המכון הישראלי לתכנון כלכלי (ע"ר)
The Israeli Institute for Economic Planning

ISRAEL OIL ALTERNATIVE COMPANIES

November 2010

Introduction

- Background
- PMO Report
- Scope

Today

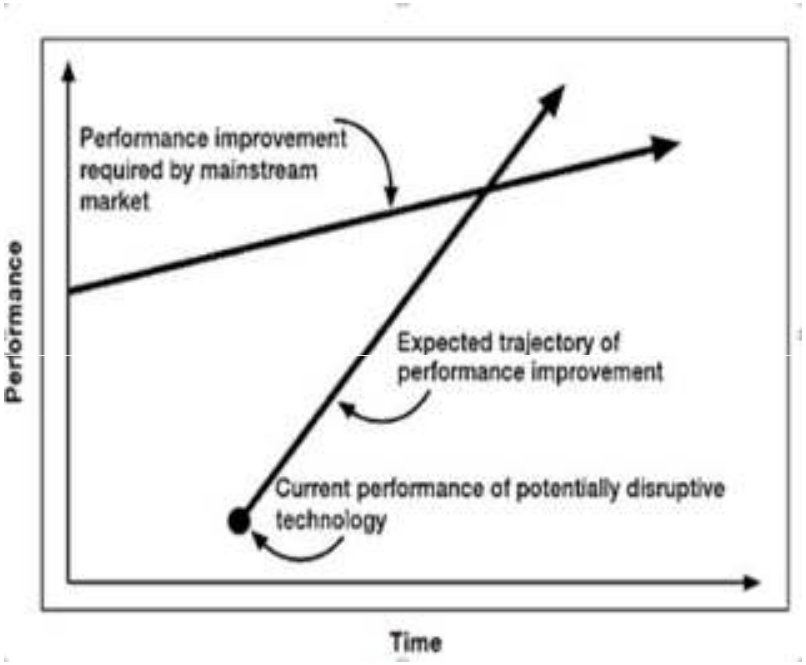
<u>A few insights for the Incubator perspective</u>

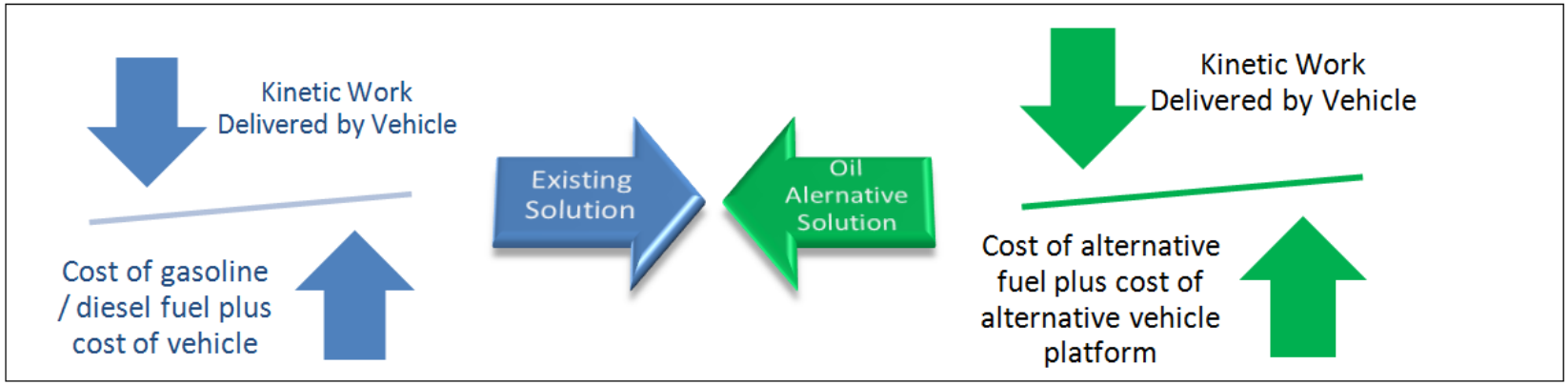
- What is out there
- What characterizes what is out there
- What implications for business does this have?

Not today

- Oil alternatives as an investment decision
- Business developments
- Market developments
- Policy (except we might talk about the importance of government support)
- Local VCs

Price Disruption is the key





Definitions

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- "Oil Alternative Company" = "OAC"
- OAC = oil alternative company = a company / project of a company with a fundable innovation that if bought to market will reduce oil use

