Reform for Canada, Law Commission of Canada, 2004, p. 106)
- **Best loosers**
  (Germany)



Law Commission 2004 MMP

Ballot



2015 FEDERAL ELECTION — Riding: OTTAWA SOUTH | Region: EASTERN ONTARIO

Paper Ballot

You have two votes:

1 Please mark an "X" beside one candidate for LOCAL MEMBER OF PARLIAMENT

- Elie Salibi — Conservative
- David McGuinty — Liberal
- James McLaren — NDP
- Mick Kitor — Green
- Romeo Bellai — Independent

2 Please mark an "X" beside EITHER one party OR one candidate for REGIONAL MEMBER OF PARLIAMENT.

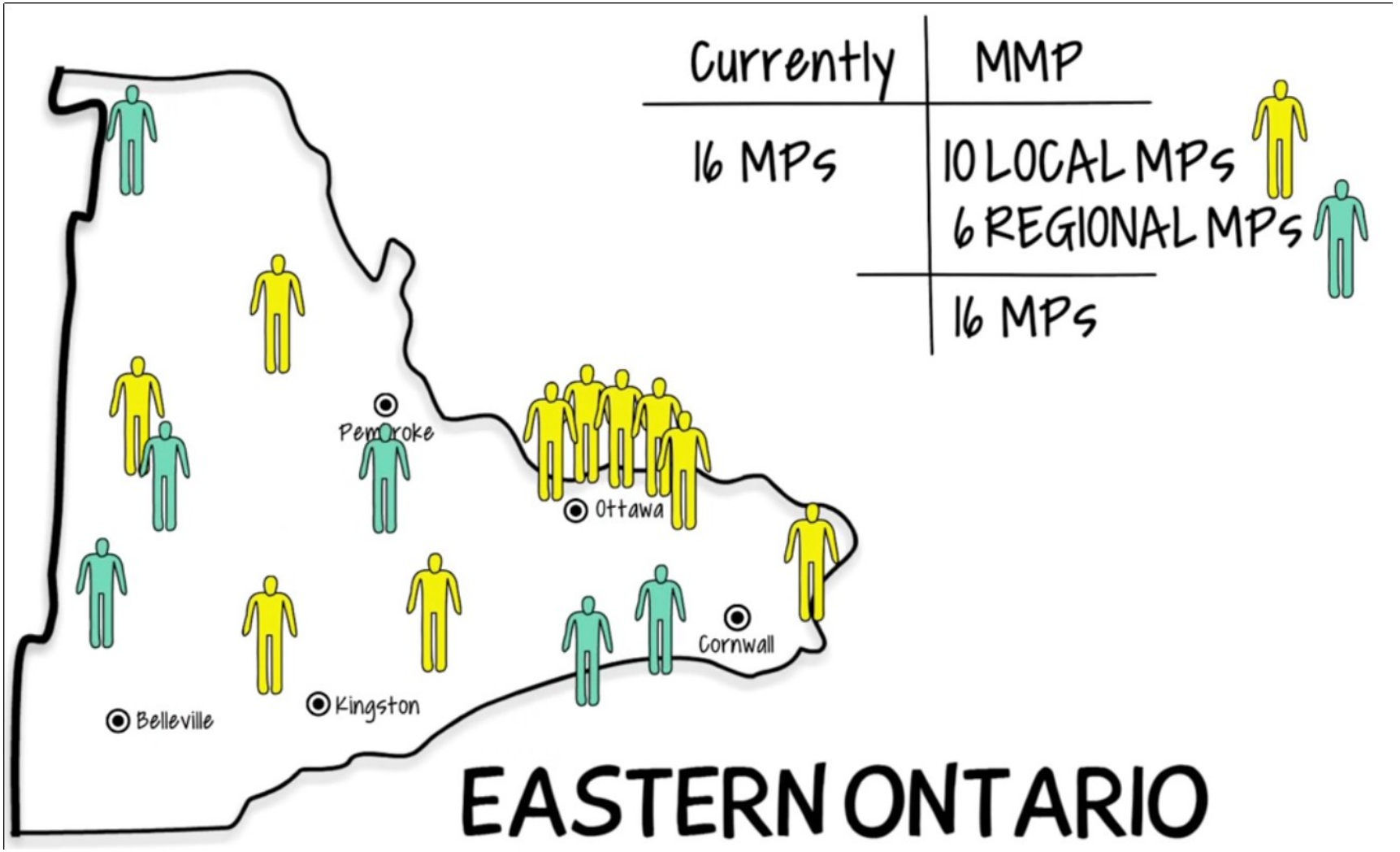
A vote for a candidate counts as a vote for that candidate's party. This vote helps elect regional MPs, topping-up the numbers of MPs from your region so the total is proportional to the votes for each party.

- Conservative
- Liberal
- NDP
- Green

- John Baird — Conservative
- Scott Reid — Conservative
- Pierre Lemieux — Conservative
- Pierre Poilievre — Conservative
- Gordon O'Connor — Conservative
- Gord Brown — Conservative
- Daryl Kramp — Conservative
- Royal Galipeau — Conservative
- Cheryl Gallant — Conservative
- Guy Lauzon — Conservative
- Alicia Gordon — Conservative
- Elie Salibi — Conservative
- Mauril Bélanger — Liberal
- David McGuinty — Liberal
- Ted Hsu — Liberal
- Anita Vandenbeld — Liberal
- Julie Bourgeois — Liberal
- Karen McCrimmon — Liberal
- Peter Tinsley — Liberal
- David Bertschi — Liberal
- Marjory Loveys — Liberal
- Ryan Keon — Liberal
- David Remington — Liberal
- Bernadette Clement — Liberal
- Paul Dewar — NDP
- Marlene Rivier — NDP
- Daniel Beals — NDP
- Elaine MacDonald — NDP
- Trevor Haché — NDP
- Erin Peters — NDP
- Michael McMahon — NDP
- Bonnie Jean-Louis — NDP
- James McLaren — NDP
- Martine Cénatus — NDP
- Doug Smyth — NDP
- Mary Rita Holland — NDP
- Jen Hunter — Green
- Jean-Luc Cooke — Green
- Mary Slade — Green
- Eric Walton — Green
- Caroline Rioux — Green
- John Hogg — Green
- Sylvie Lemieux — Green
- John Baranyi — Green
- Mick Kitor — Green
- Roseanne Van Schie — Green

Law Commission 2004 MMP

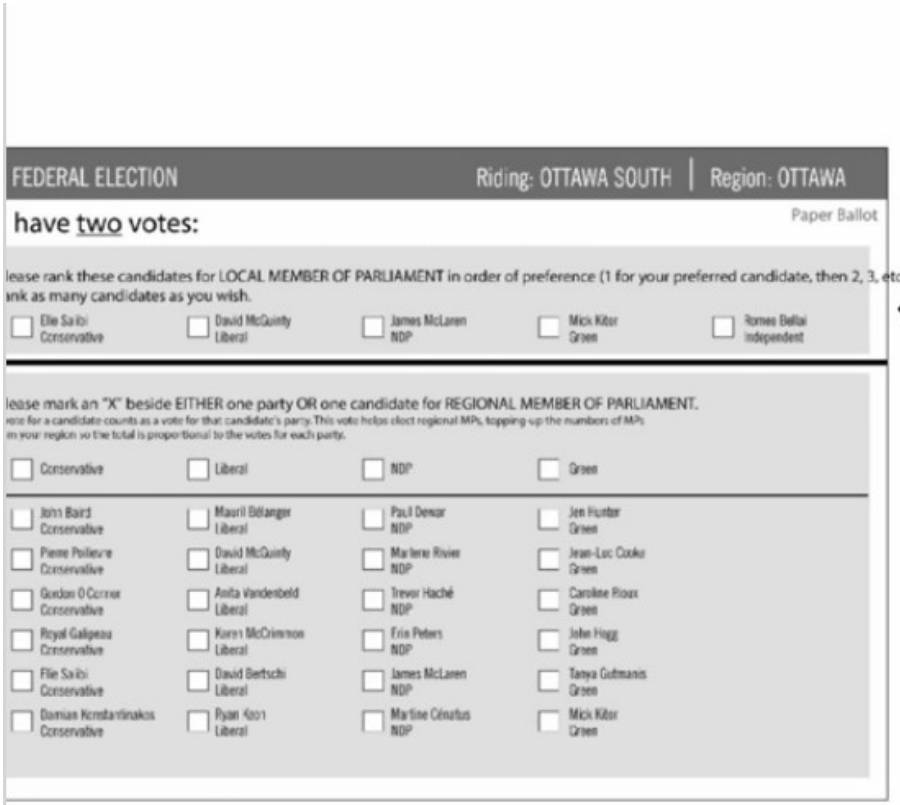
Eastern Ontario



Mixed Member Proportional

The ballot:	•One vote for a party •One vote for a candidate
Seats per electoral district:	•50%-70% are local electoral district •Remainder are list seats
The algorithm:	•Geographic seats first determined •List seats compensate for lack of proportionality

Jenkins-Day MMP


FEDERAL ELECTION Riding: OTTAWA SOUTH | Region: OTTAWA

have two votes:

Paper Ballot

lease rank these candidates for LOCAL MEMBER OF PARLIAMENT in order of preference (1 for your preferred candidate, then 2, 3, etc.)
nk as many candidates as you wish.

Elie Saïbi, Conservative
David McGuinty, Liberal
James McLaren, NDP
Mick Kitor, Green
Romeo Bellai, Independent

lease mark an "X" beside EITHER one party OR one candidate for REGIONAL MEMBER OF PARLIAMENT.
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Conservative
Liberal
NDP
Green

John Baird, Conservative
Mauril Bélanger, Liberal
Paul Dewar, NDP
Jen Hunter, Green

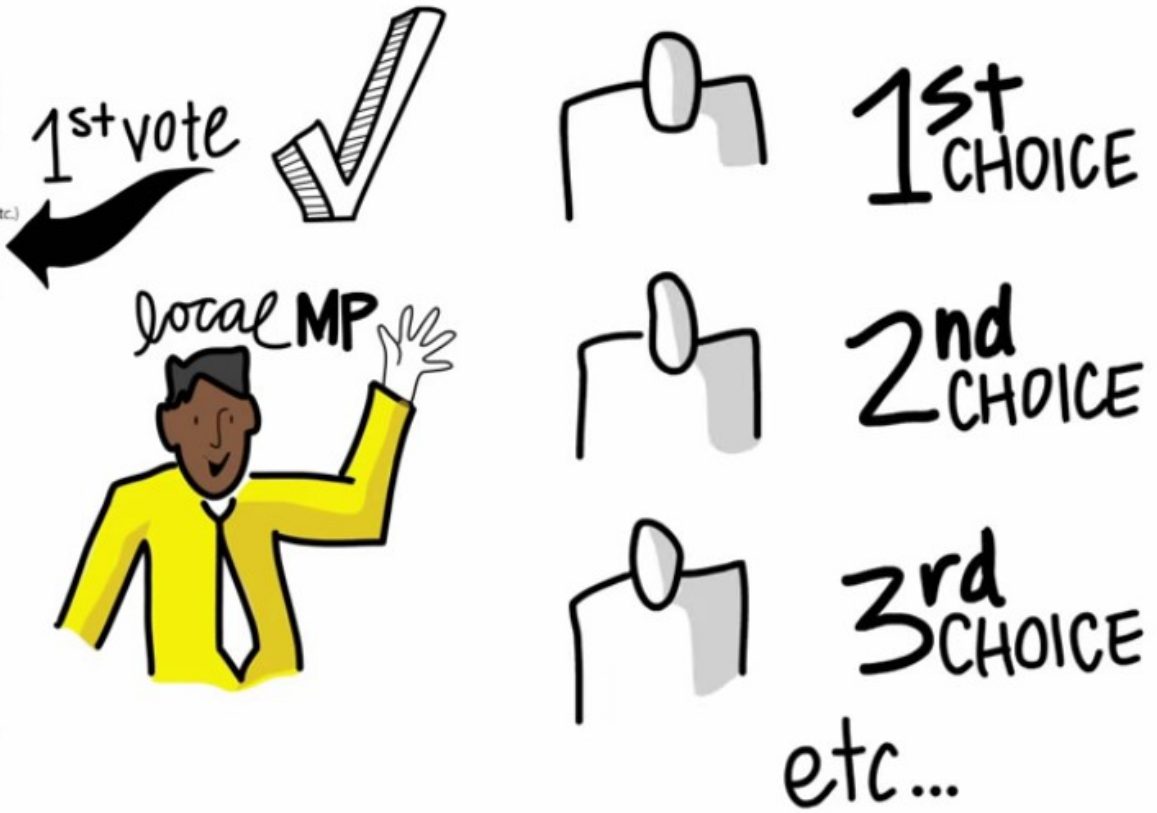
Pierre Poilievre, Conservative
David McGuinty, Liberal
Marlene Rivier, NDP
Jean-Luc Cooke, Green

Gordon O'Connor, Conservative
Anita Vandenbeld, Liberal
Trevor Haché, NDP
Caroline Roux, Green

Royal Galipeau, Conservative
Karen McCrimmon, Liberal
Eric Peters, NDP
John Hogg, Green

Elie Saïbi, Conservative
David Bertschi, Liberal
James McLaren, NDP
Tanya Gutmanis, Green

Damian Konstantinakos, Conservative
Ryan Kerr, Liberal
Martine Cénatus, NDP
Mick Kitor, Green



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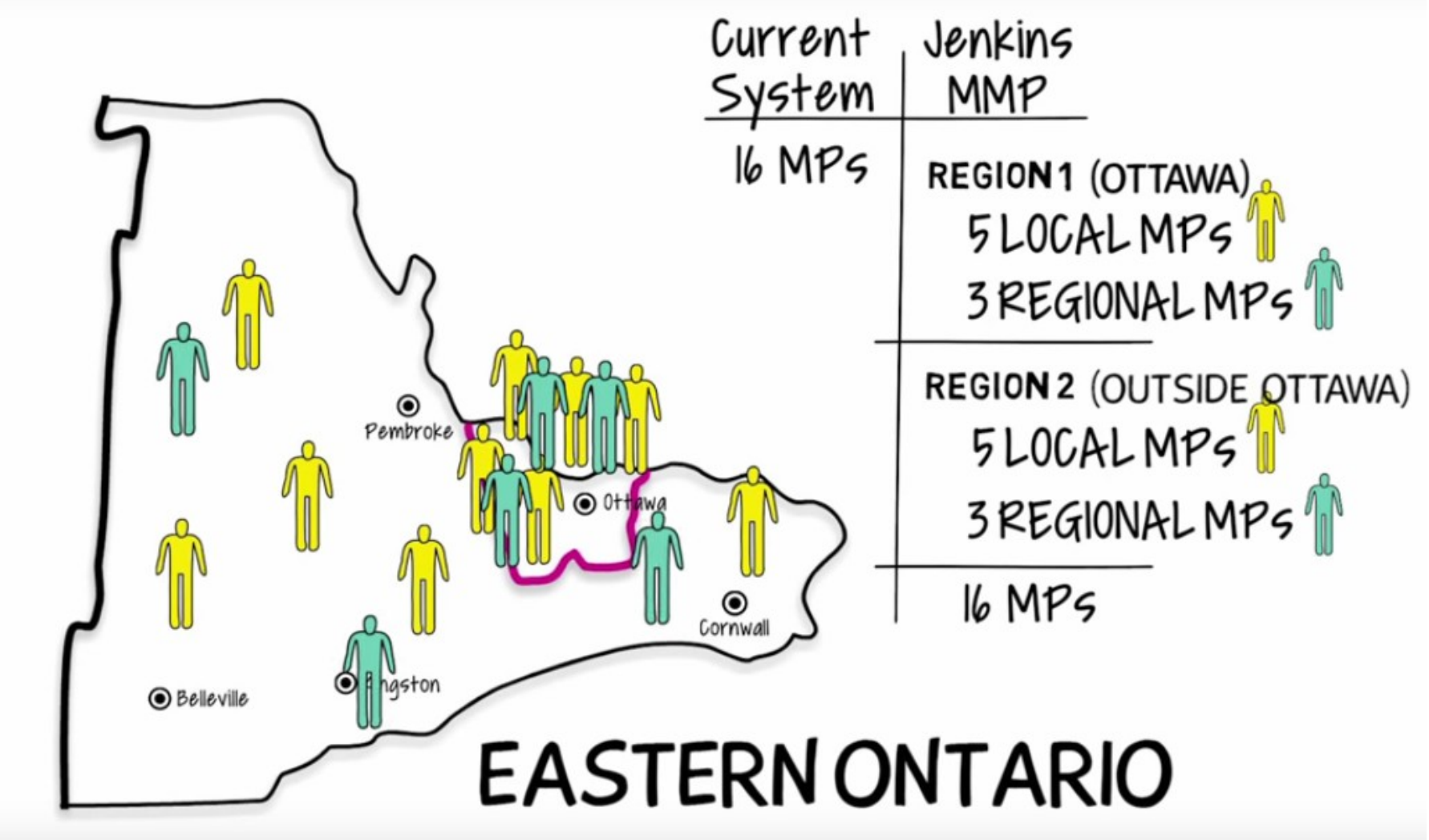


Jenkins-Day

The ballot:	•One vote for a party •A ranked ballot for a candidate
Seats per electoral district:	•50%-70% are local electoral district •Remainder are list seats
The algorithm:	•Geographic seats first determined •List seats compensate for lack of proportionality

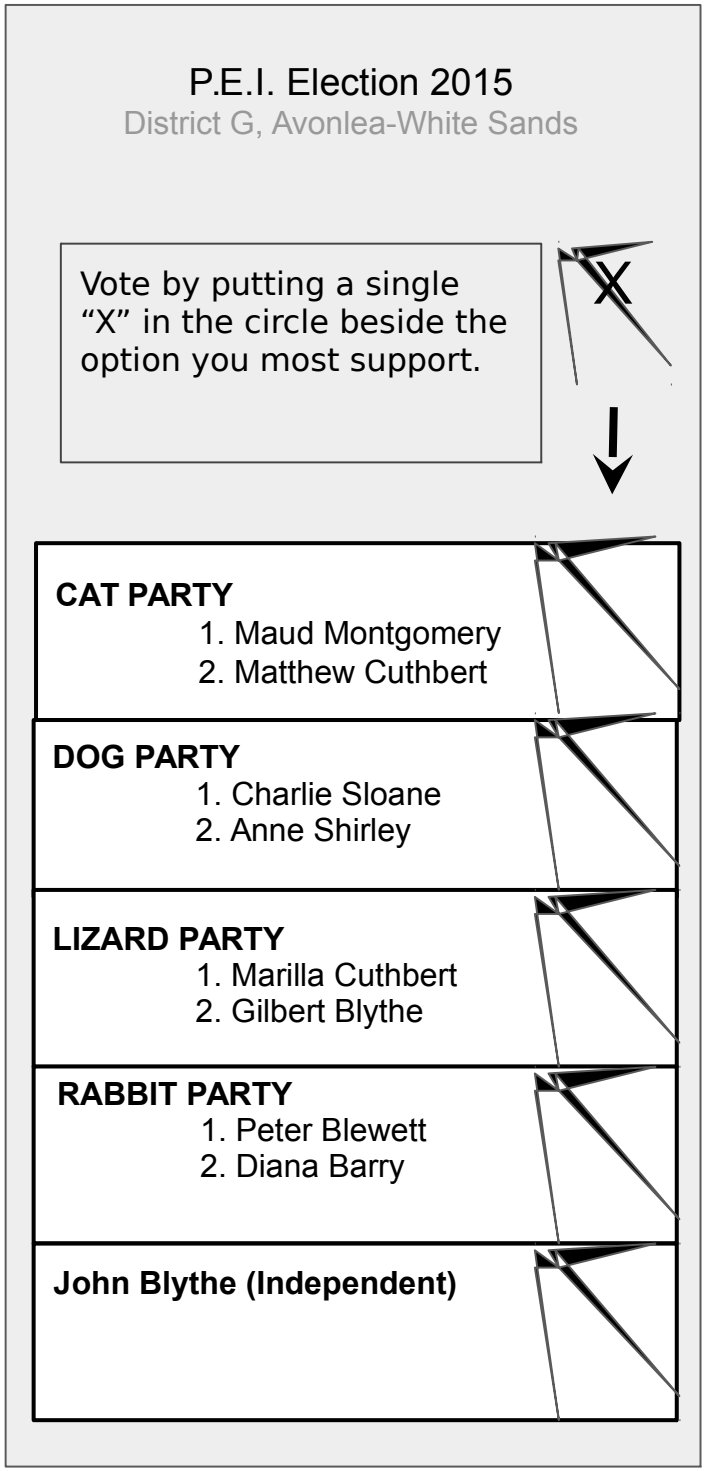
Dual Member Proportional

The ballot paper would look something like this…

Parties may nominate **up to 2 candidates** per district.

