

# Webinar "Investing in Sustainable and Resilient Infrastructure"

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RAFFAELE DELLA CROCE, OECD AND LTI@UNITO -

FONDAZIONE COLLEGIO CARLO ALBERTO

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Raffaele.Dellacroce@oecd.Org

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# 2019 Annual Survey of LPFs and PPRFs - Background

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The OECD collects data on pension fund and insurance investments at the national level

- Reports detailing pension fund and insurance asset allocation can be found at [Global Pension Statistics Website](#)
- Data is high-level and does not provide insight into micro-level trends

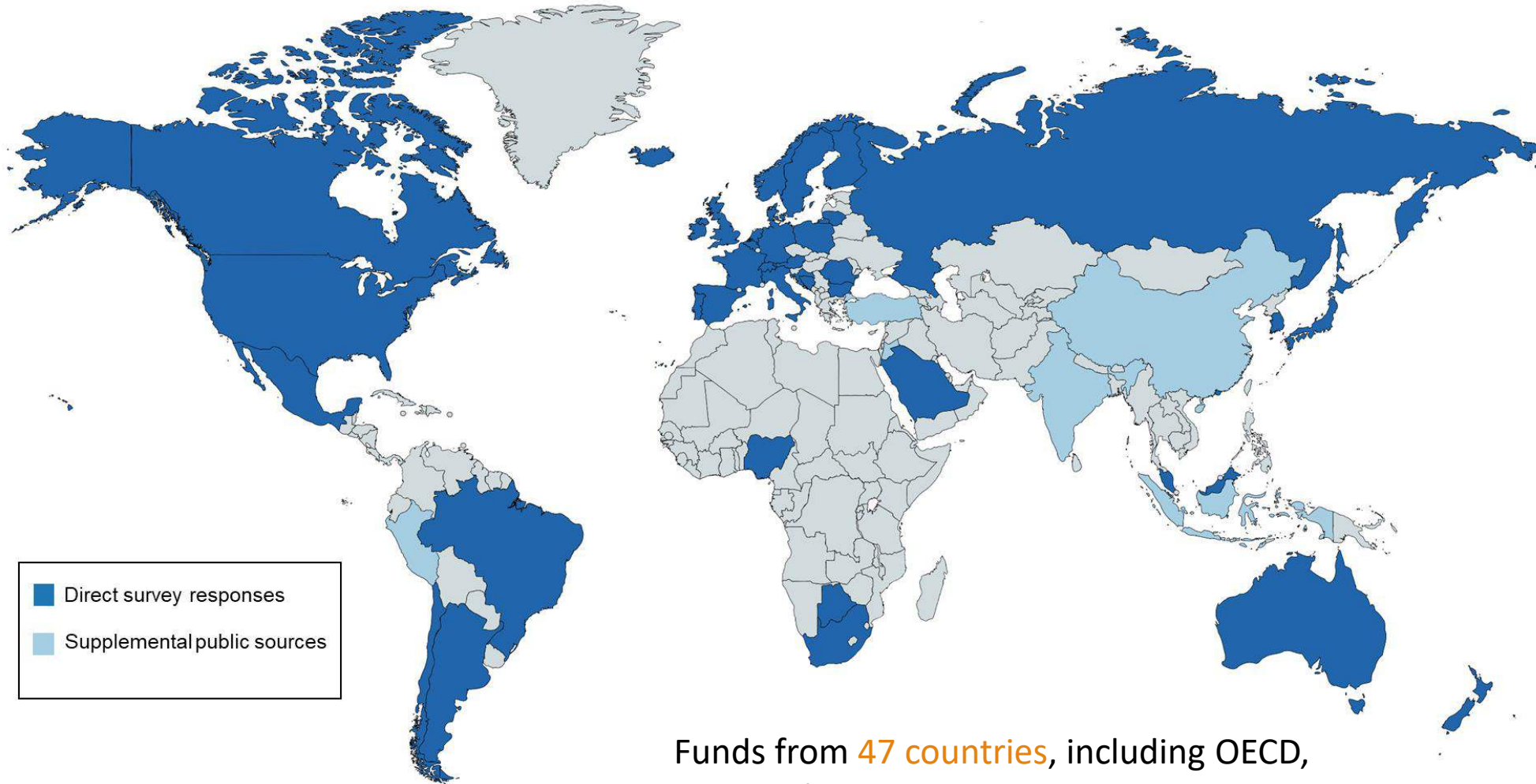
In 2011, the OECD launched for the first time its survey of large pension funds (LPFs) and public pension reserve funds (PPRFs)

- Specifically to track trends in investment amongst the worlds largest institutional investors
  - Part of the G20/OECD Task Force on Long-term Investment Financing by Institutional Investors ([LTI Website](#))
  - Valuable inputs into OECD research for committees and for G20 and APEC related work streams

2019 marks the seventh consecutive year of data history

- 76 LPFs returned a questionnaire, plus 17 LPFs from public sources, covering USD 4.9 trillion in assets under management
- 23 PPRFs returned a questionnaire, plus 9 from public sources covering USD 7.5 trillion in assets under management