The First Step to Identifying- Defining

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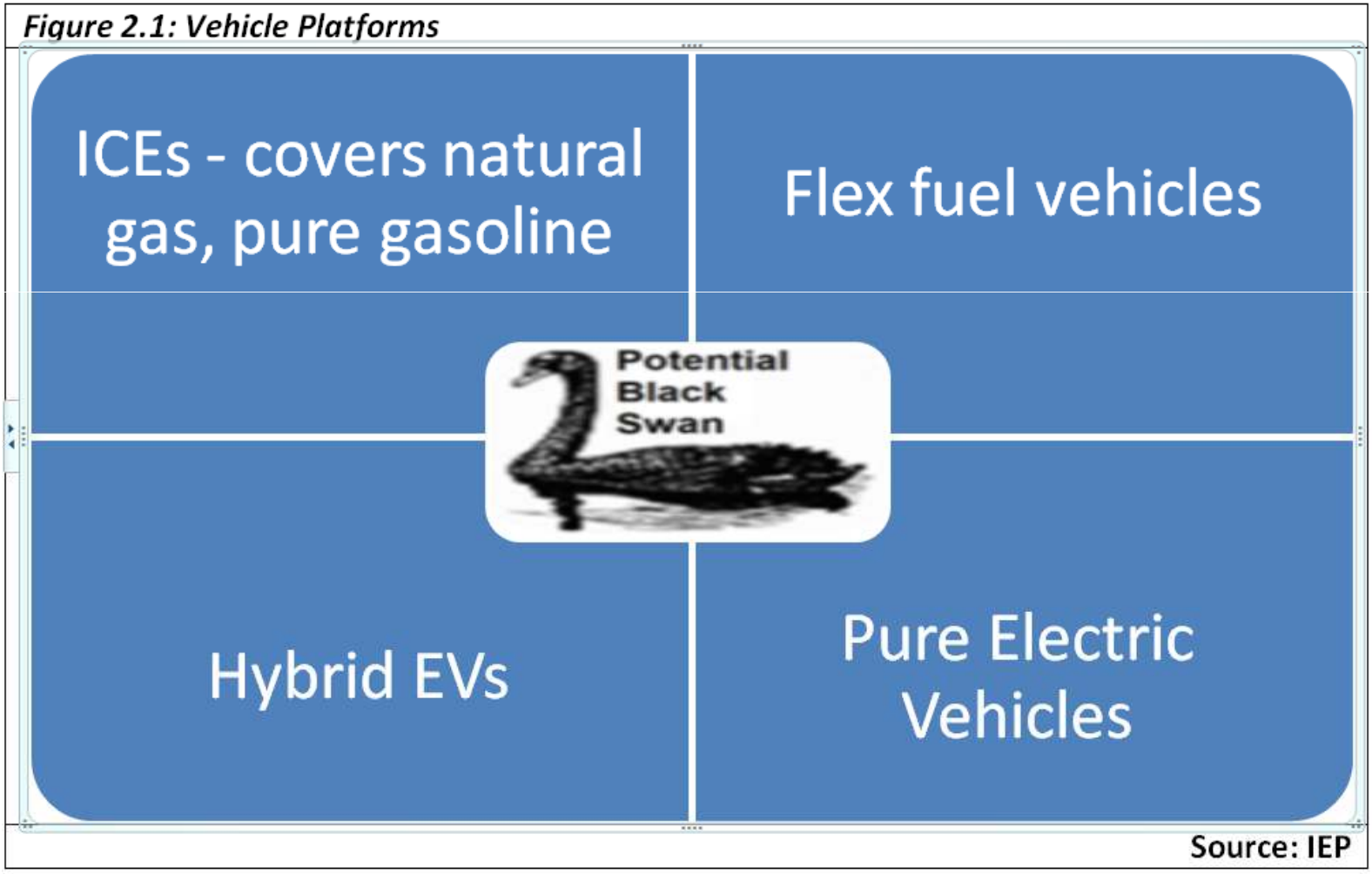
Figure 2.1: Vehicle Platforms