Independent candidates may also run.

When a party wins 1 of the 2 seats for this district, only their **first-listed candidate** is selected.

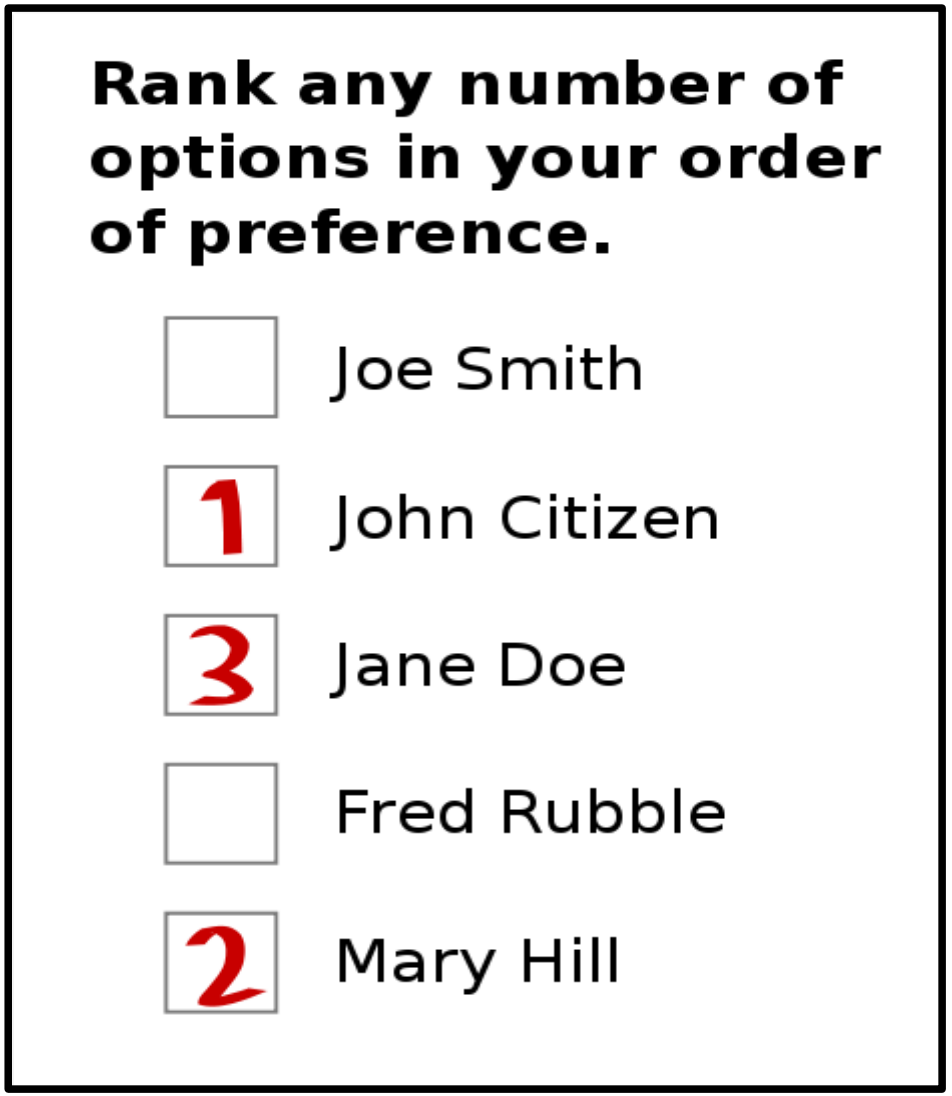


Dual Member Proportional

The ballot:	•Single X for a pair of candidates. The X also counts as a party vote.
Seats per electoral district:	•2 seats per district
The algorithm:	1) First listed candidate with a plurality of votes is selected 2) Determine the number of compensatory seats per party 3) Candidates with the strongest relative support among their party are given the compensatory seats

Single Transferable Vote

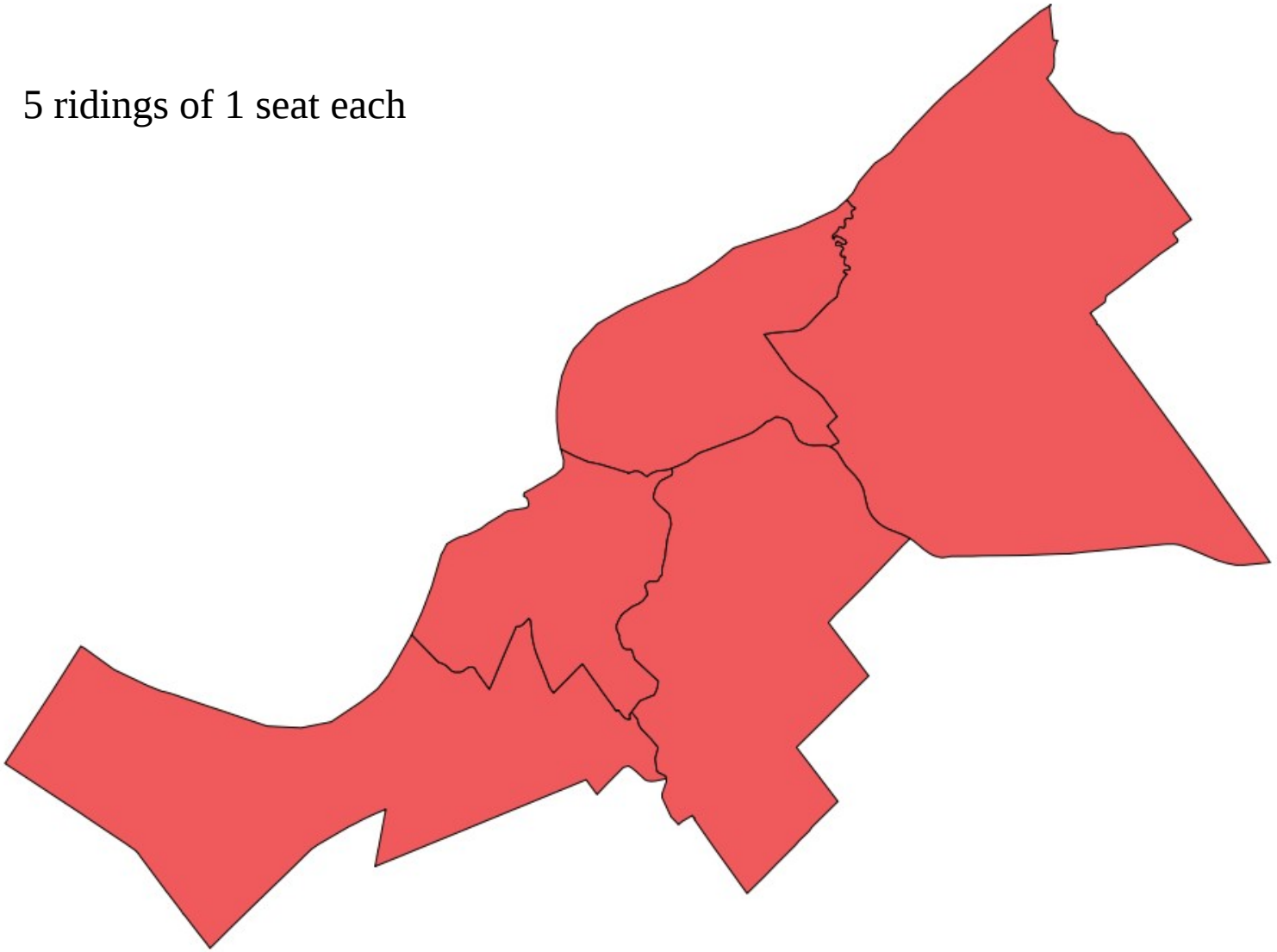
Single Transferable Vote: The ballot



- Ranked vote
- No party list

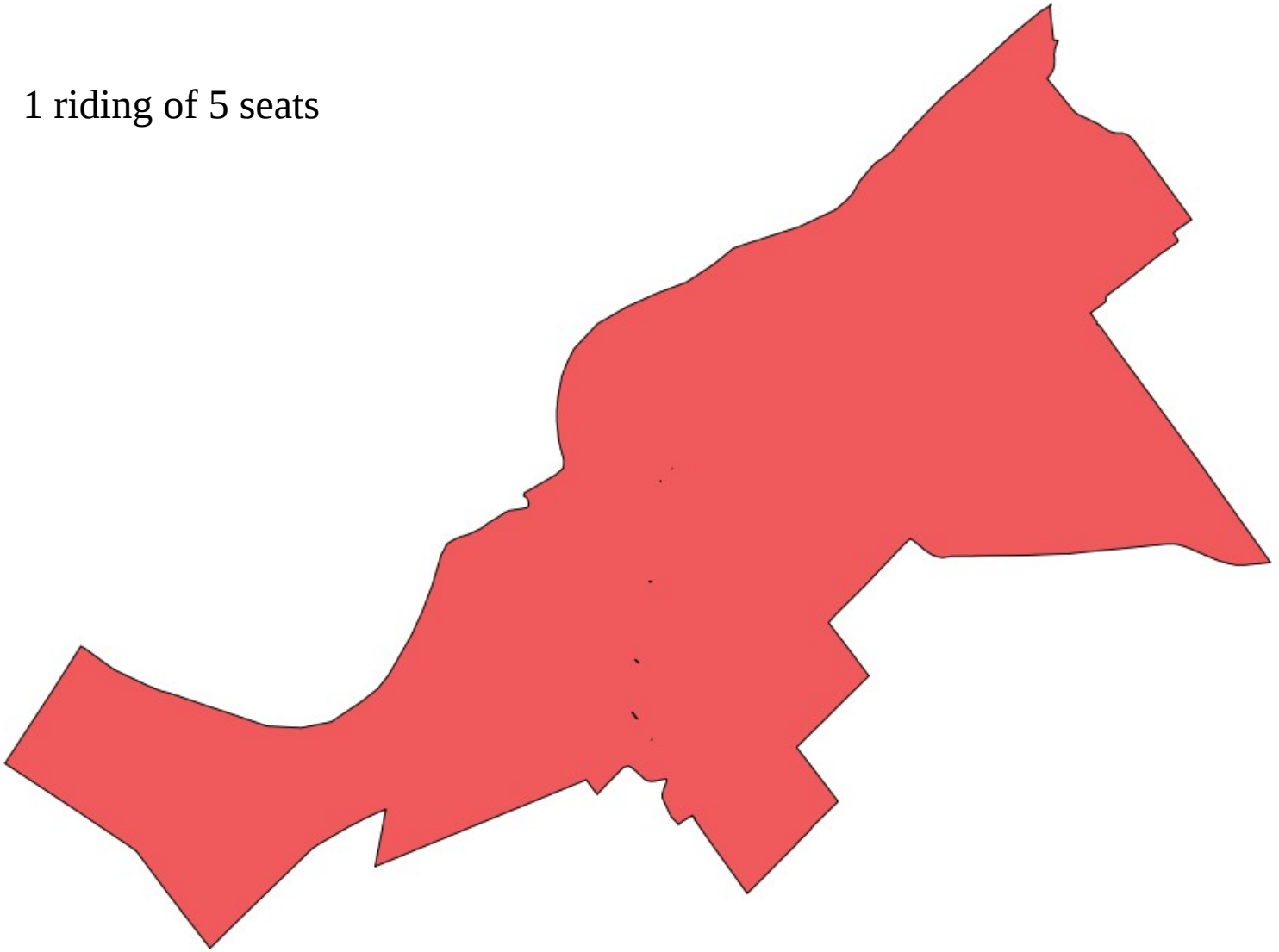
Single Tranferable Vote : The district & seats

5 ridings of 1 seat each



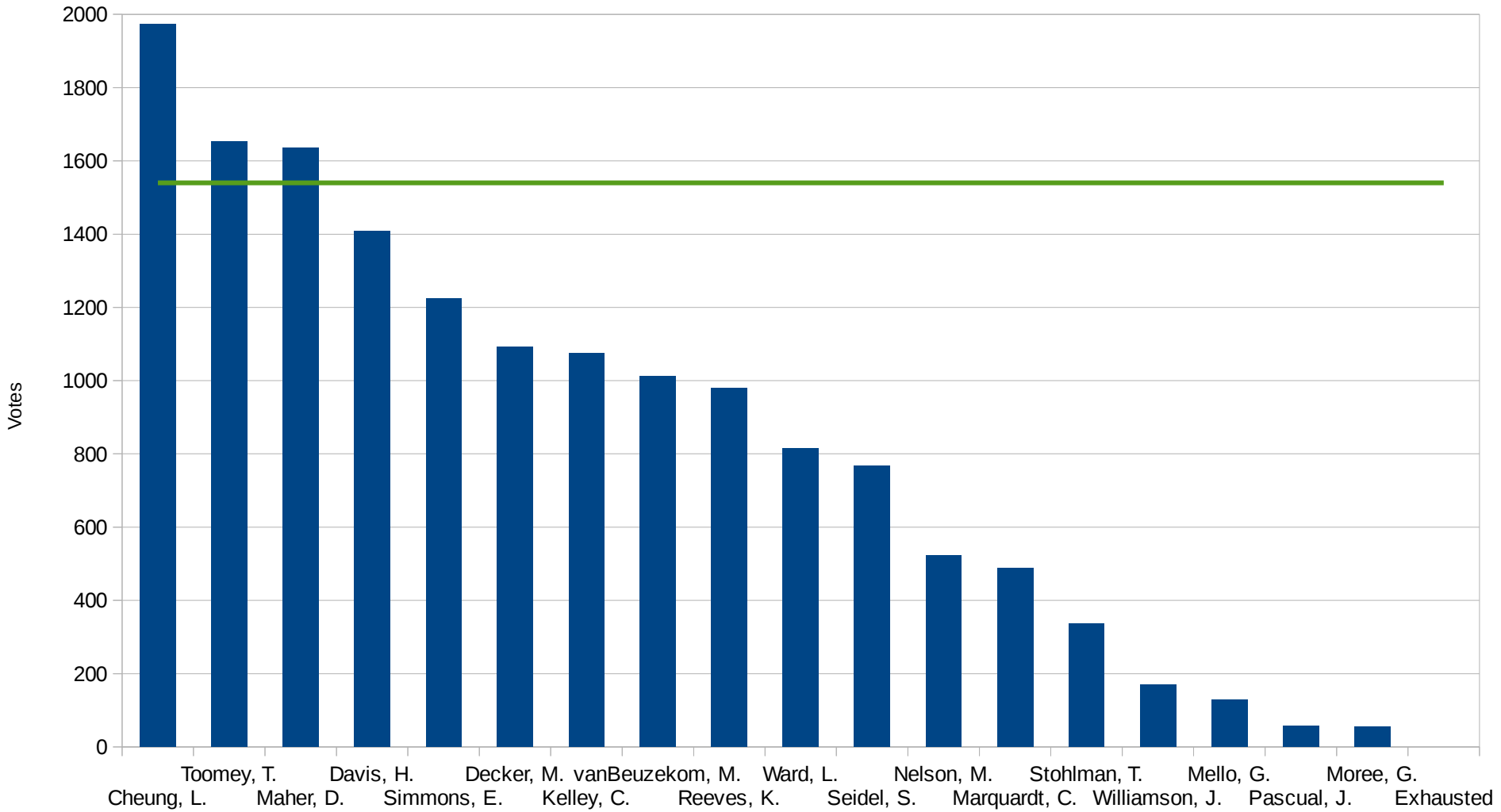
Single Tranferable Vote : The district & seats