# Global coverage – USD 12.4 trillion



Funds from **47 countries**, including OECD, G20, and APEC

# INTRODUCTION

# The need for Sustainable and Resilient Infrastructure

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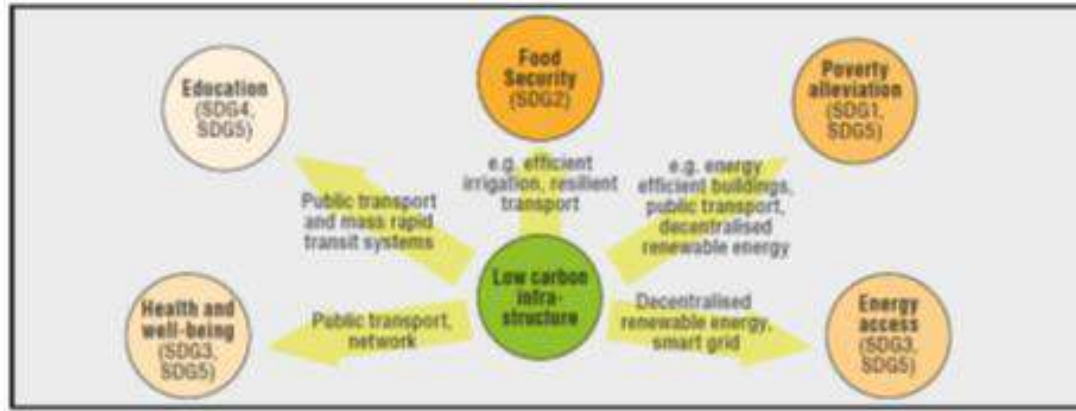
Role of infrastructure in delivering the SDGs and a low carbon economy supporting the recovery in a post COVID era.

Quality / sustainable infrastructure agenda, globally (G20, OECD (Reference Notes, Compendium), IDB, GIB, IIDD), regionally (e.g. EU), and nationally, which highlight ESG &R – why these factors are important for infrastructure, as a long-lived asset with considerable externalities.

Private sector involvement and investment in infrastructure will be necessary for the scaling up of investment; role of private investors (see e.g. expected role in [EU Green New Deal, Paris Agreement](#)), including institutional investors.

Institutional investors are increasingly identifying opportunities and risks in infrastructure projects using an ESG lens; ESG indicators and methodologies are being developed within the infrastructure sector also for investors.

# The Nature of Infrastructure

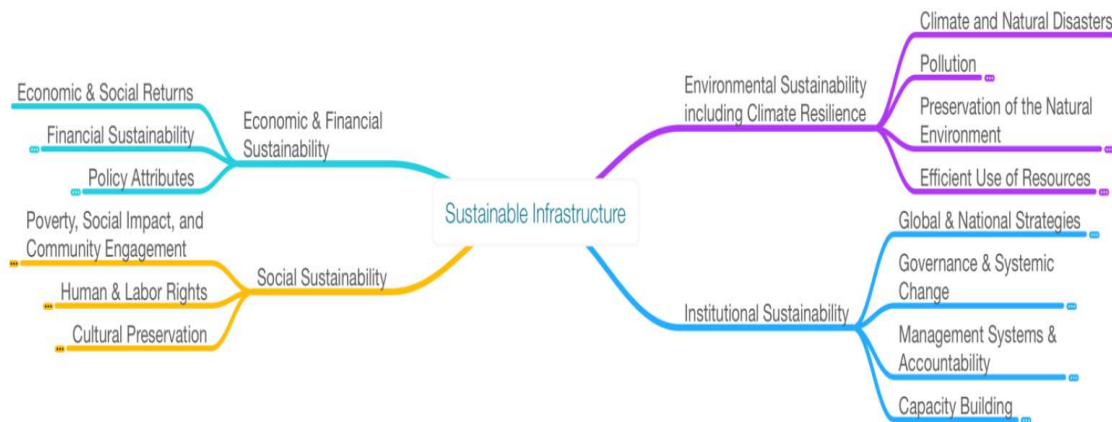


Sustainability and resilience concepts for infrastructure are no new concepts in engineering and developers community while they have become very topical and popular among investors only in recent years.