Source: IEP

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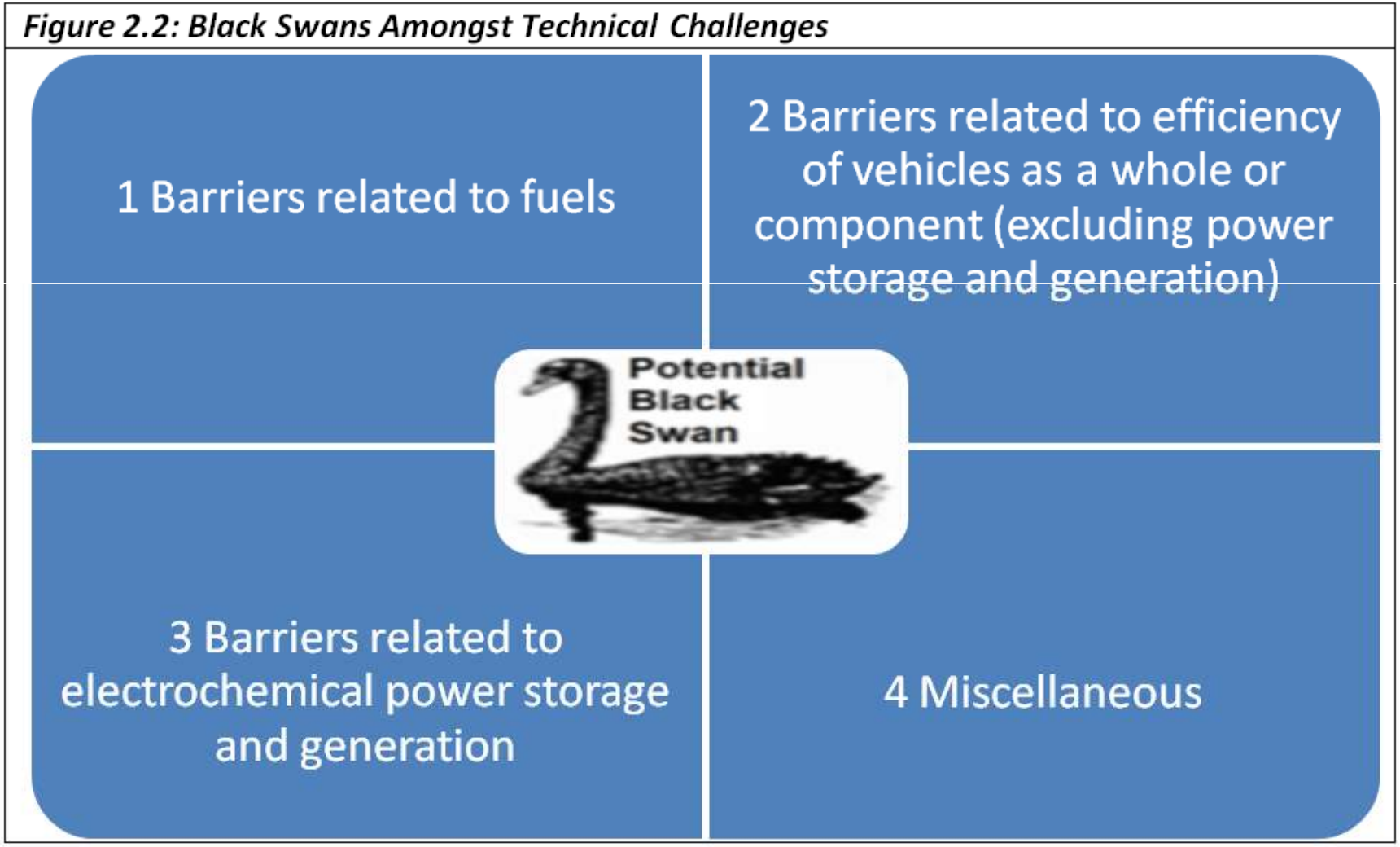
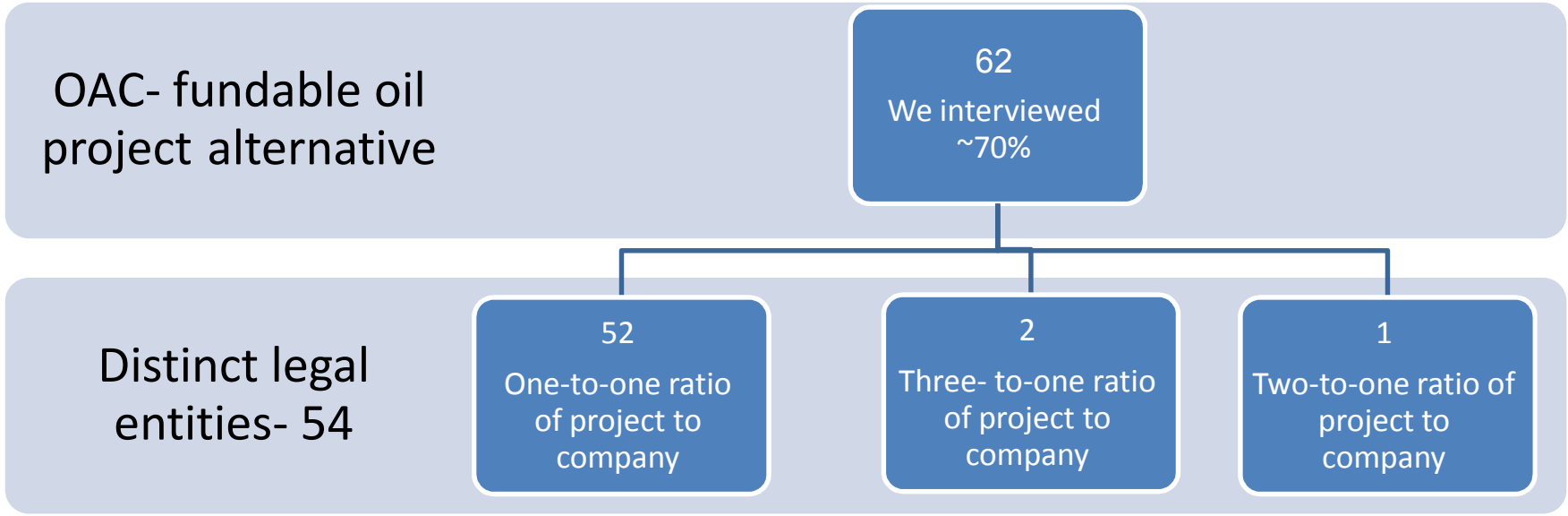
Technical Barriers