1 riding of 5 seats

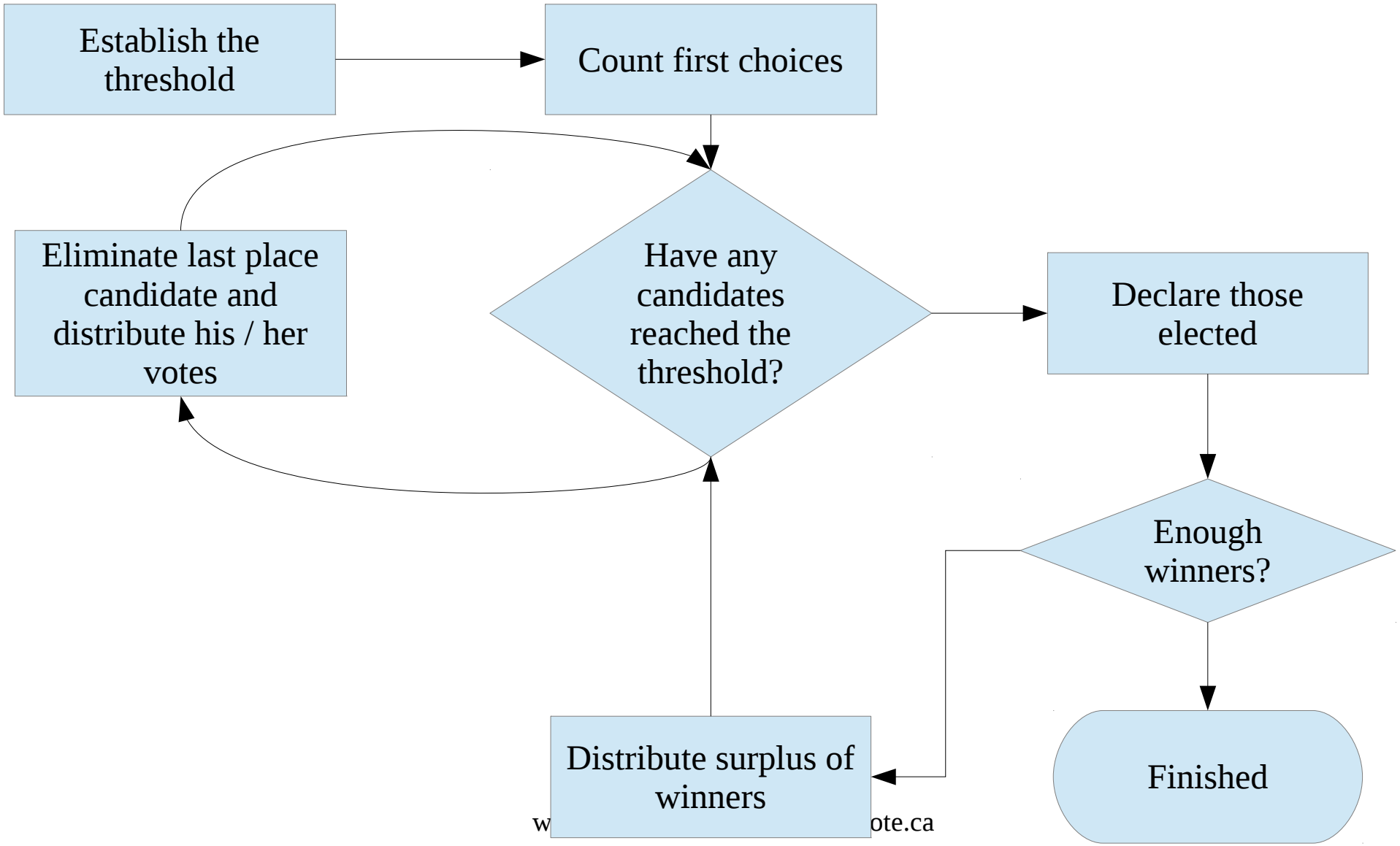


Cambridge, Massachussetts

City Council Elections, November 8th, 2011



Single Transferable Vote
The algorithm



Single Transferable Vote
The algorithm

Formula:

$$\text{threshold} = \left(\frac{\text{valid votes}}{\text{seats} + 1} \right) + 1$$

Example of 1 seat :

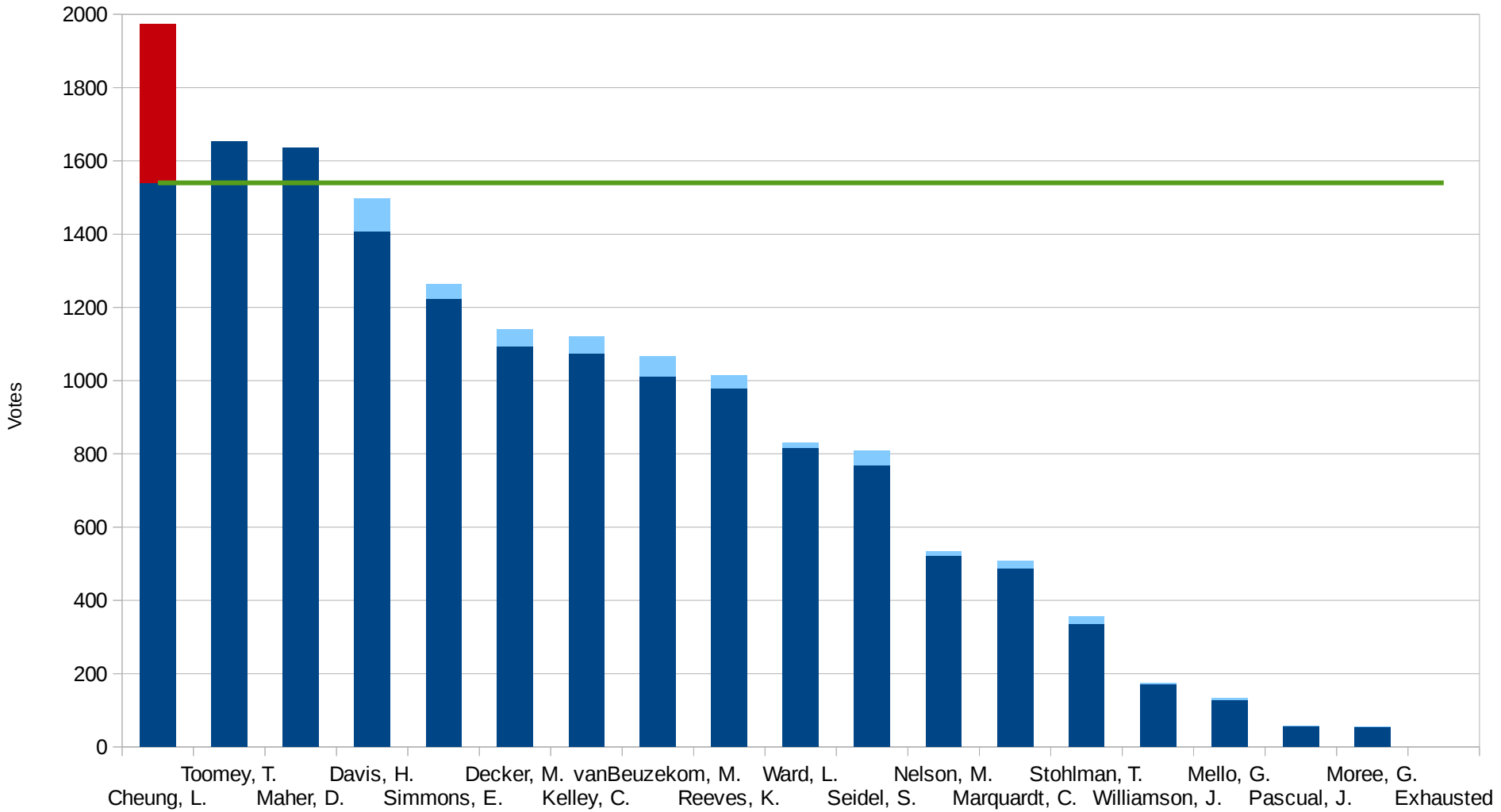
$$50\% + 1 = \left(\frac{100\% \text{ of votes}}{1 \text{ seat} + 1} \right) + 1$$

Example of Cambridge Massachussetts :

$$1540 = \left(\frac{15393 \text{ votes}}{9 \text{ seats} + 1} \right) + 1$$

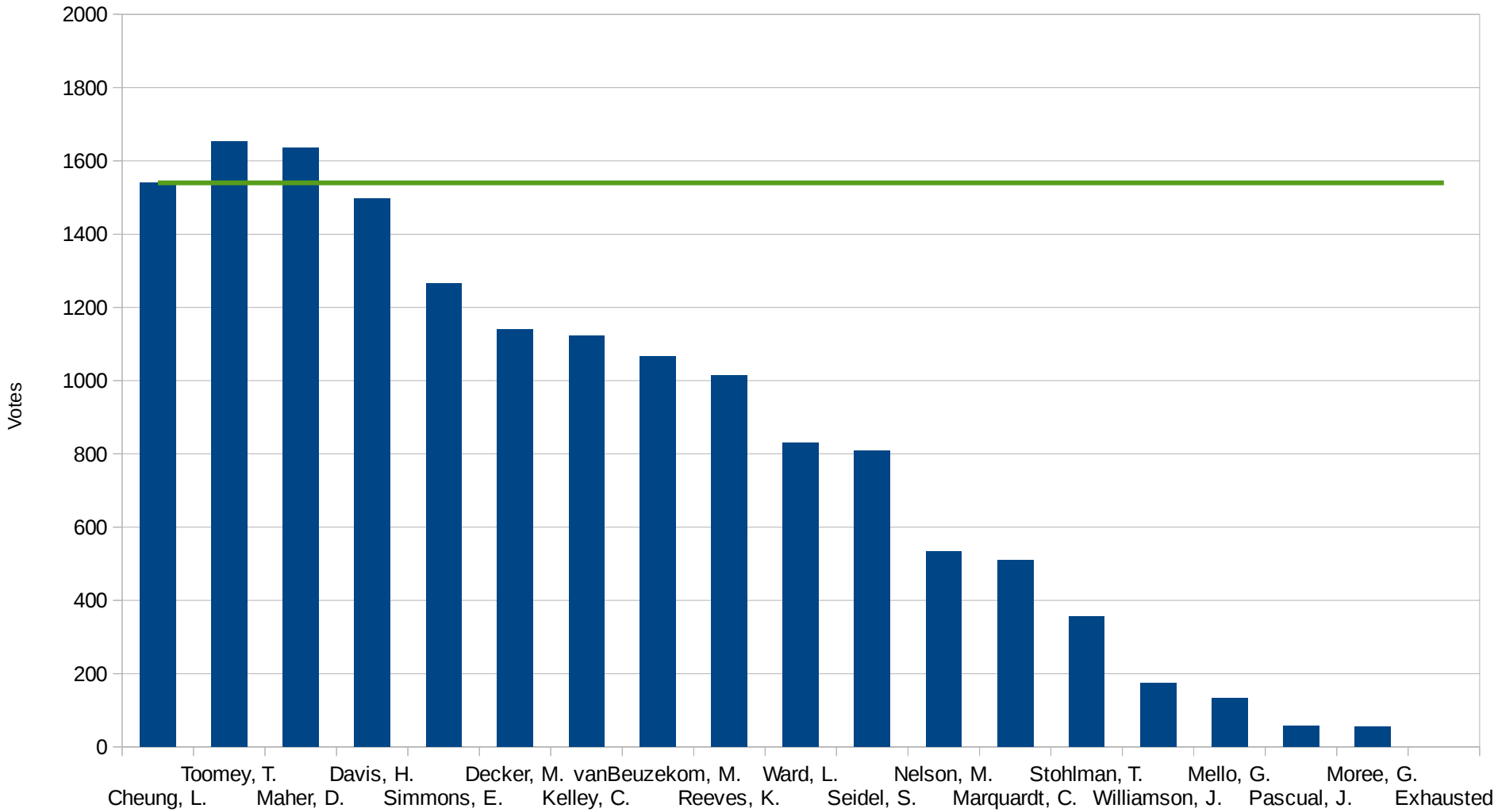
Cambridge, Massachussetts

City Council Elections, November 8th, 2011



Cambridge, Massachussetts

City Council Elections, November 8th, 2011



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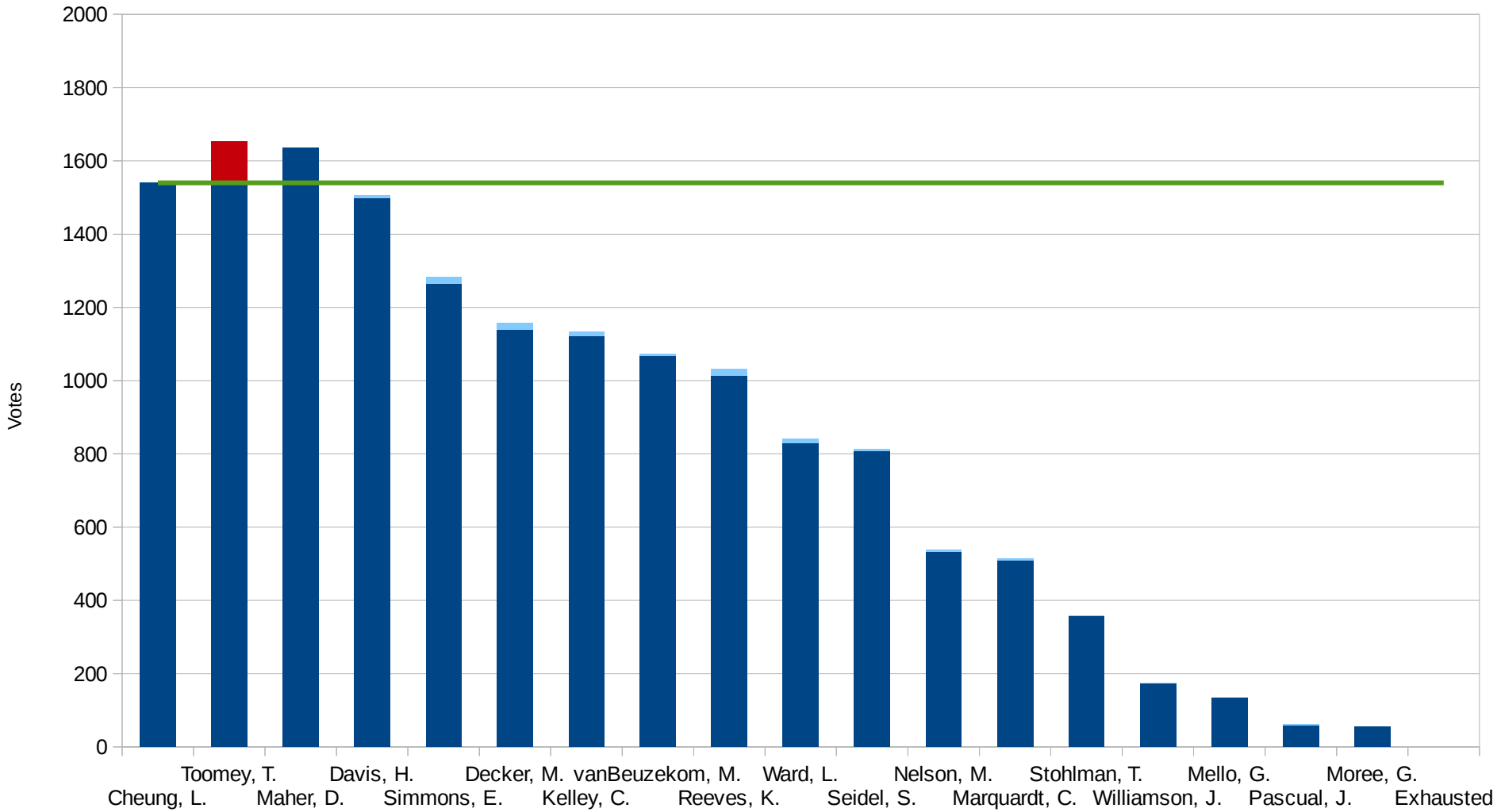

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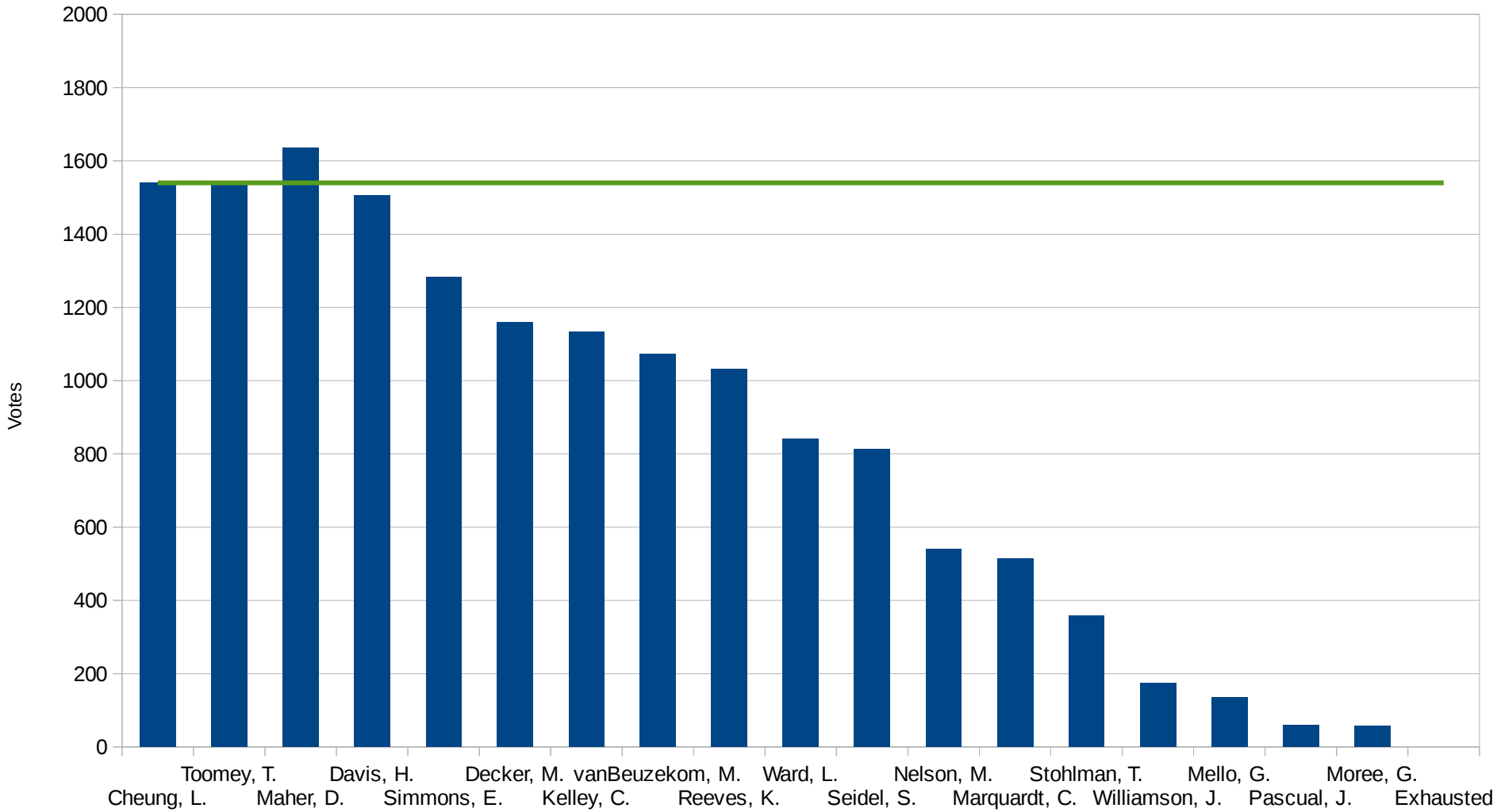