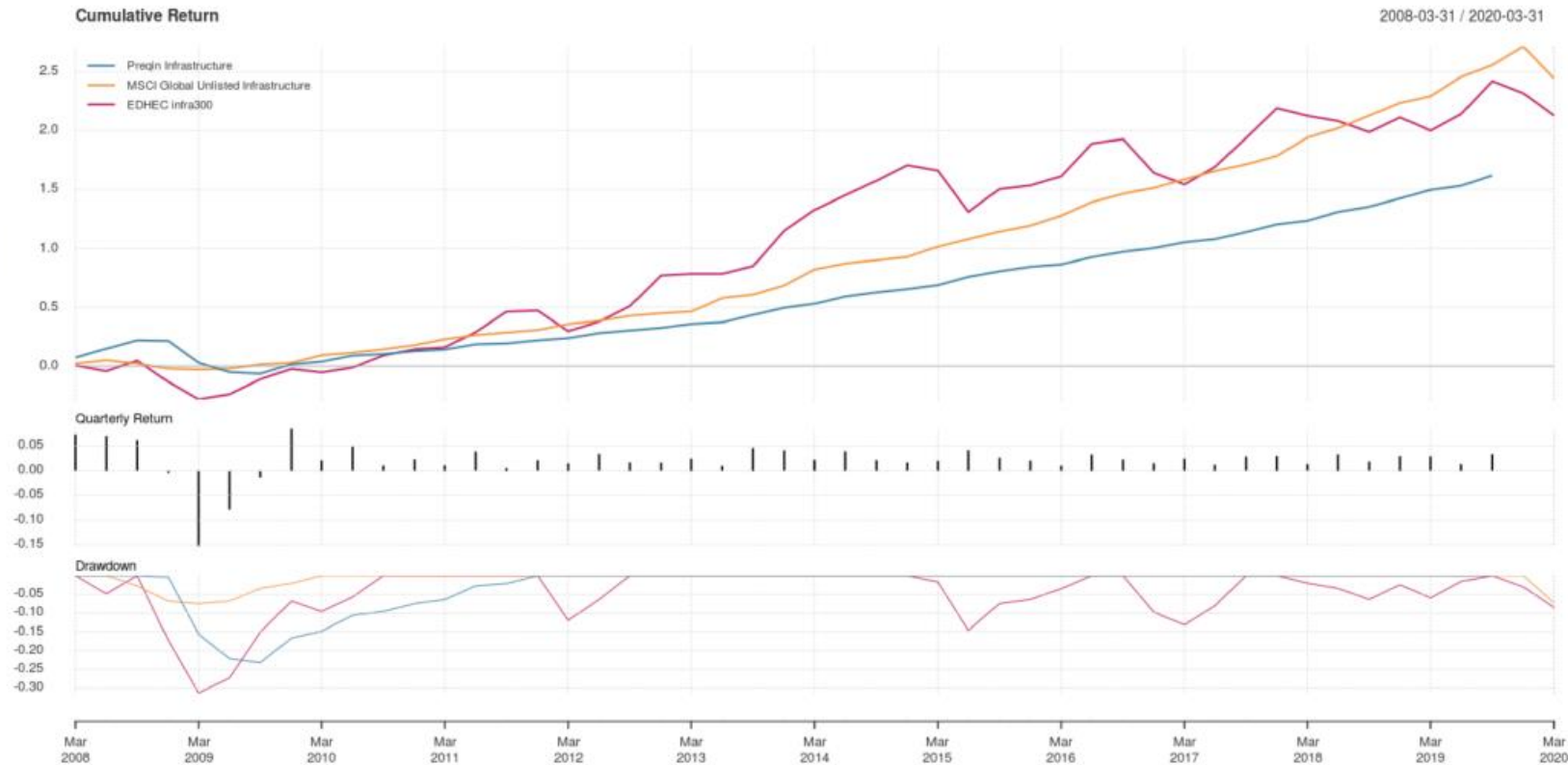
The nature of infrastructure assets and the business of infrastructure companies is to provide a service to the society.

Sustainability and resilience for infrastructure are analytical and management approaches aiming at optimizing the civil infrastructure system.

Private infrastructure investment is becoming rapidly a global asset class.



# Infrastructure as An asset Class

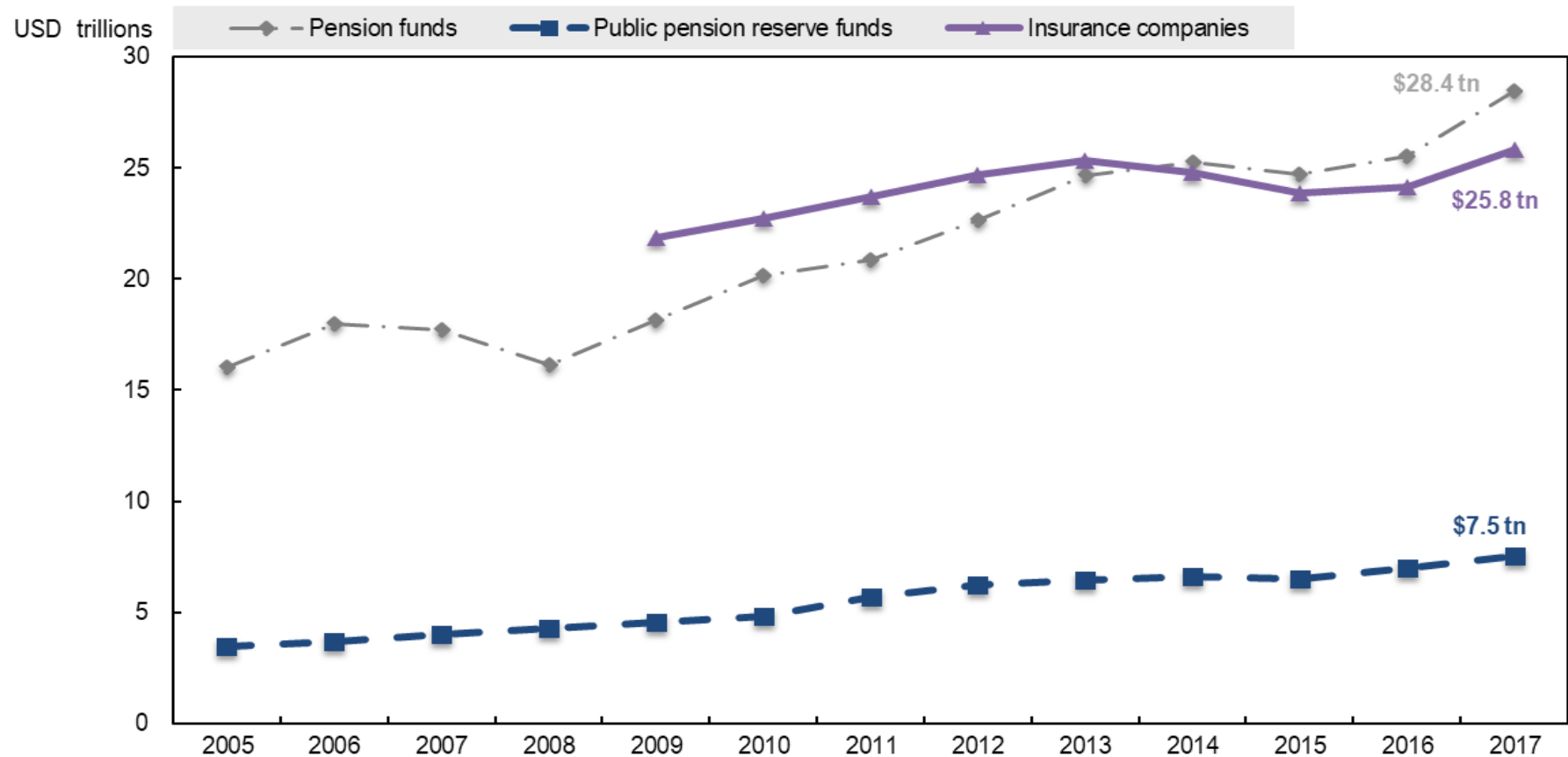


Appraisal-based indices (Preqin, MSCI) of unlisted infrastructure equity and the infra300 index – SOURCE EDHEC June 2020