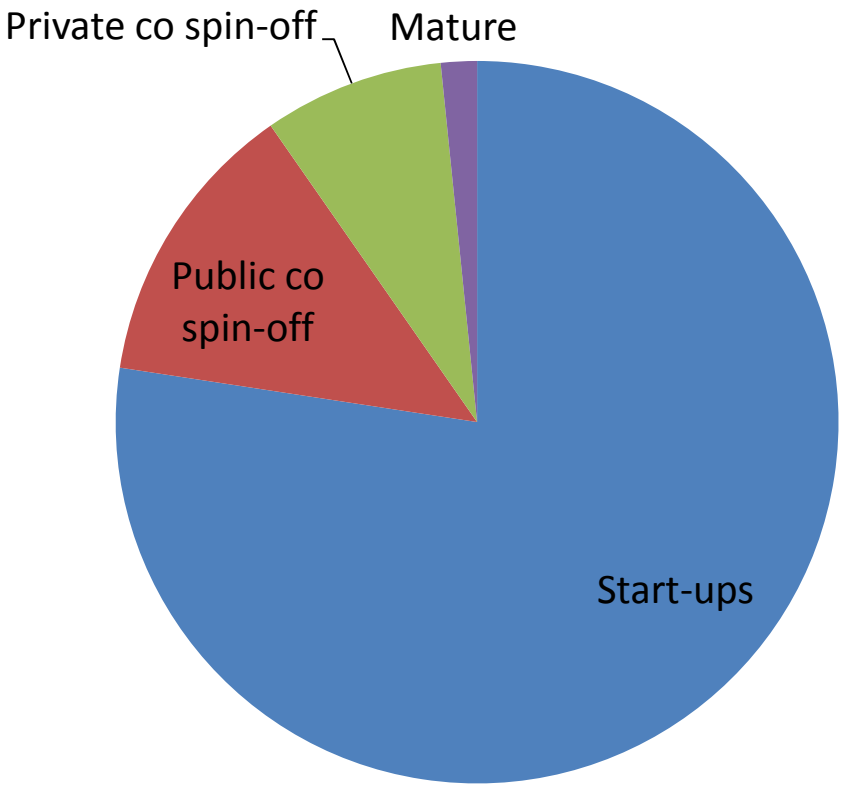
Figure 2.2: Black Swans Amongst Technical Challenges



Mapping 1


OAC- fundable oil project alternative
62
We interviewed ~70%
Distinct legal entities- 54
52
One-to-one ratio of project to company
2
Three- to-one ratio of project to company
1
Two-to-one ratio of project to company

Mapping 2



Lack of OAC Nomenclature

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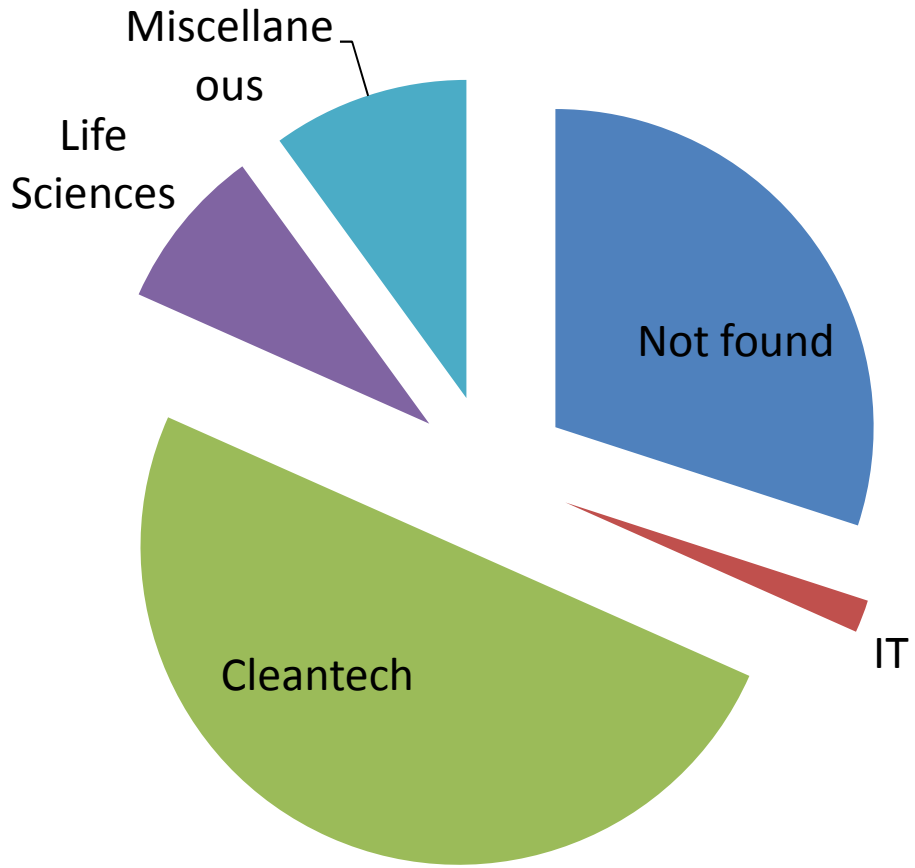
- ETV Motors *"Miscellaneous Technology"*
- *Engine technology*
- *Electrochemistry- battery technology and ultra-efficient jet micro-turbine for on-board use, hybrids*
- EVR Motors *"Industrial Technology"*
- *Engine Technology*
- *Technical improvement to motor*
- *Especially effective vehicle efficiency for hybrids urban transport*