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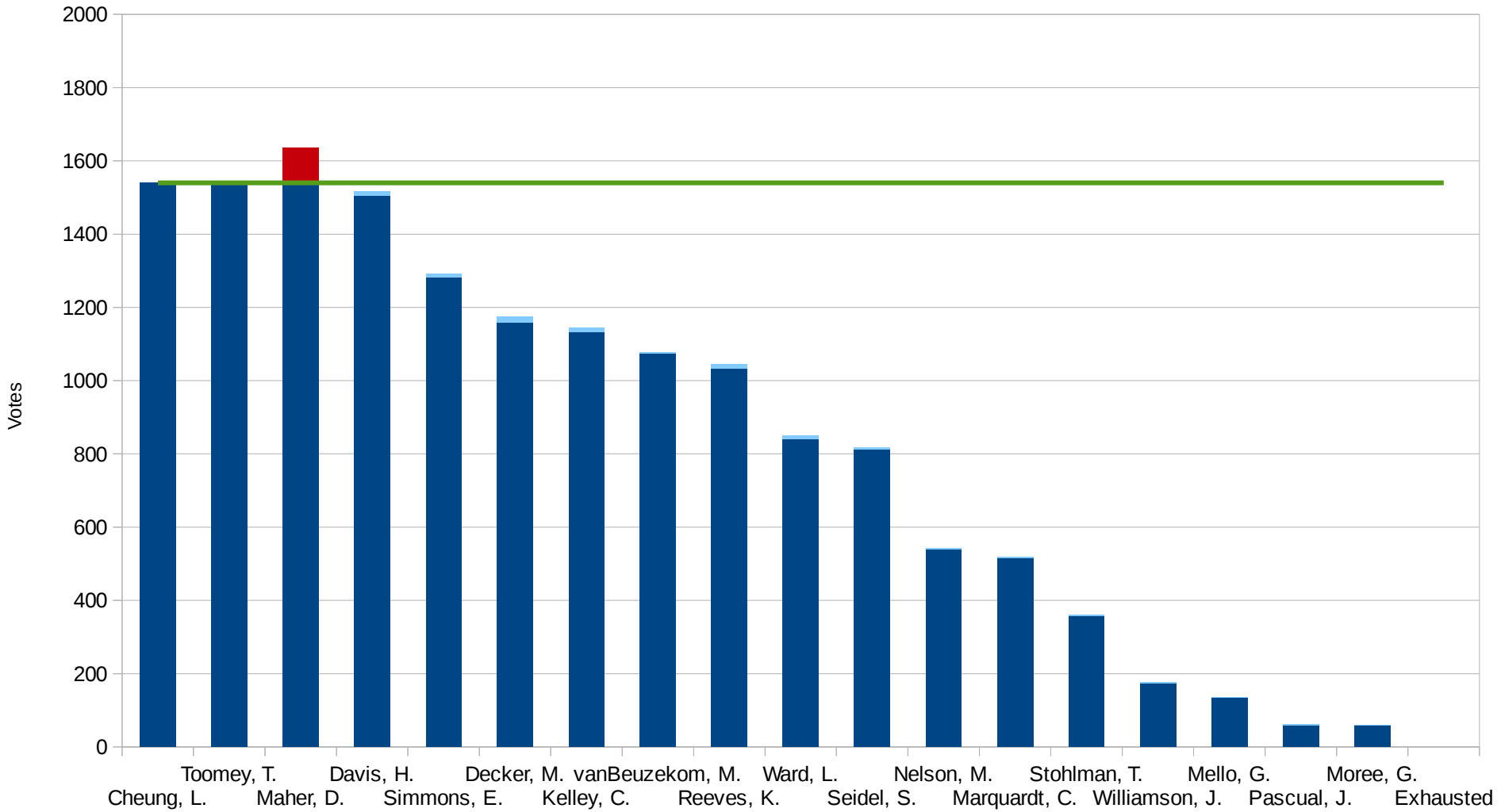

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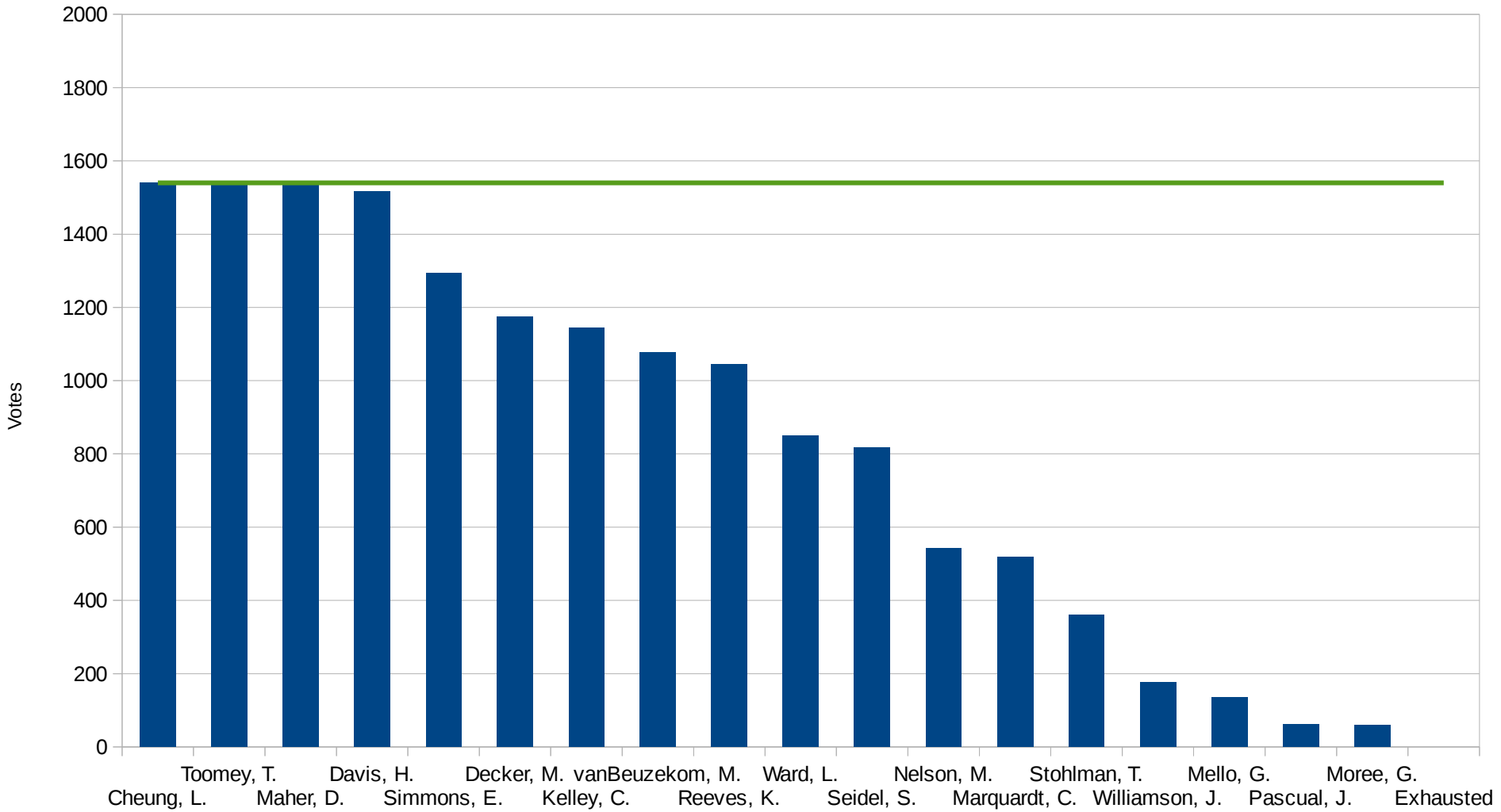

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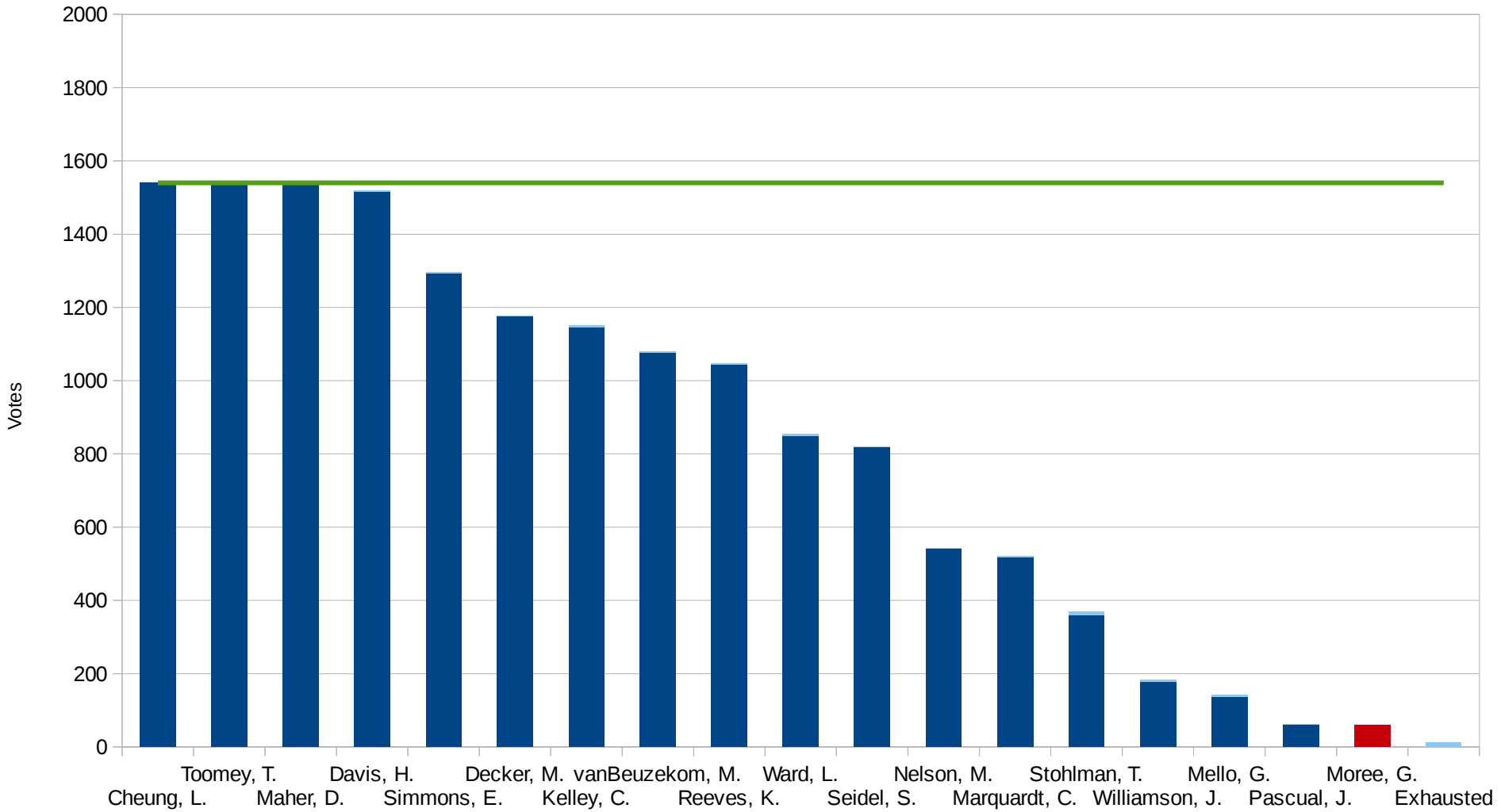

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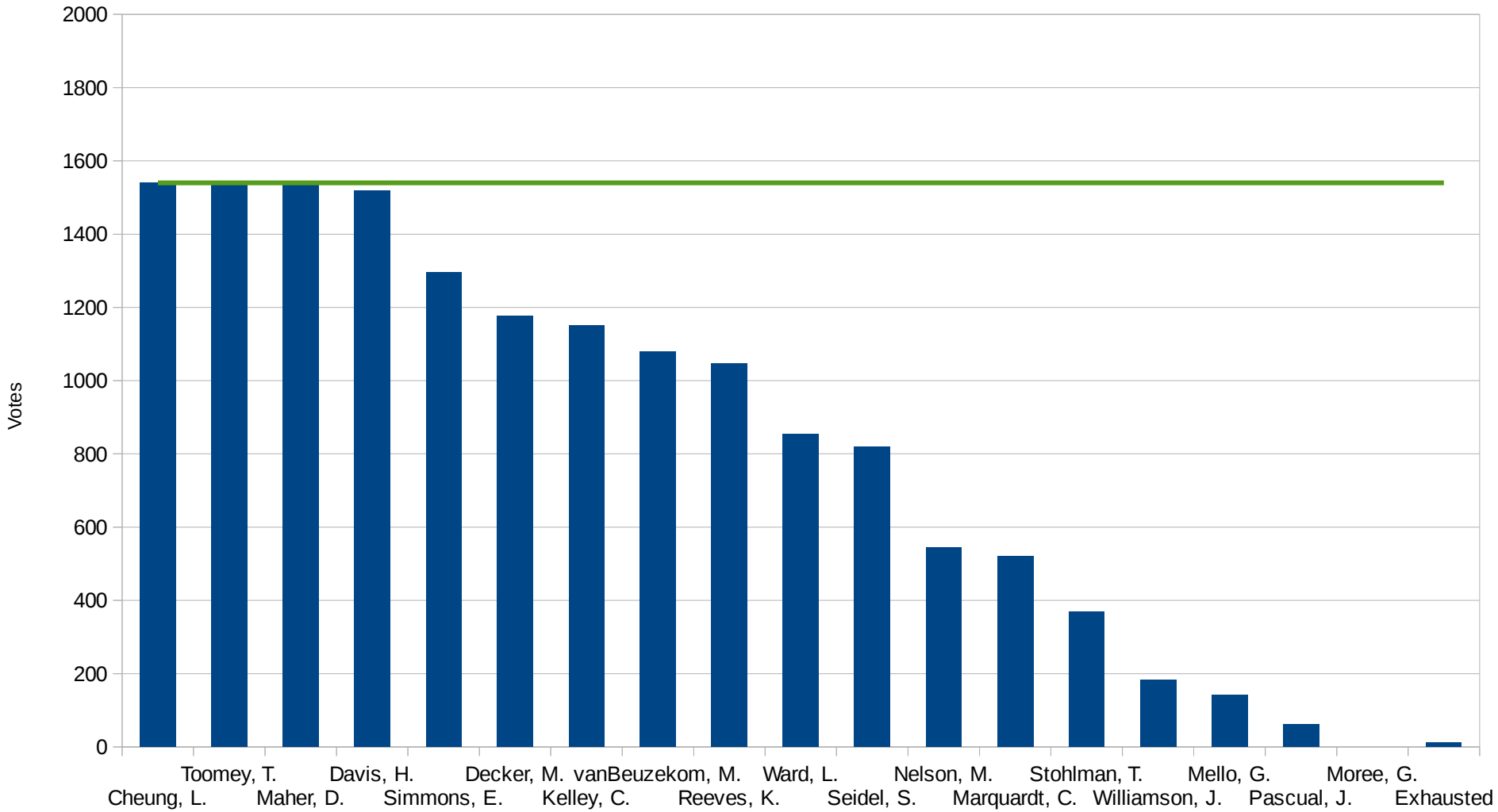