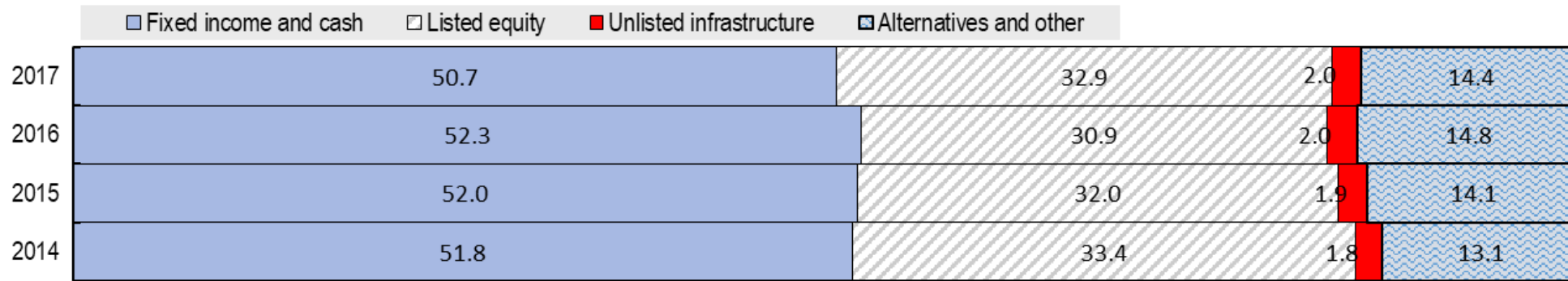
# DRIVERS OF GROWTH

# Assets in pension funds, insurance companies, and public pension reserve funds

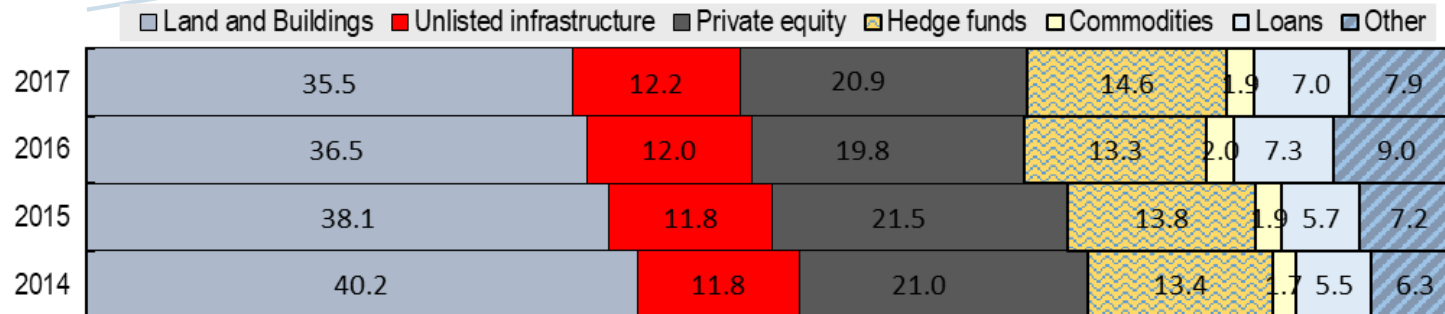


Source: Calculations based on OECD Global Pension Statistics, OECD Global Insurance Statistics, and OECD estimates