Invisibility



Interviewed ~50 OACs

- Where they come from
- What they do
- Funding history
- Projected funds needed
- Perspectives on the Israeli eco-system, needs
- Technical barrier vs technical solution

Possible understatement of numbers in our data

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- Easier to capture transportation related OACs
- Number of OACs possibly understated due to lack of capture of:
  - Waste companies unless publicity directly states intend to produce alternative fuel
  - Algae companies that have cross-disciplinary knowledge and are active in, for example, nutra-pharmaceuticals
  - Bias against seed

Israeli Venture Capital in general appears slightly less risk averse at Seed and Series A

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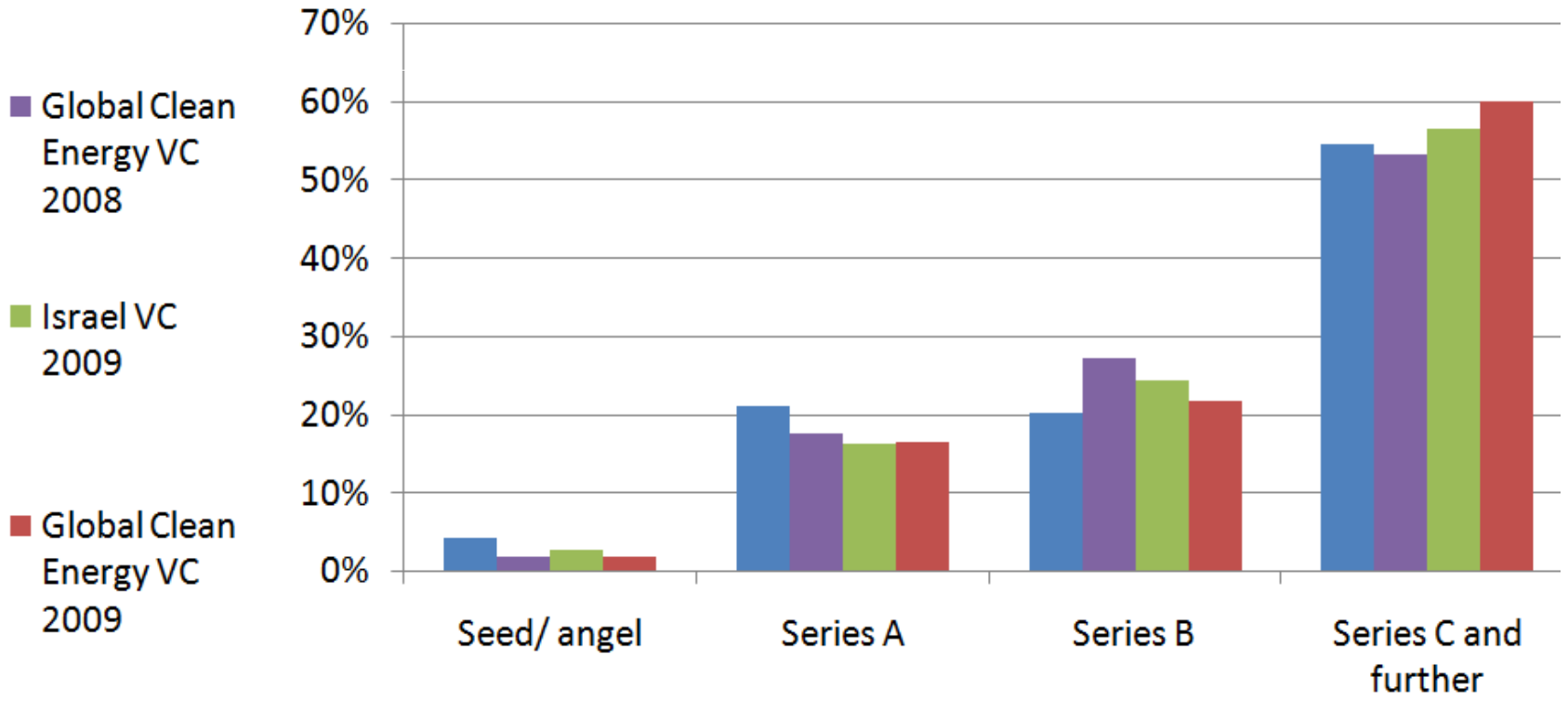
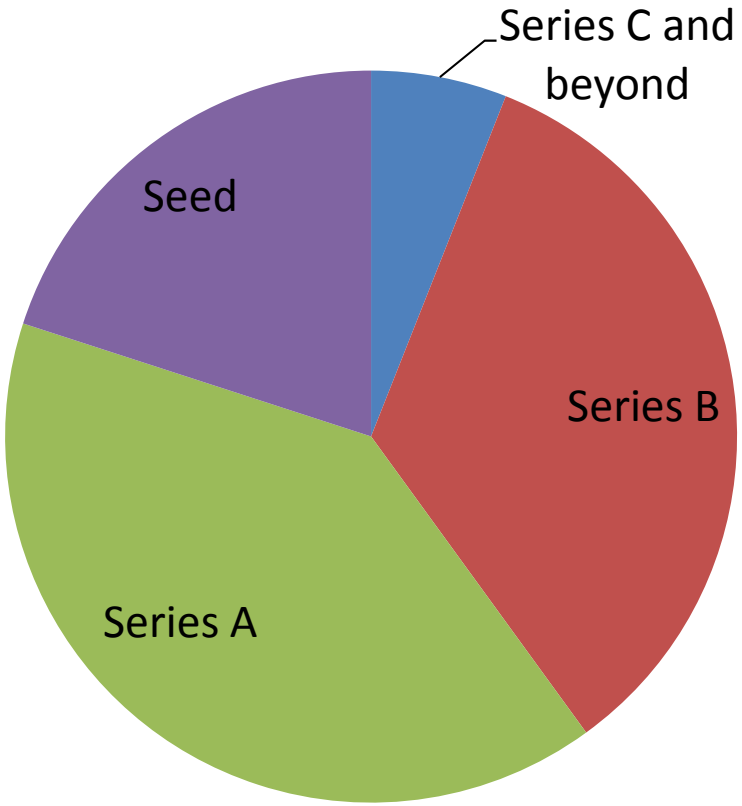
Distribution of Venture Capital funding across investment stages, Israel compared to Global Clean Energy in 2008, 9.