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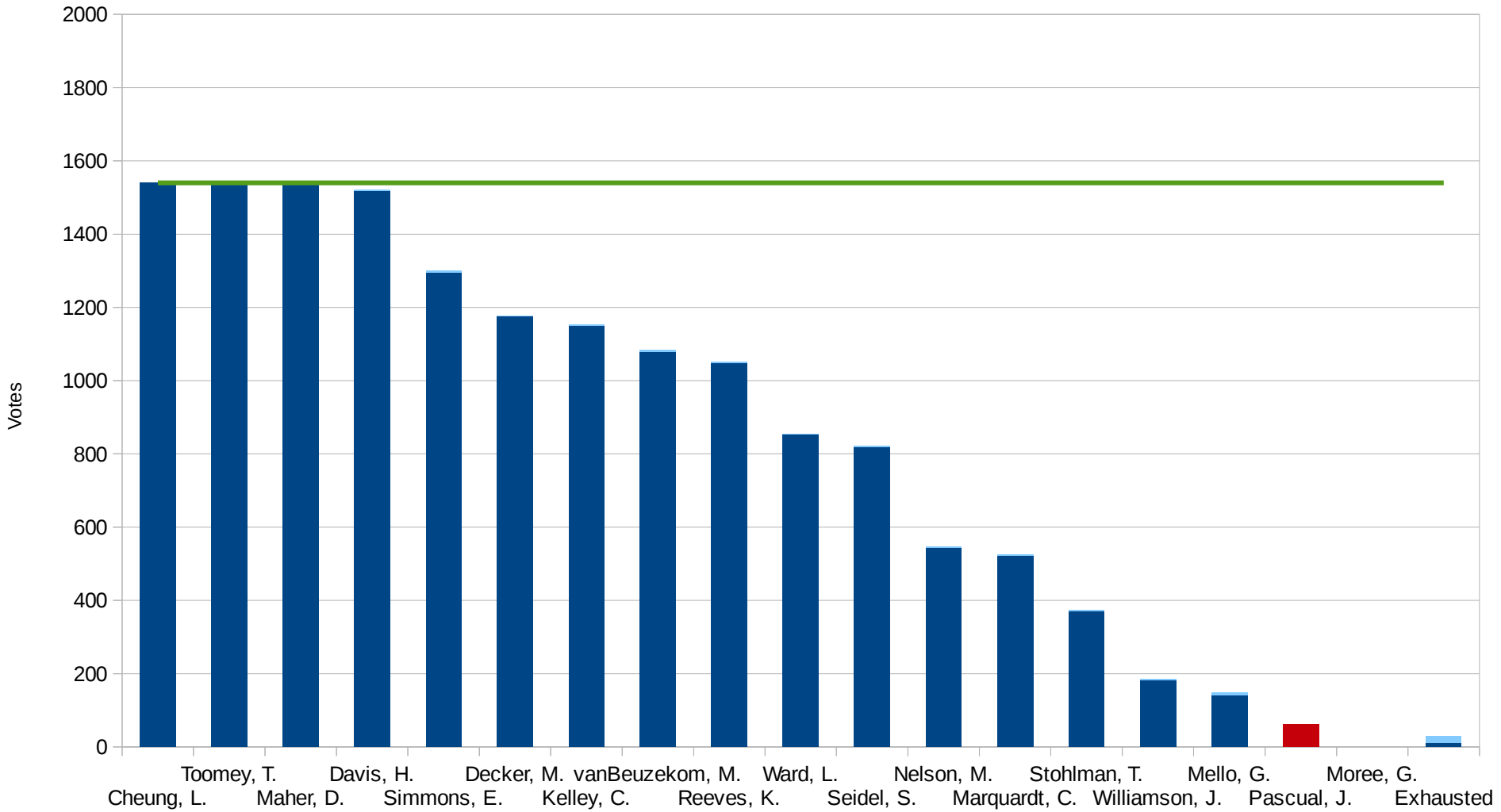

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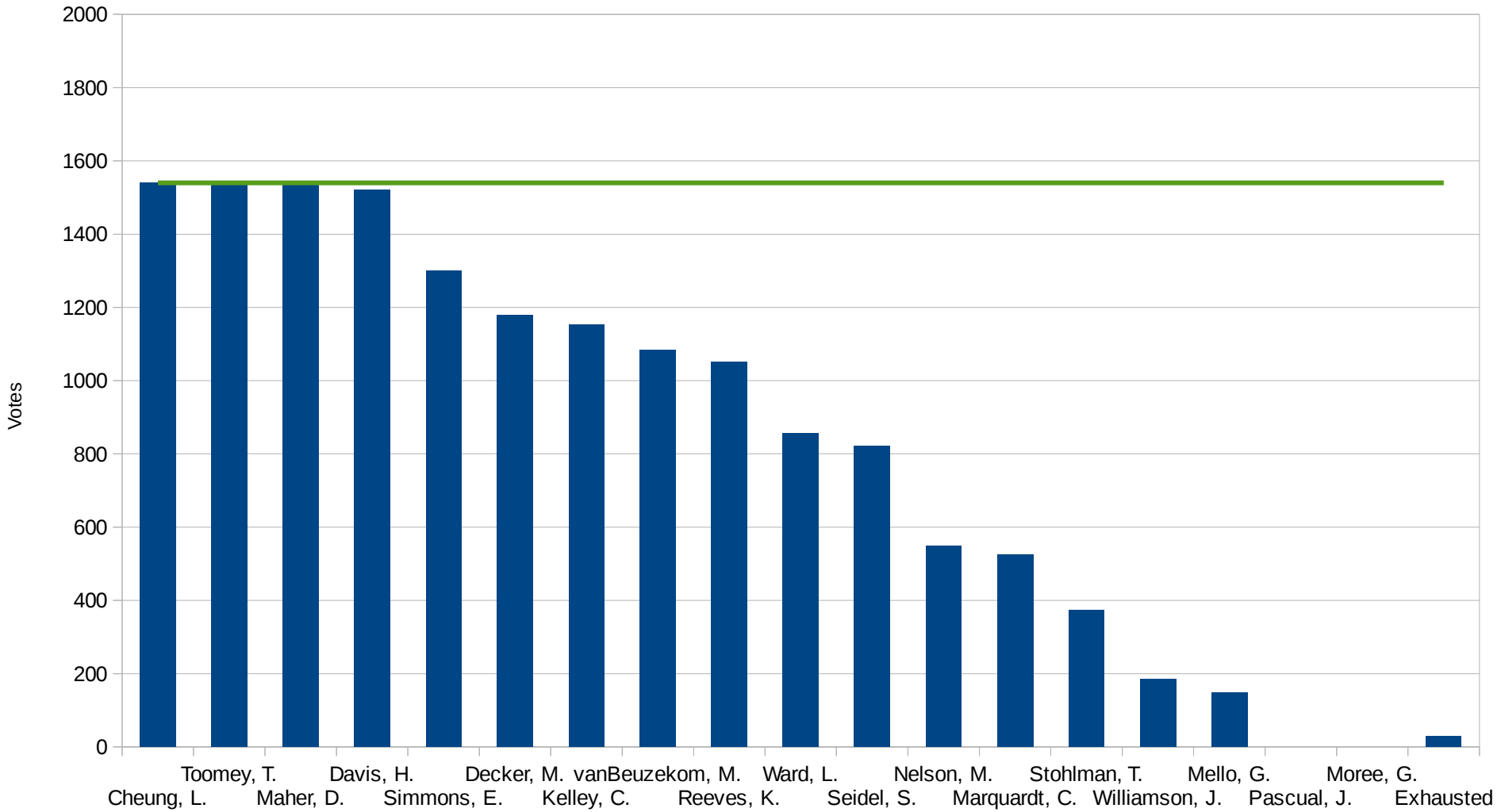

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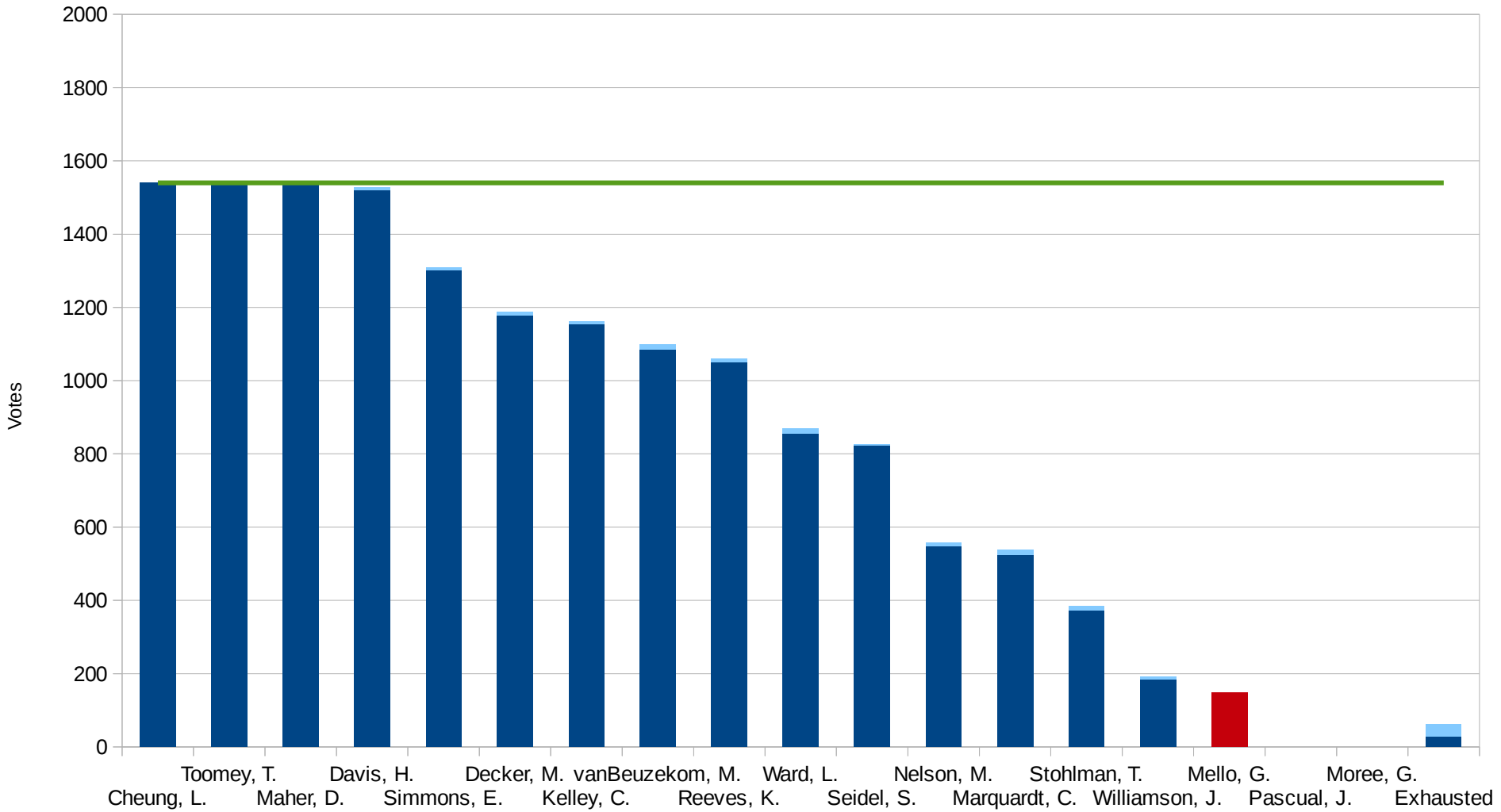

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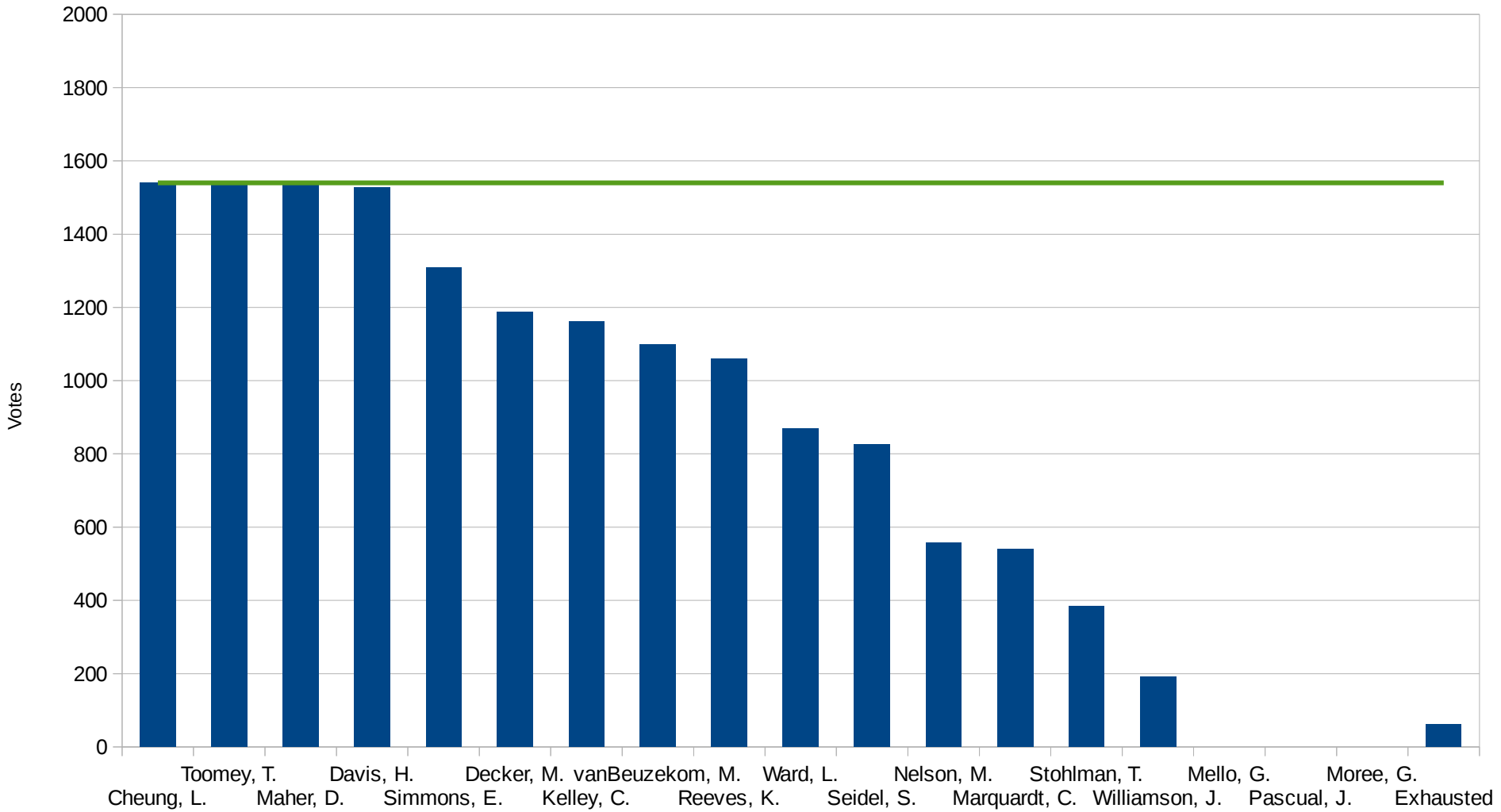

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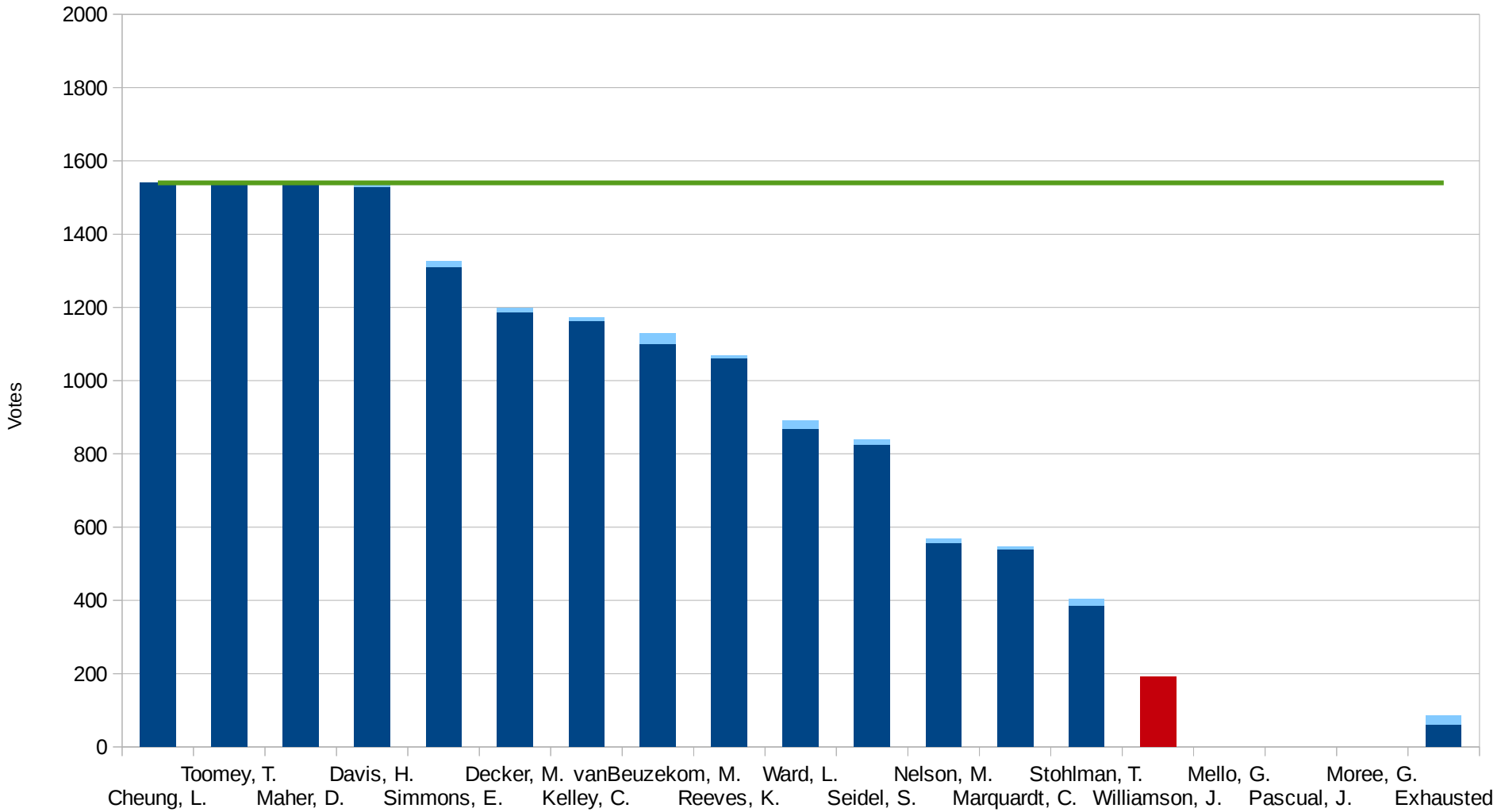