# Historical asset allocation and trends in alternatives

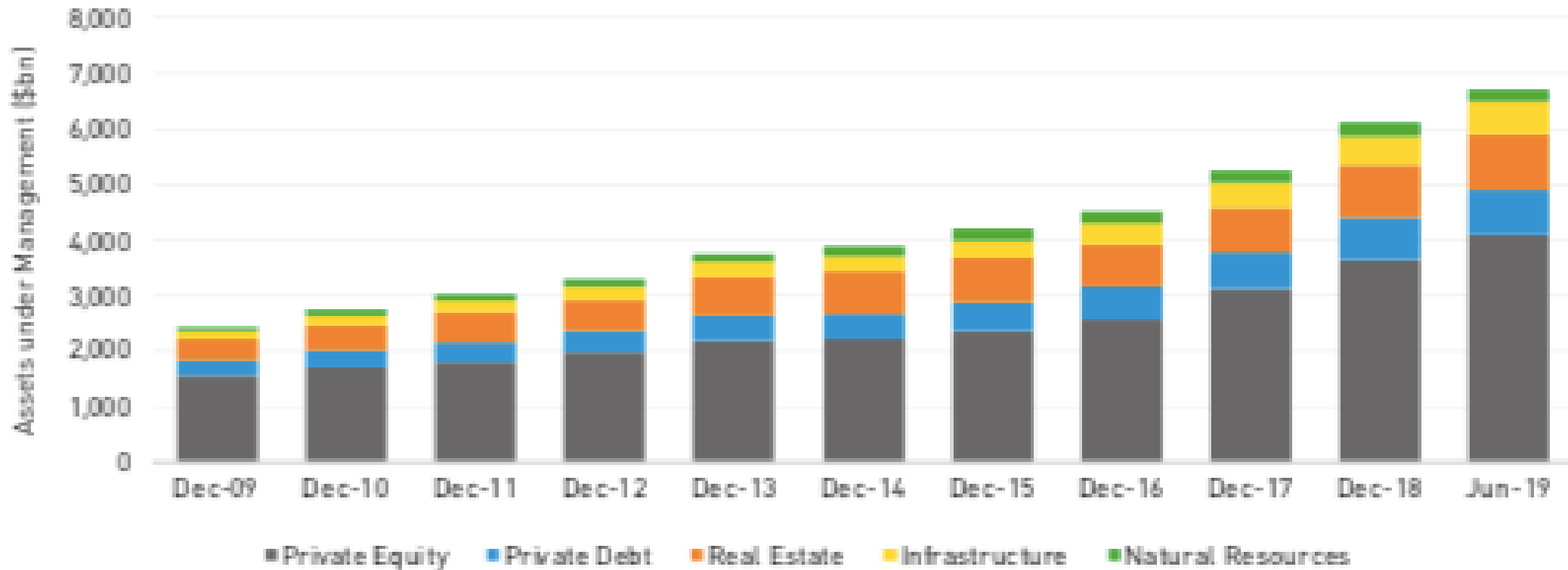


Alternatives, as a percent of total alternatives



Large pension funds:  
increasing trend in  
unlisted infrastructure  
equity investment

# Private Capital Assets under Management by Asset Class, 2009 - 2019



Source: Preqin - 2020 Preqin Global Infrastructure Report

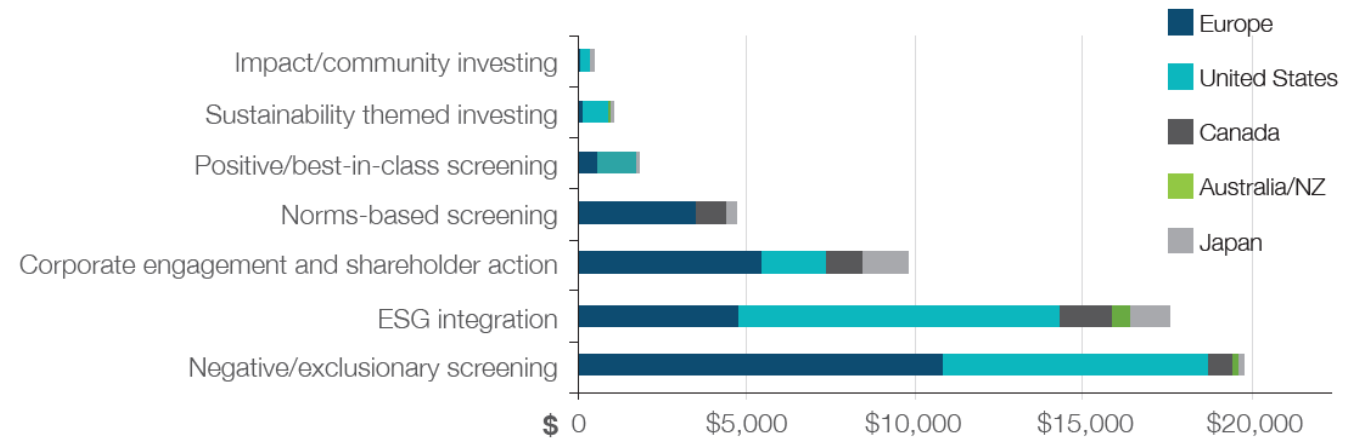
# Global growth of sustainable investing

## SUSTAINABLE INVESTING ASSETS GROWTH 2014 -2018

	2014	2016	2018	Growth Per Period		Compound Annual Growth Rate (CAGR) 2014-2018
				Growth 2014-2016	Growth 2016-2018	
Europe	€ 9,885	€ 11,045	€ 12,306	12%	11%	6%
United States	\$ 6,572	\$ 8,723	\$ 11,995	33%	38%	16%
Canada (in CAD)	\$ 1,011	\$ 1,505	\$ 2,132	49%	42%	21%
Australia/New Zealand (in AUD)	\$ 203	\$ 707	\$ 1,033	248%	46%	50%
Japan	¥ 840	¥57,056	¥231,952	6692%	307%	308%

Note: Asset values are expressed in billions. All 2018 assets in this report are as of 12/31/17, except for Japan, whose assets are as of 3/31/18.