Source: Bloomberg New Energy Finance, IEP, IVA



Stage of OACs that gave next funding round.



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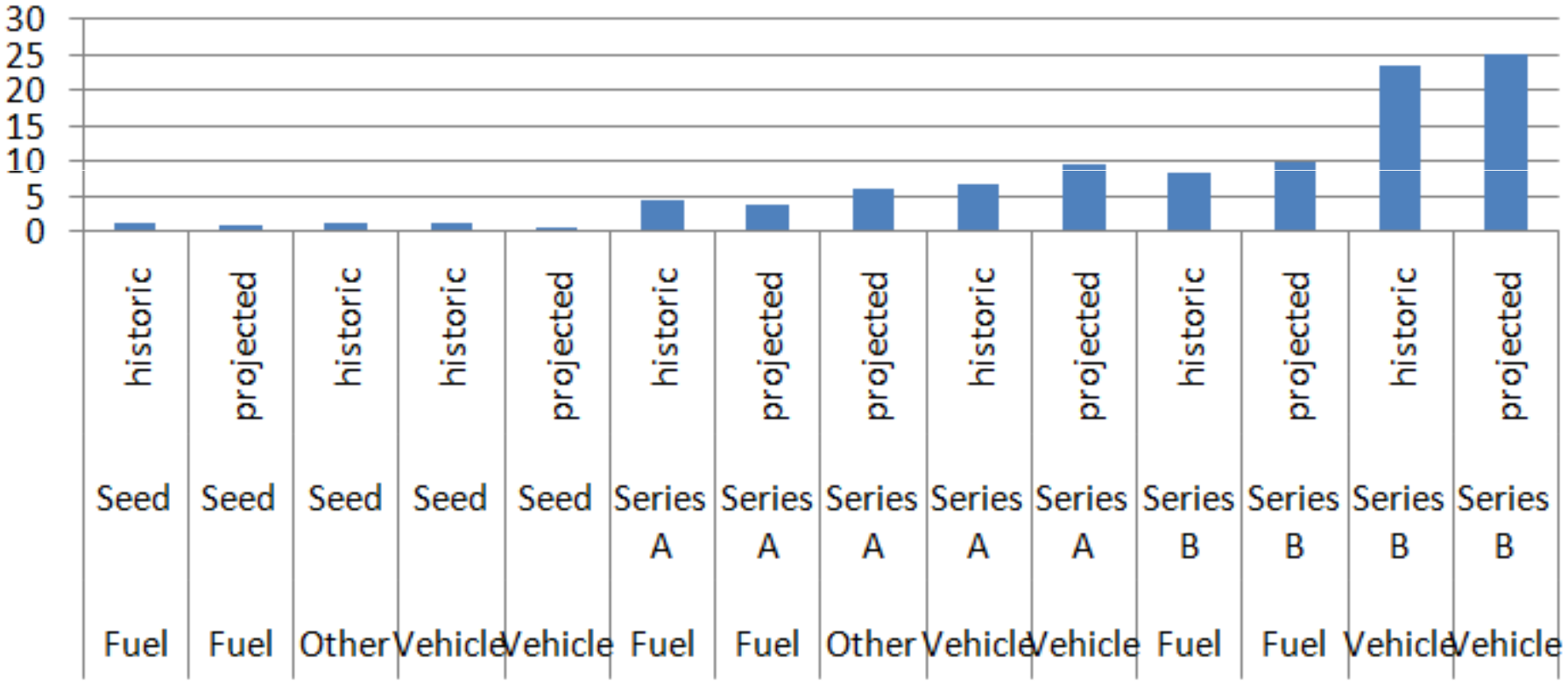
Good data quality