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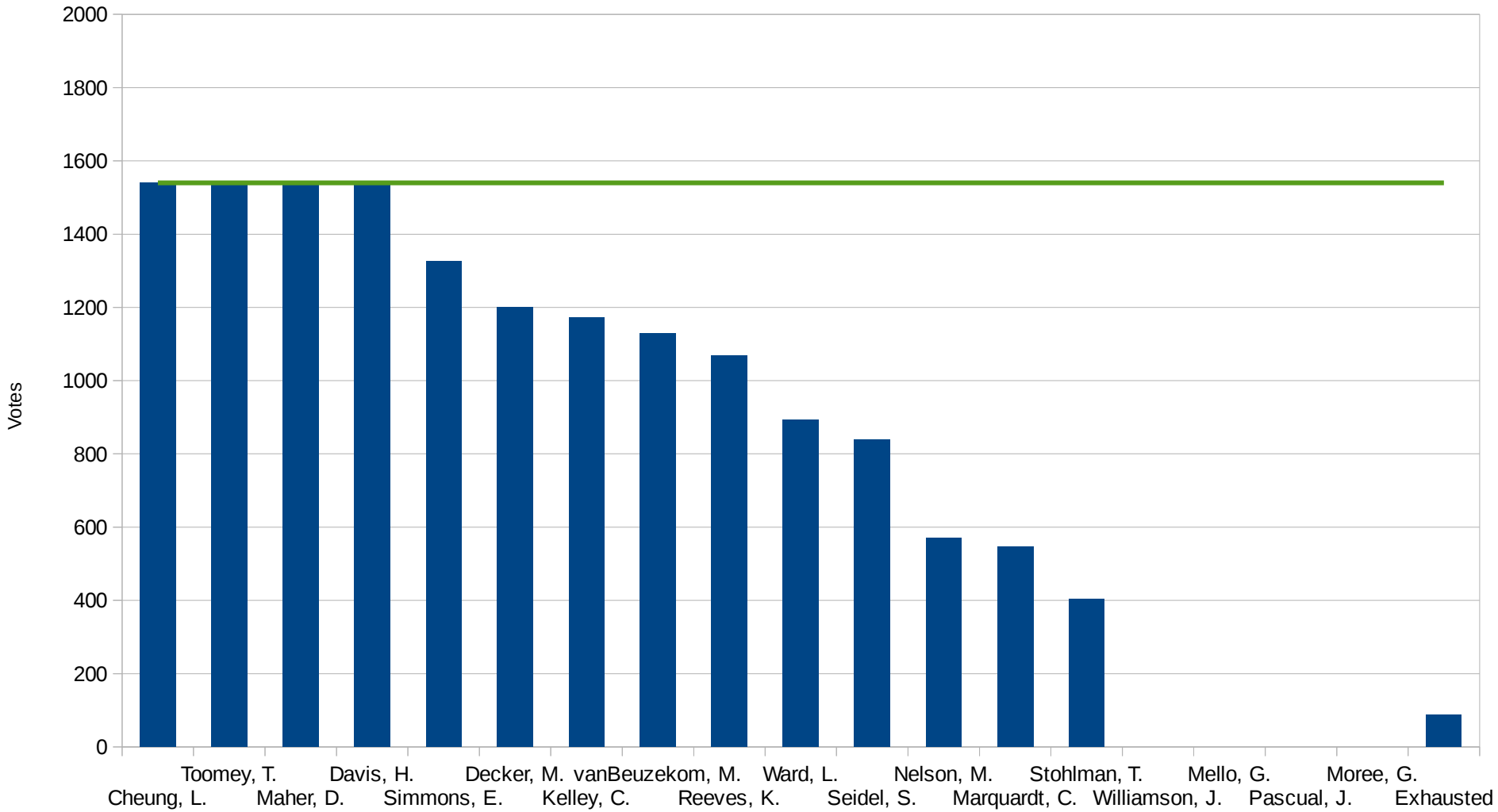

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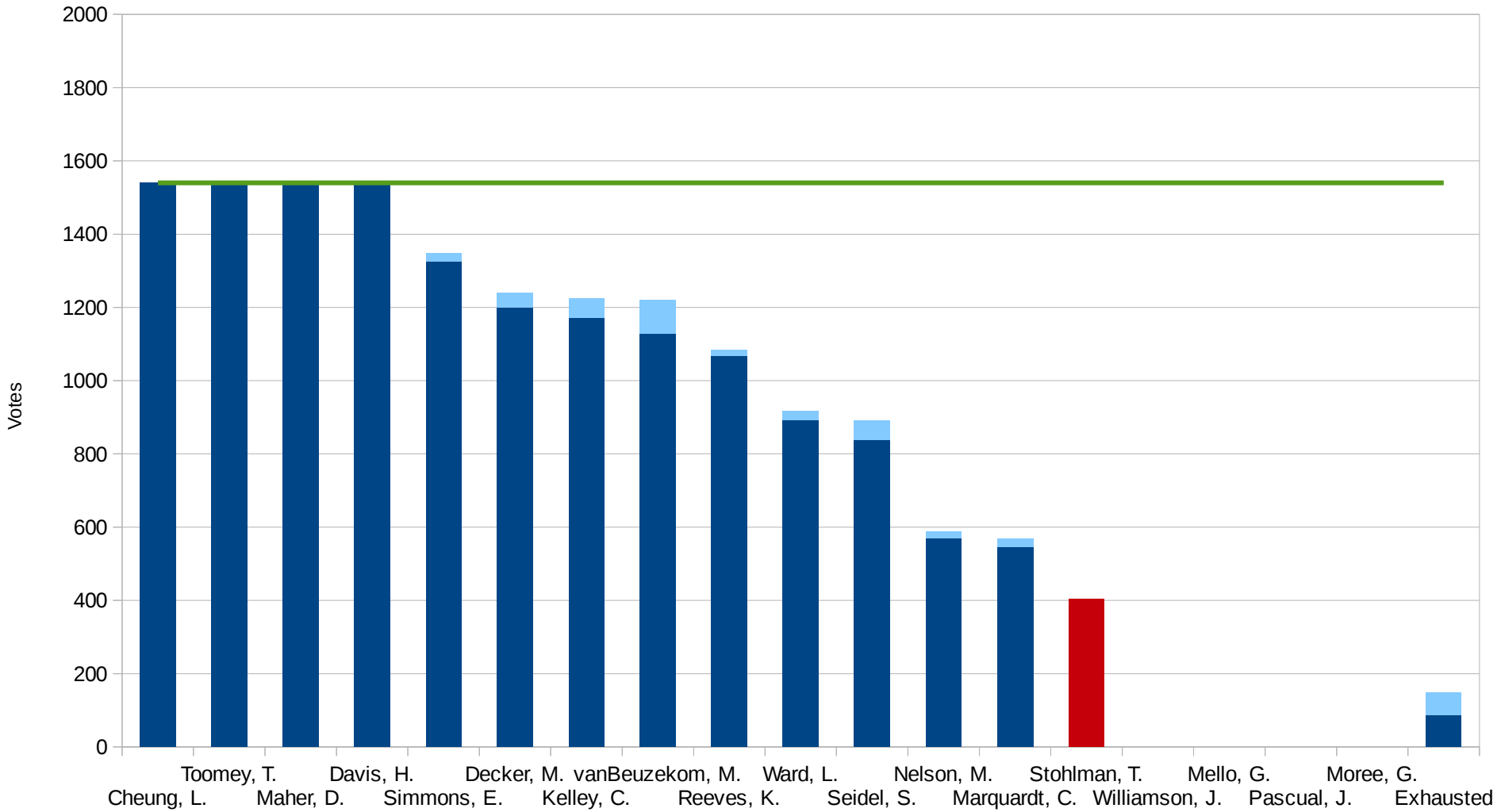

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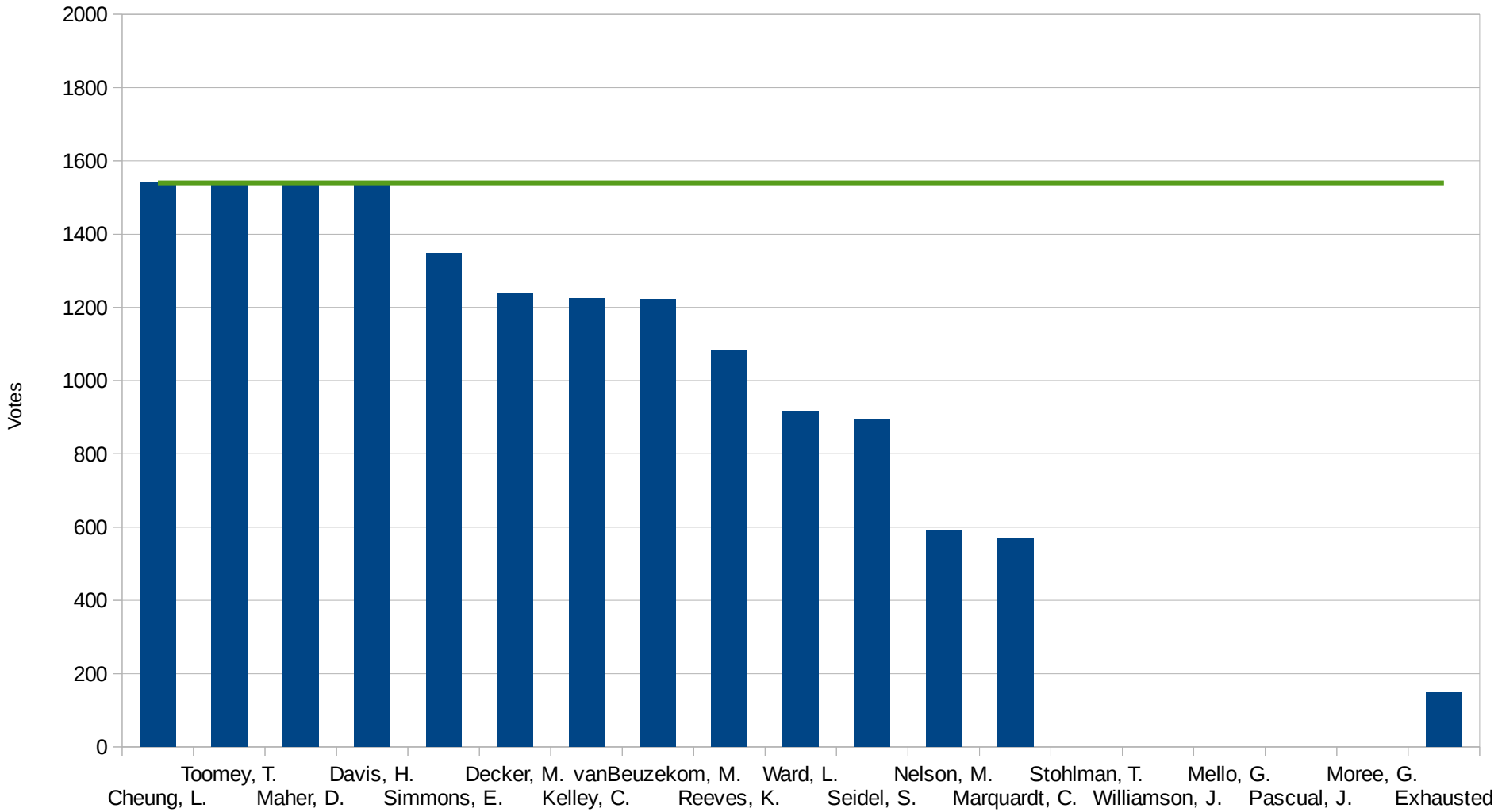

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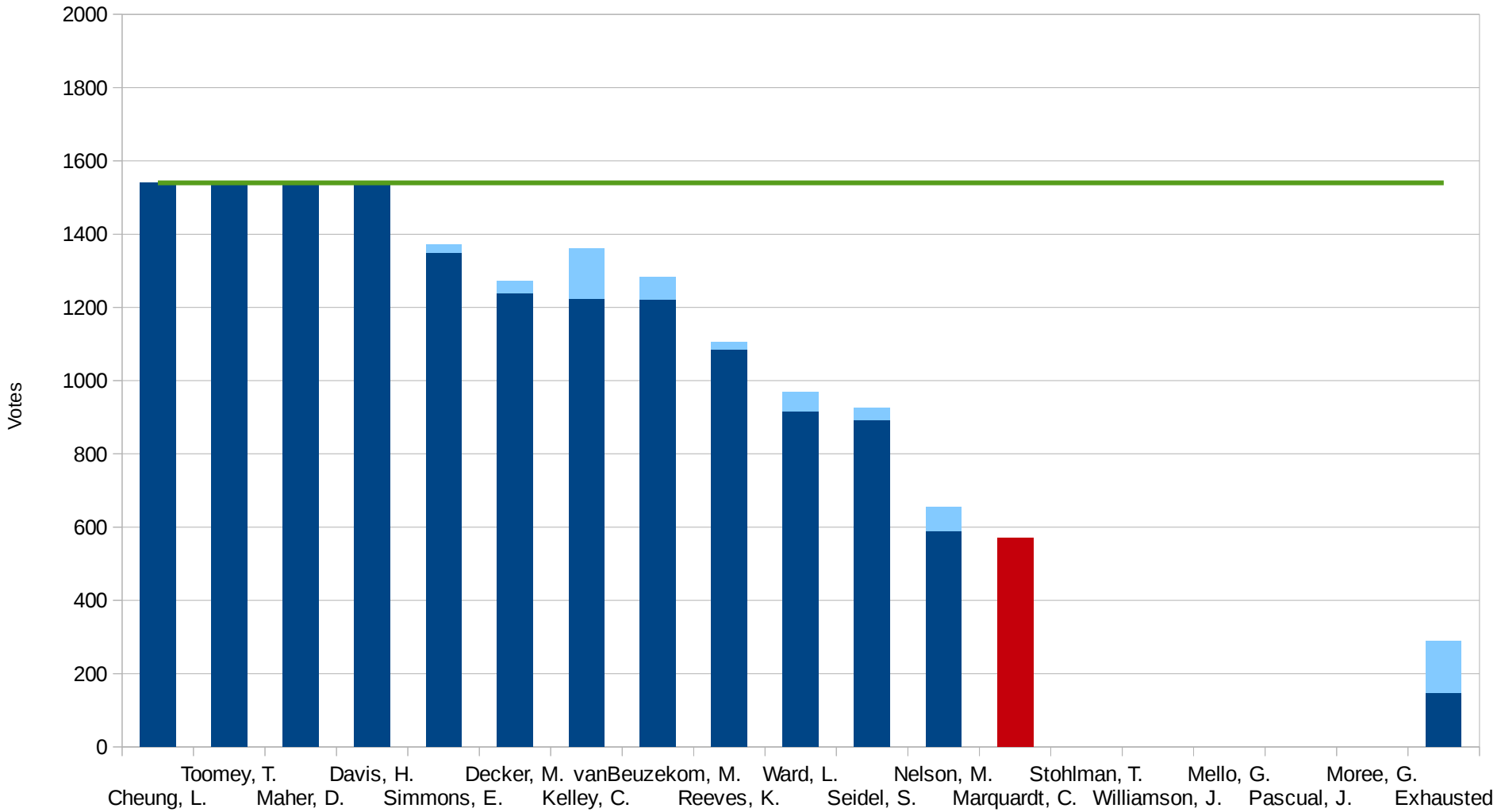

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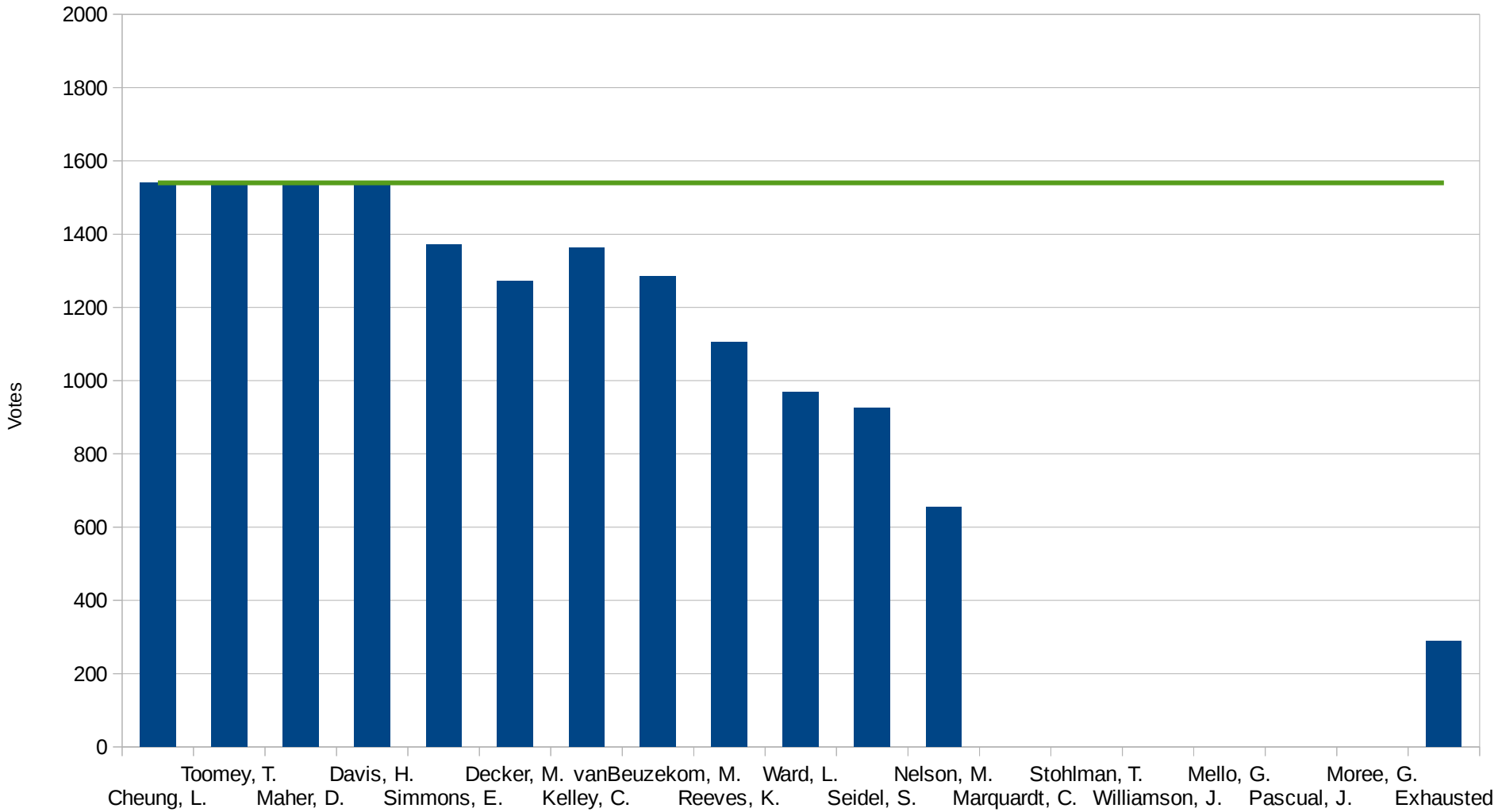