## SUSTAINABLE INVESTING ASSETS BY STRATEGY AND REGION 2018

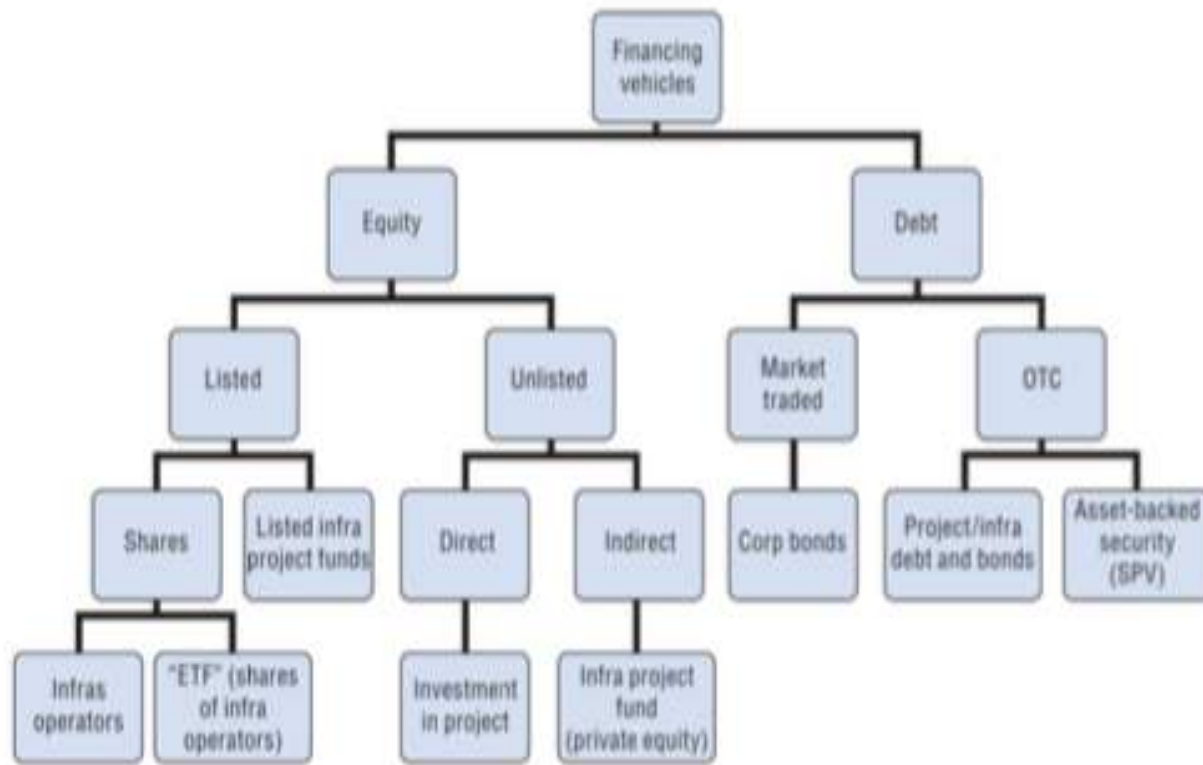


Note: Asset values are expressed in billions of US dollars.

Source: GSIA 2018

# INVESTING IN SUSTAINABLE INFRASTRUCTURE

# Channels and instruments for private investment in infrastructure: Asset Managers as Gate Keepers



Source: Della Croce and Gatti (2014)

Sustainability approaches and investment strategies adopted by investors will vary depending on how the infrastructure investment is accessed.

In private markets, for funds not capable of investing directly, hiring external consultants and asset managers to manage infrastructure investment is the preferred route to access this asset class.

New fund structures try to align asset owner's long-term horizon with asset managers, to achieve specific ESG goals.

In some cases, institutional investors are evolving their investment frameworks to align their investment activities with broader environmental or development objectives

# Investor's evidence: Green Investments

The range of active strategies focused on sustainability as an investment outcome, includes impact investing funds aimed at solving social or environmental problems and funds focused on the global energy transition.

The results reveal a variety of definitions of green investments, depending on investor standards and approaches to their investment process and portfolio allocations

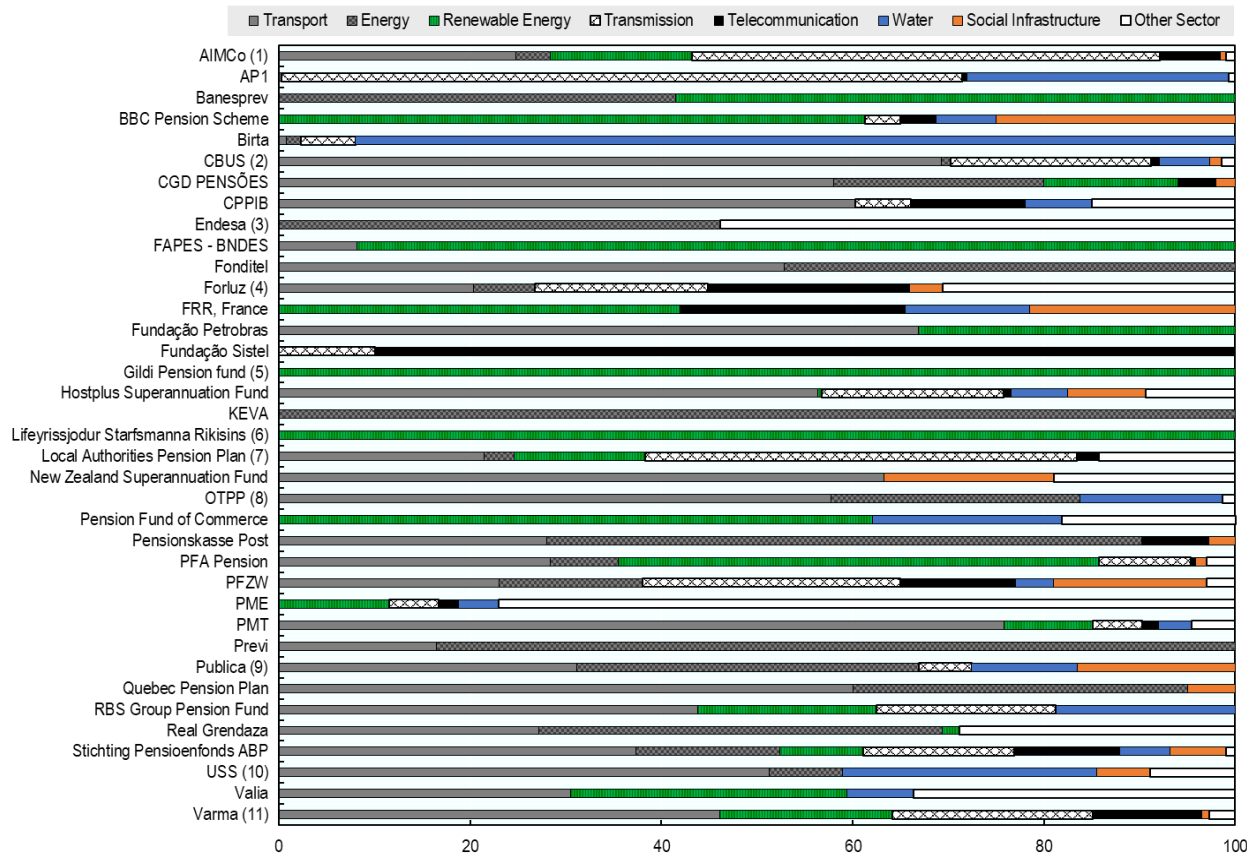
Impact investing is a small but rapidly growing segment of the broader sustainable and responsible investing.