OAC Characteristics- Diversity

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- Human resources
- Inter- OACs- scientific disciplines
- Intra-OACs-
  - –scientific disciplines
  - –place on manufacturing chain
- Business model and target market

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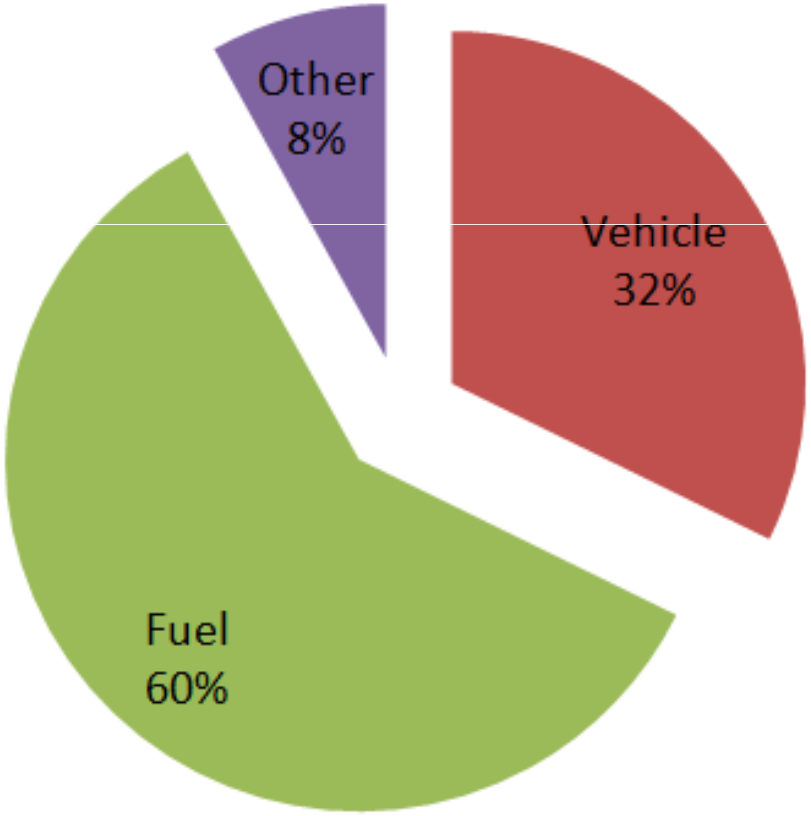
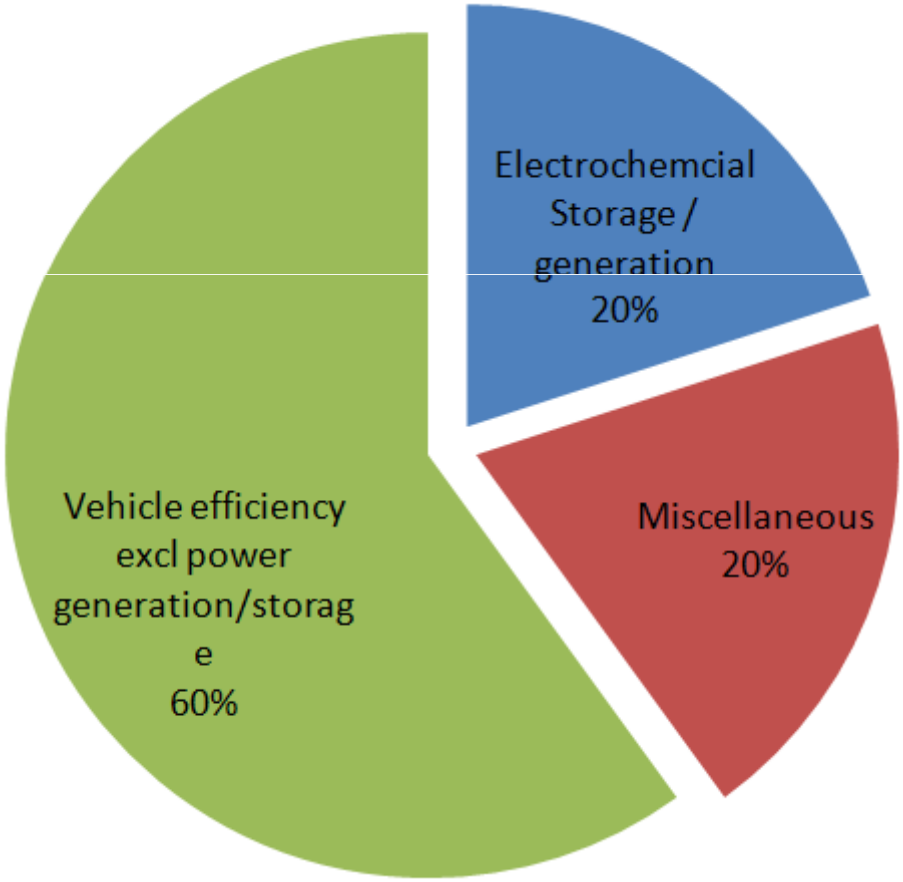
Technology Application