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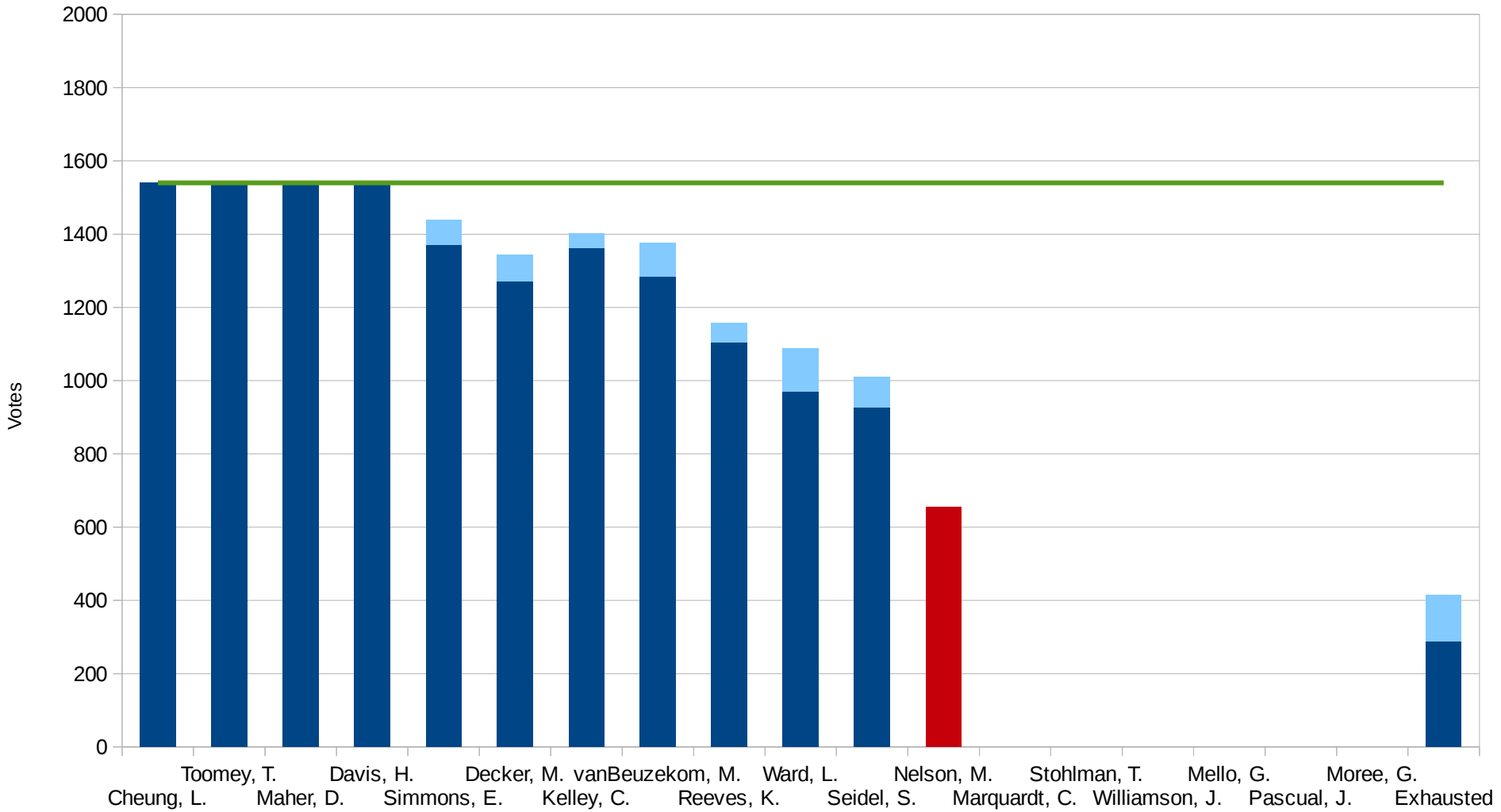

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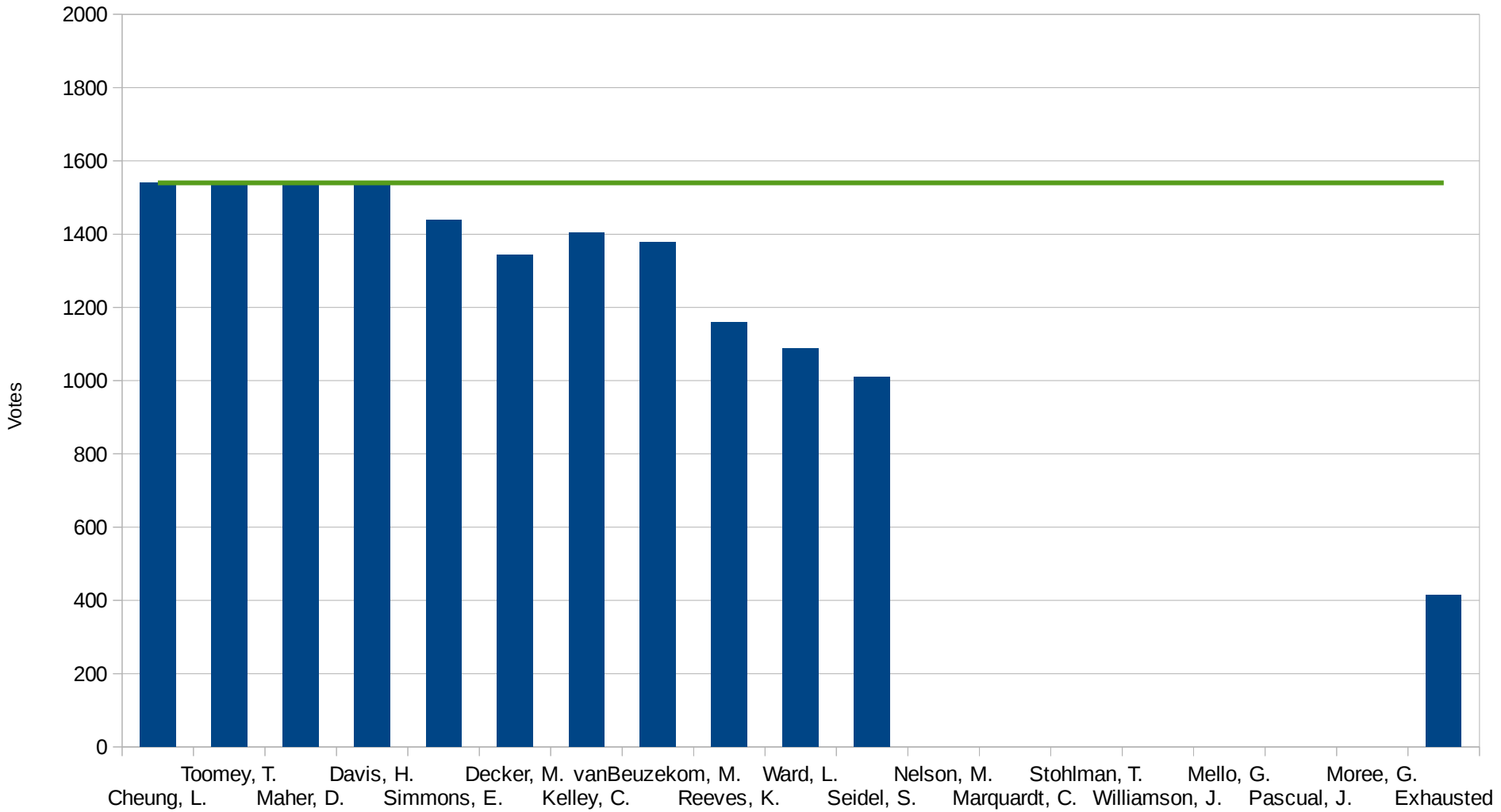

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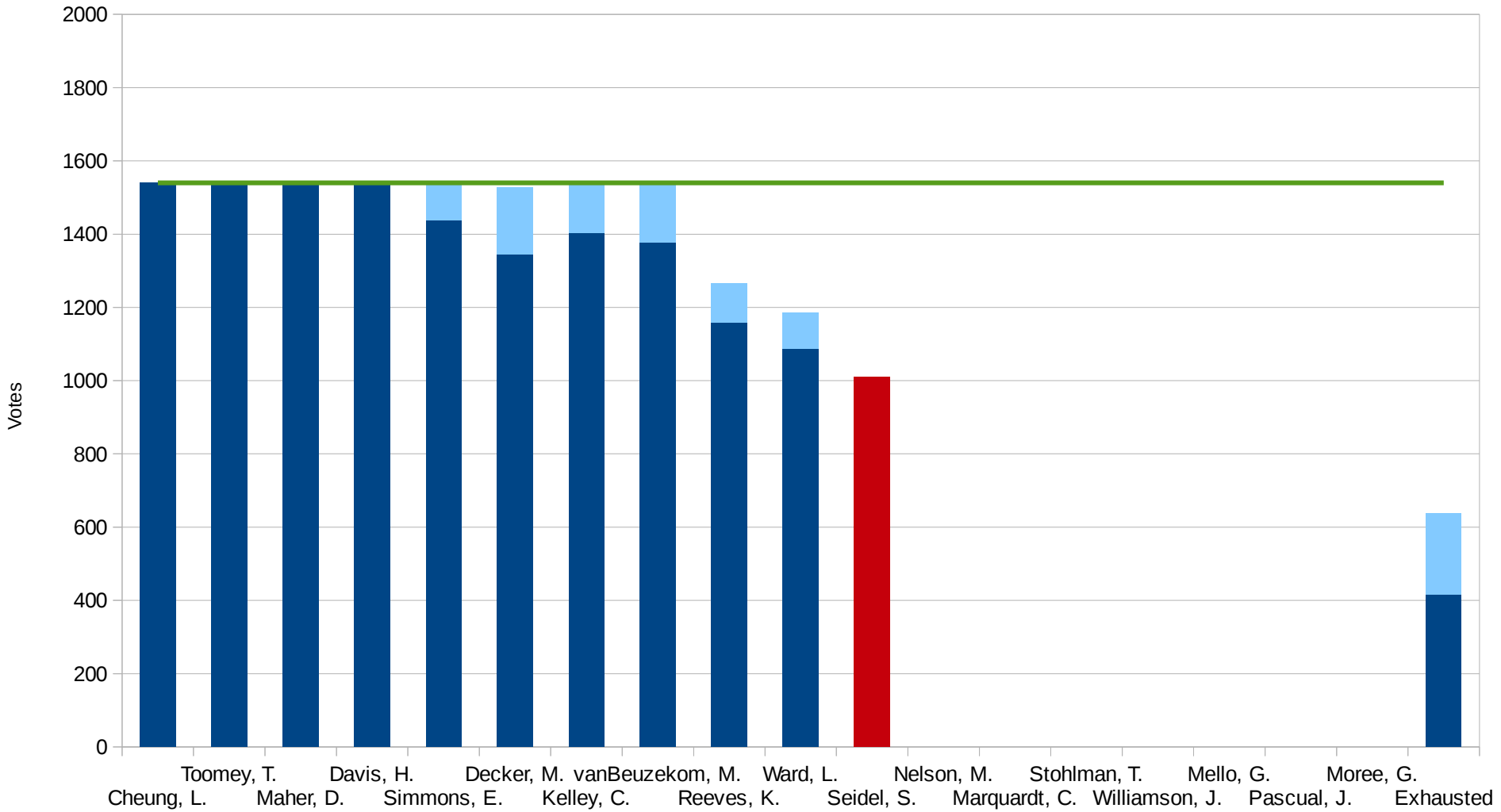

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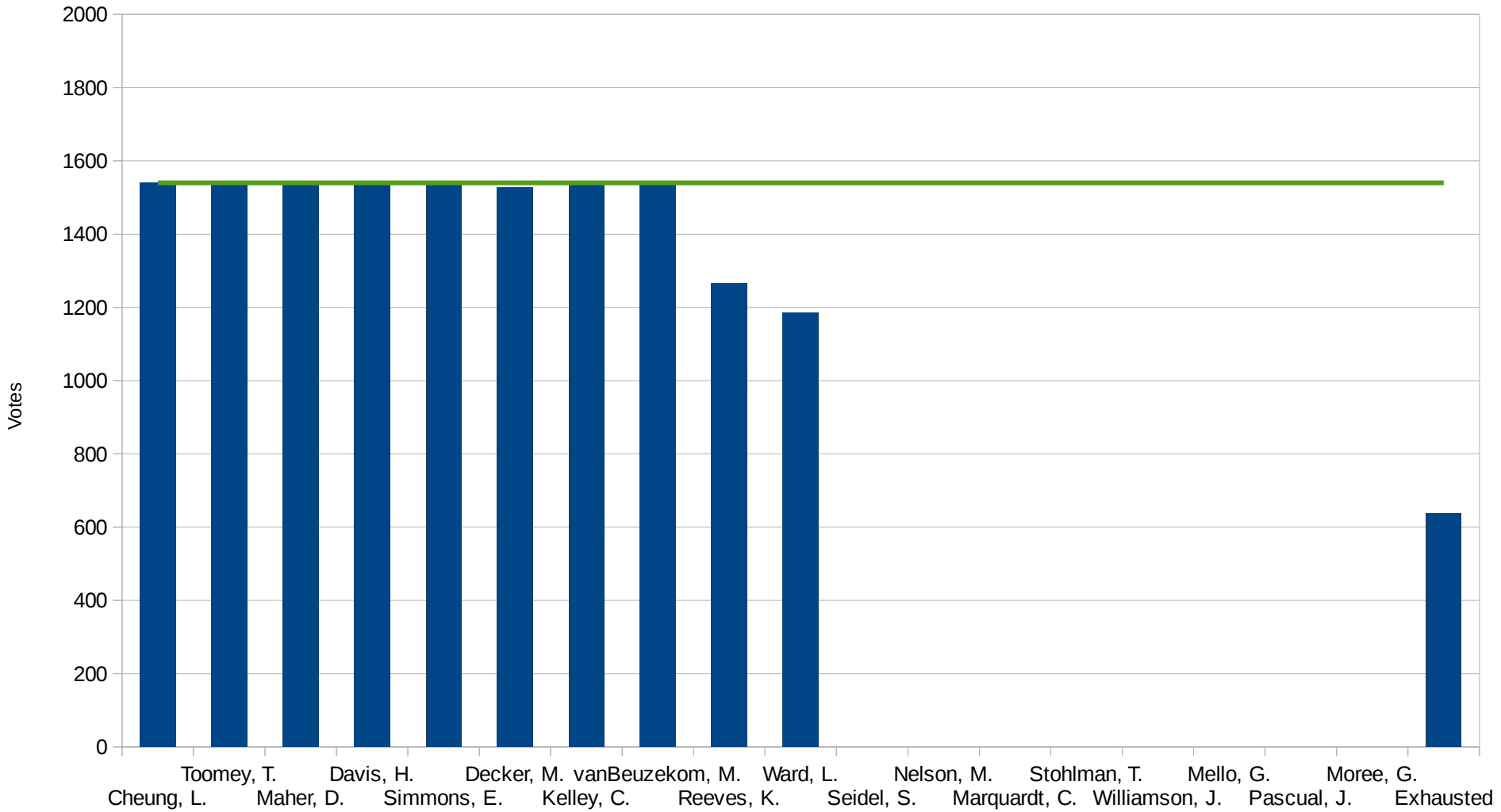

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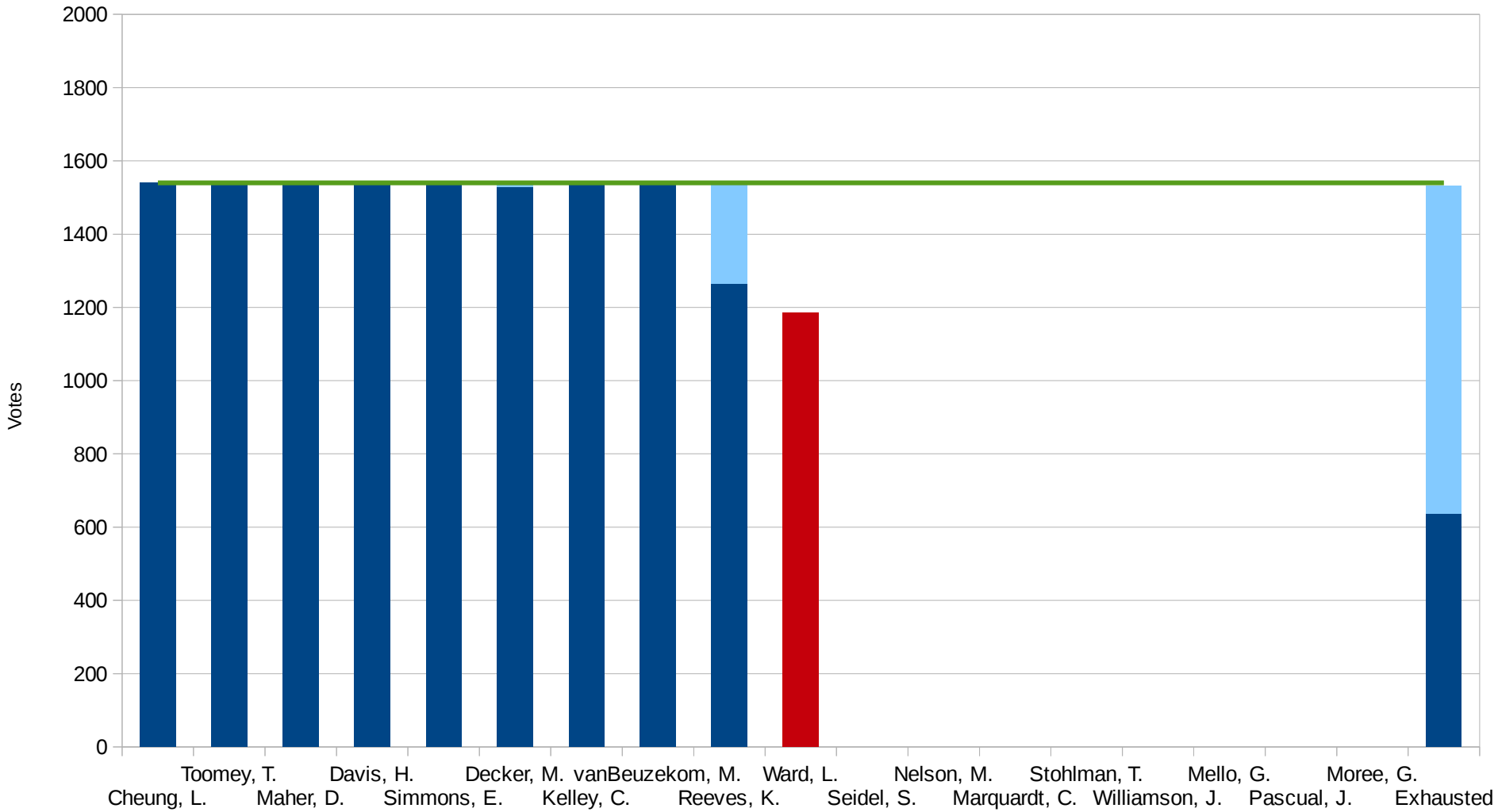