Country head office	Name of the fund or institution	Total investments in 2017 (in USD m.)	Green investments (as a % of total investments)				
			Green equity	Green bonds	Alternative green asset classes (1)	Other green investments	Total Green Investments
Australia	UniSuper Management Pty Ltd	48,694	4.2	0.3	0.7	..	5.2
Australia	Hostplus Superannuation Fund	22,640	..	..	..	1.5	1.5
Austria	VBV Pensionskasse AG	7,879	14.5	..	..	0.2	14.6
Belgium	EuroControl	1,888	4.3	4.7	..	..	9.0
Brazil	Banesprev	4,993	0.2	..	..	..	0.2
Brazil	Fundação Petrobras	21,681	..	..	..	0.3	0.3
Brazil	Previ	56,687	..	..	0.0	..	0.0
Brazil	Valia	6,701	3.7	..	0.2	..	4.0
Canada	AIMCo	82,613	0.4	0.0	..	..	0.5
Canada	Local Authorities Pension Plan	34,019	0.5	..	..	..	0.5
Canada	OTPP	147,750	..	..	0.9	..	0.9
Denmark	PFA Pension	76,949	0.5	..	1.1	..	1.6
Finland	Varma Mutual Pension Insuran	54,347	17.0	0.7	..	..	17.7
France	Pension Reserve Fund	43,724	18.1	0.6	0.2	..	18.9
Germany	BASF Pensionskasse	11,408	2.6	..	..	..	2.6
Iceland	Gildi Pension Fund	4,923	..	0.9	0.4	..	1.3
Iceland	Lifeyrissjodur Starfsmanna Riki	7,869	0.2	1.8	..	..	1.9
Japan	PFA Pension	109,053	..	0.1	..	..	0.1
Netherlands	PFZW	236,479	3.5	0.9	2.1	..	6.5
Netherlands	PME	55,887	36.2	0.4	0.9	..	37.5
Netherlands	PMT	83,377	33.0	0.3	0.2	..	33.6
Netherlands	Stichting Pensioenfonds ABP	545,464	1.1	1.0	1.2	4.4	7.7
New Zealand	New Zealand Superannuation F	26,837	..	..	..	6.2	6.2
Nigeria	RSA Fund	6,850	..	0.1	..	..	0.1
Norway	Government Pension Fund - Gl	1,068,774	0.8	0.1	..	..	0.9
Romania	Azt Viitorul Tau	2,216	..	..	..	0.2	0.2
South Africa	GEPP	152,812	..	0.3	..	..	0.3
Spain	Endesa	2,092	..	0.6	..	..	0.6
Spain	Fonditel	3,931	1.5	1.3	0.1	..	2.9
Spain	Santander	313	..	1.2	..	..	1.2
Sweden	Alecta	101,095	43.5	2.1	..	21.5	67.1
Sweden	AP1	40,511	..	0.5	..	..	0.5
Sweden	AP2	42,000	1.6	1.5	5.8	3.4	12.5
Sweden	AP3	42,055	..	3.9	0.1	0.0	4.0
Sweden	AP4	43,453	13.4	1.3	..	..	14.7
Sweden	AP7	51,061	..	0.1	0.2	..	0.4
United Kingdom	USS	87,060	..	..	0.1	..	0.1

Source: OECD Annual Survey of LPF and PPRF



# Investor's evidence: Pension funds as significant investors in the energy transition



**OECD data provides evidence that pension funds are significant investors in renewable energy and that they have actively been financing the energy transition.**

**Transportation and energy are the largest allocations amongst funds surveyed, indicating investor preference and availability of opportunities.**

**Renewable energy and social infrastructure are relatively new sectors in the portfolio of certain investors although increasing.**

**There are challenges particular to 'green infrastructure'**

# ESG INDICATORS FOR INFRASTRUCTURE

# Focus on Implementation: several initiatives to measures ESG in infrastructure, facing several issues

Standard	Type of Framework	Asset type
Equator Principles	Risk management framework	Infrastructure
UNEPFI – Property Investment	Investment framework	Real Estate
IFC Performance Standards on Environmental and Social Sustainability	Investment framework	Infrastructure
UN-supported Principles for Responsible Investing (PRI)	Investment framework	Infrastructure
Sustainability Accounting Standards Board (SASB)	Accounting standard	Listed equity
International Integrated Reporting Framework	Reporting framework	Listed equity
Global Reporting Initiative (GRI)	Reporting framework	Corporations