Technical Barriers of non-fuel OACs



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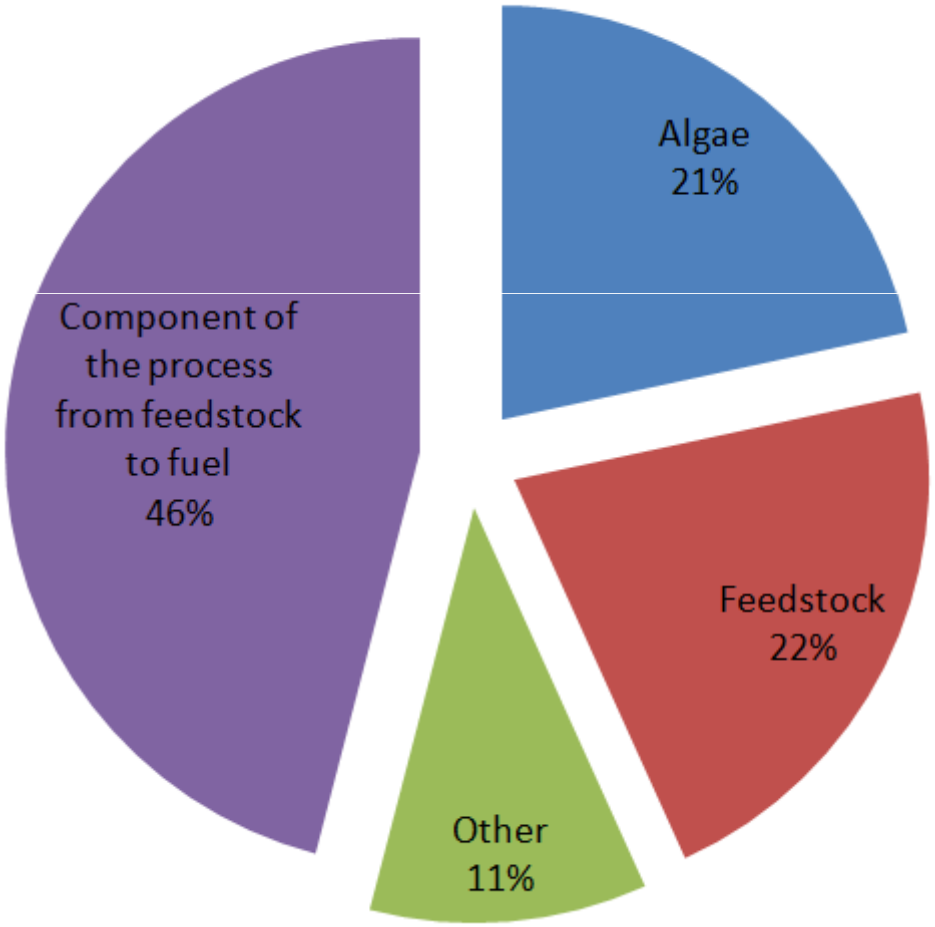
Fuel OACs



Totals

- ~60% disclosed their next funding round.
- **They require a total of $271 mm for the next funding round alone. This is an average of $7.7mm per company.** 33% indicated that the next rounding round is their last.

- ~50% OACs indicated that they require at least 2 more rounds of funding .
  - A 50% subset indicated how much they would need. The average amount for the life of their company is **$15.9mm.**

- ~30% OACS undisclosed /unknown at present how much funding required for life of company. *Typical reasons- unrealistic to project/depends on business model/ private information/ unknown*

Other points- discussion

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- Management
- Engineering need
- Business models vary
- Market vary
- Local VCs follow OCS money- relevance of incubators

Thank You!

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