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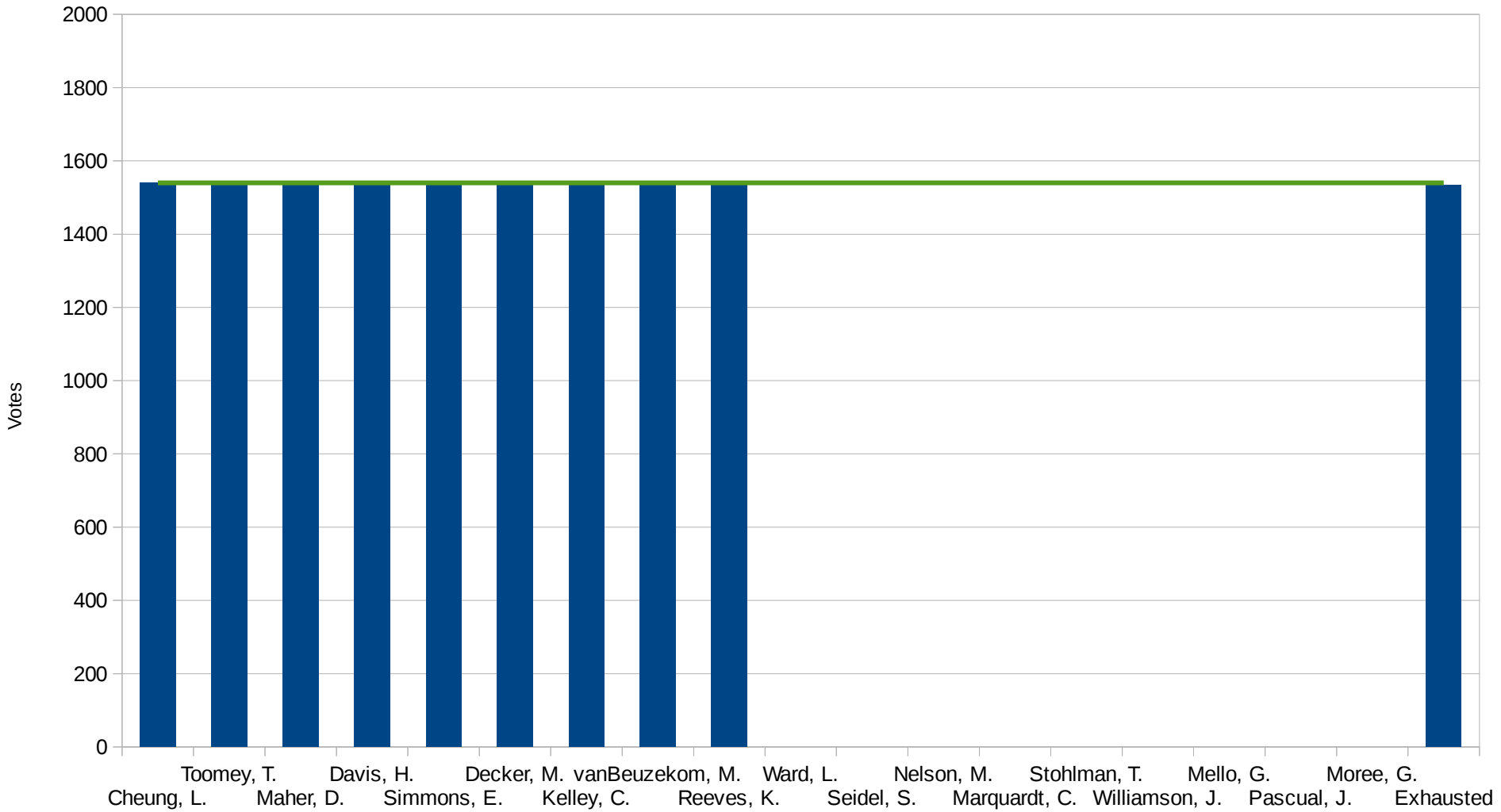


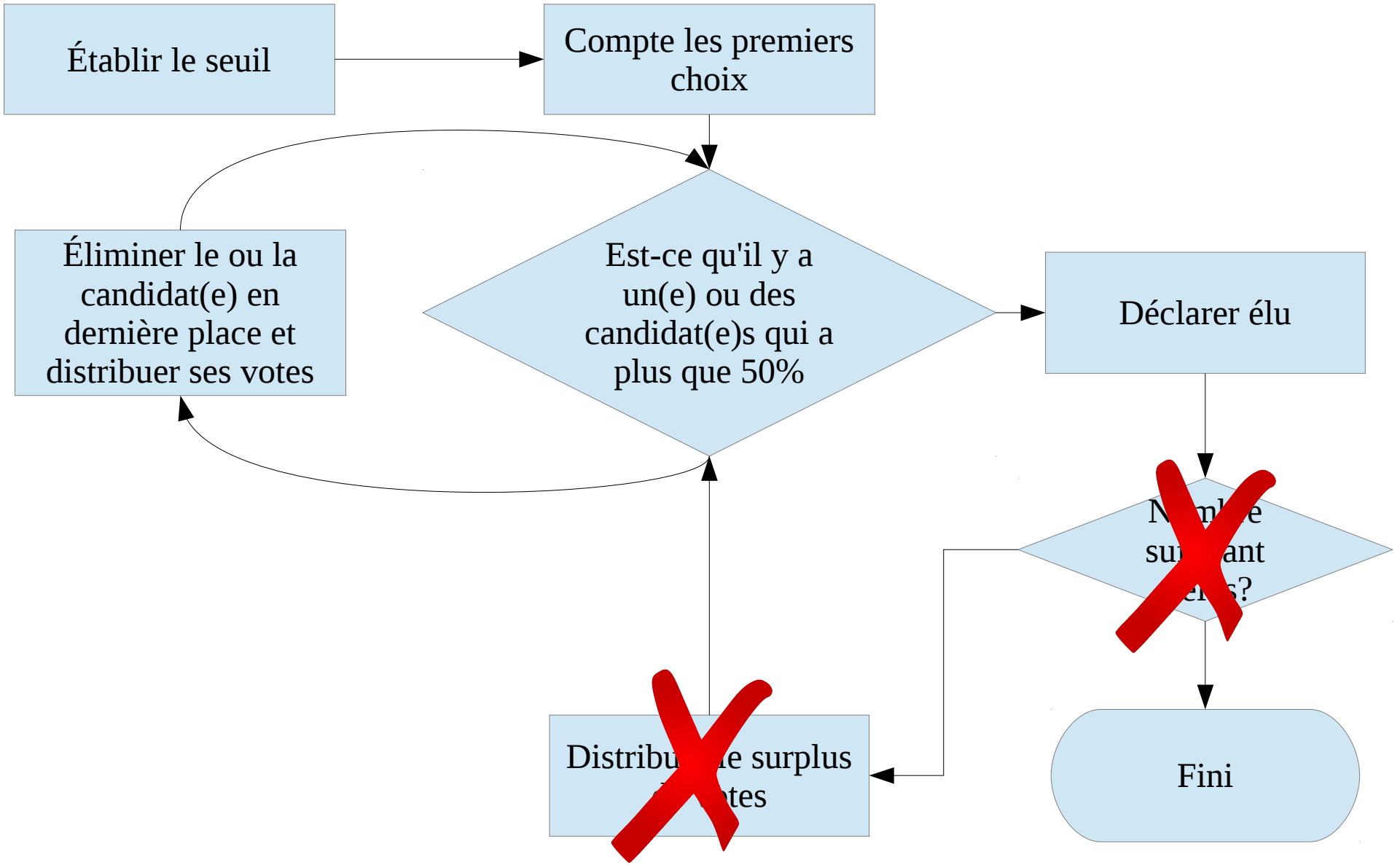
Single Transferable Vote

The ballot:	•A ranked ballot for candidates of different parties, one to many candidates per party
Seats per electoral district:	•2-7 in BC-STV
The algorithm:	1) Quota determined first 2) Count the one 3) Transfer votes of surplus or loosing candidate 4) Repeat until all seats are filled

Alternative Vote (**not** proportional)

- Also called Instant Runoff Voting or preferential voting
- Like STV, has a ranked ballot
- Only one seat per district
- Threshold is set to 50%

Vote alternatif
L'algorithme

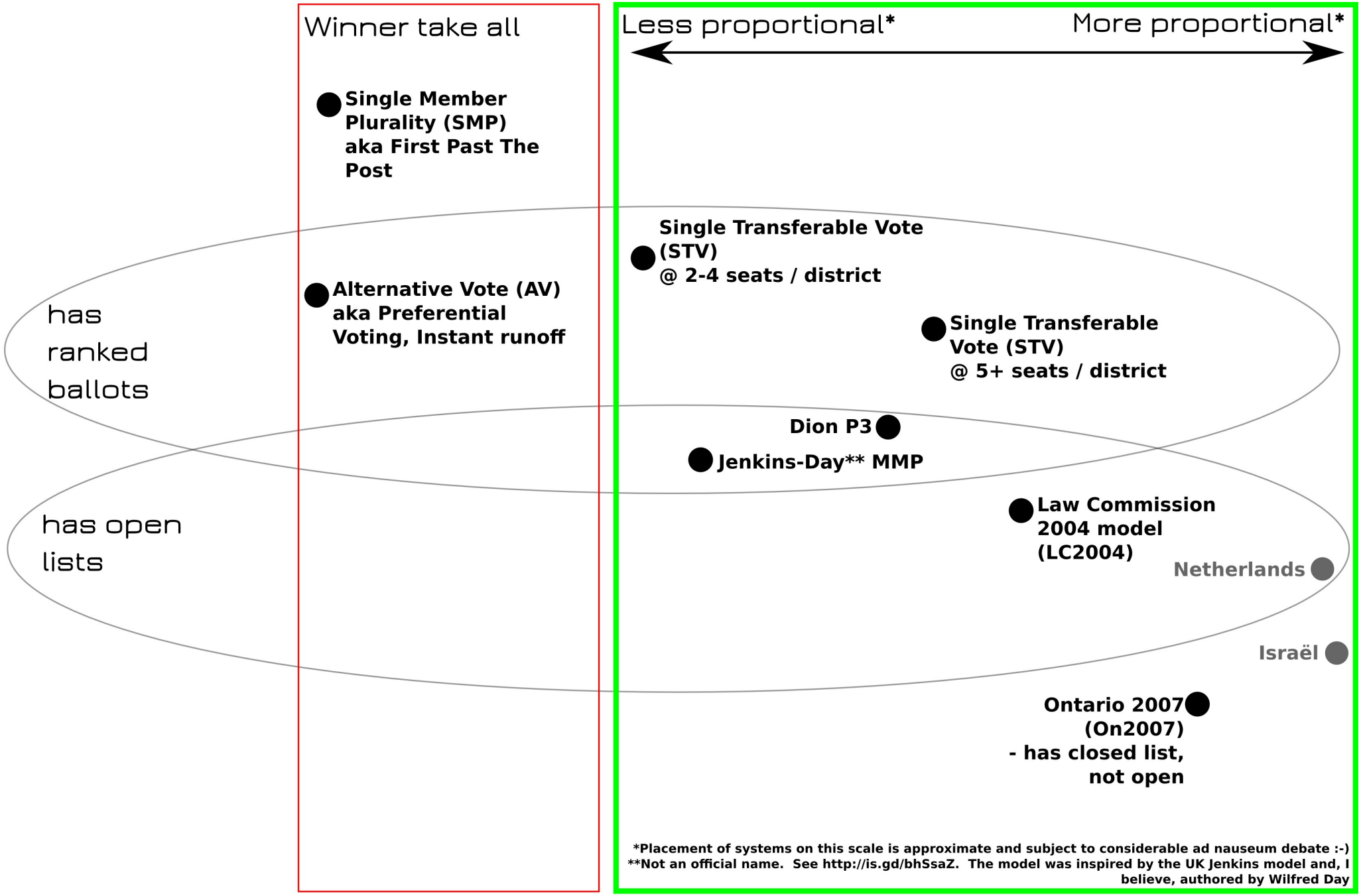


Alternative Vote
Preferential Voting

The ballot:	•A ranked ballot for candidates of different parties, one per party
Seats per electoral district:	•One seat per district
The algorithm:	1) Quota determined first 2) Count the number one 3) Transfer votes of loosing candidate 4) Repeat until one candidate has >50%

2015 according to Éric Grenier

	Election	Proportional	Preferential
Liberal	184	134	224
Conservative	99	109	61
NDP	44	67	50
Bloc	10	16	2
Green	1	12	1



Author : Julien Lamarche
NCR@fairvote.ca

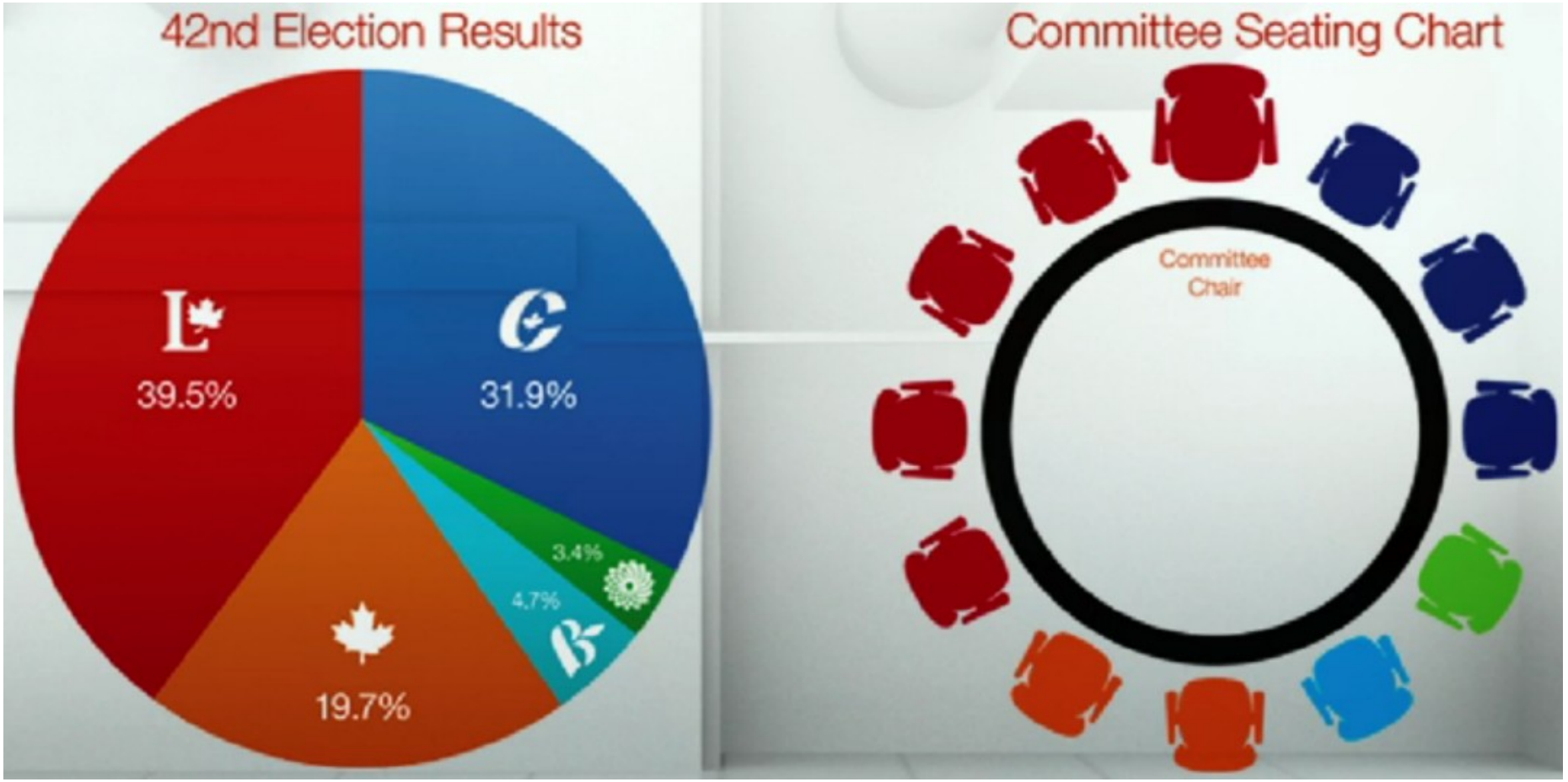
See http://www.fairvotecanadancr.ca/?q=node/103 for updates

PUBLIC DOMAIN

Where to go from here?

- Sign Declaration
- Update your information with FVC (postal code)
- Get candidates to sign the pledge
- Get a presentation in your community
- Get your organization to support the cause
- Get on our volunteers list : NCR@fairvote.ca
- Donate : http://www.fairvote.ca/donate/
- Write a letter : letters@ottawacitizen.com, editor@theequity.ca, editor@journalpontiac.com

What's next?


42nd Election Results
39.5%
31.9%
3.4%
4.7%
19.7%
Committee Seating Chart
Committee
Chair

Where to go from here?

170 MPs

Where to go from here?

Bringing millions of Canadian voters together

Guy Giorno, former Chief of Staff to Stephen Harper

Alex Himelfarb, former Clerk of the Privy Council

Col. (Retired) Pat Stogran, former Veterans' Ombudsman

A primer on voting systems

Questions?

Julien Lamarche
NCR@fairvote.ca

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