Tool
SuRe Standard for Sustainable and Resilient Infrastructure
Envision
CEEQUAL
GRESB Infrastructure Assessment
Rep Risk
ISCA
SAVi
TREDIS
AUTOCASE
Zofnass Economic Process Tool

# Focus on Implementation: several initiatives to measures ESG in infrastructure, facing several issues

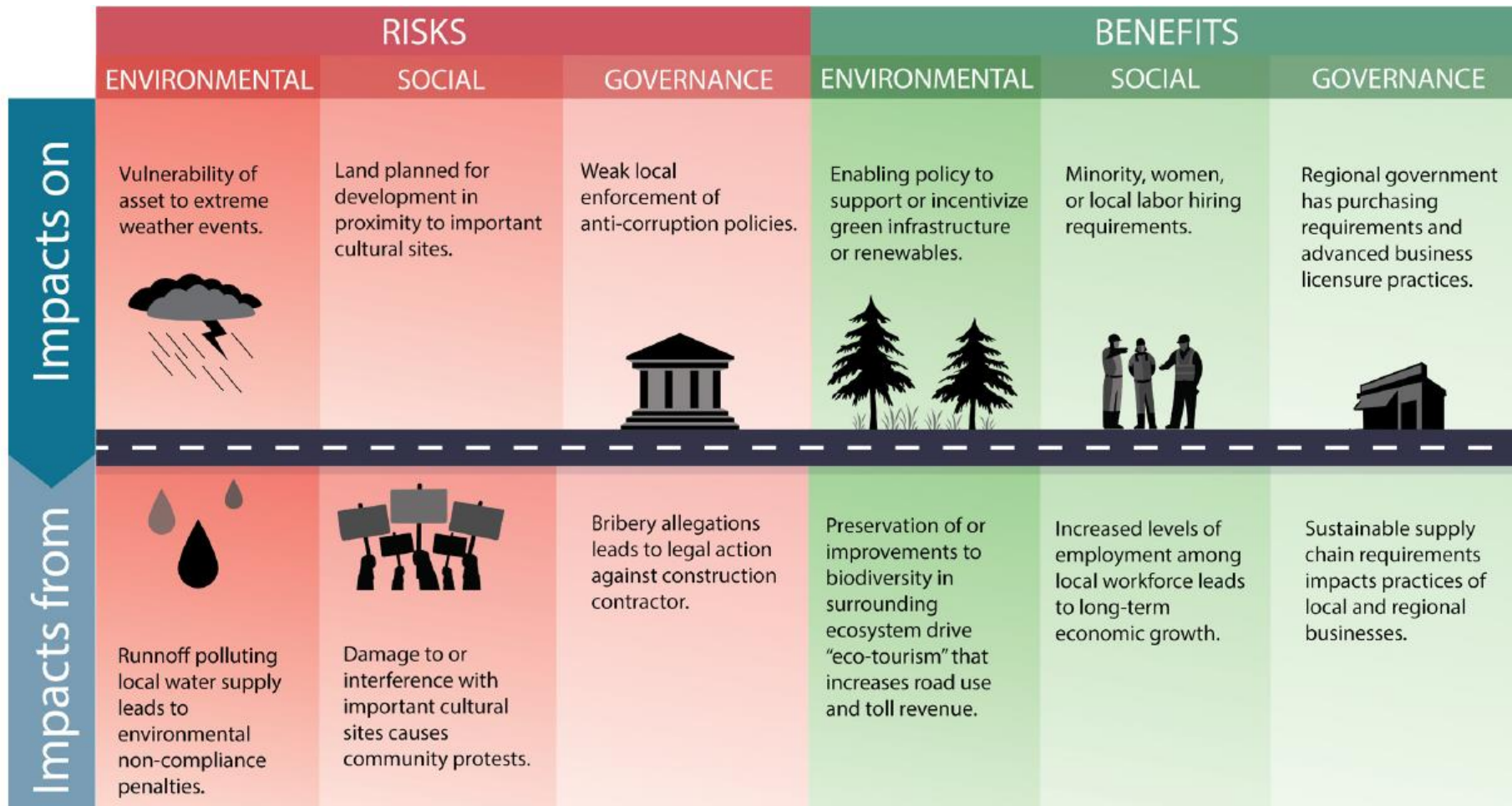
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**Several international standards and tools have been developed in order to integrate sustainability and resilience aspects into infrastructure development and support ESG infrastructure asset analysis**

**The diversity of the infrastructure landscape, is a major barrier. Analyses for understanding ESG-related risks and benefits vary among actors and at different phases in the infrastructure process.**

**Despite the number of initiatives, there seems to be several issues on measurement of ESG impact on infrastructure.**

# Focus on Implementation: several initiatives to measures ESG in infrastructure, facing several issues



ESG criteria with impacts on the asset include: the policy or regulatory context, social climate, or vulnerability to extreme weather events

ESG criteria related to impacts from the asset include on biodiversity, health, or macroeconomic indicators such as employment that can impact long term cash flows of the infrastructure asset.

SOURCE WWF 2019

# CONCLUSIONS

# Infrastructure as a Service, Finance with a Purpose : A Sustainable and Resilient Infrastructure Asset Class

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Bringing the Research Agenda forward, the need for evidence and the role of academia and private sector

Government actions in considering ESG in project development, given own objectives but also in light of investor preferences re ESG - potentially widened set of investors.

Leveraging current data collection initiatives: the G20 Infrastructure Data Initiative (the IDI), the European Commission Taxonomy March 2020, G20 GFSG/UNEP initiatives, the Network for Greening the Financial System (NGFS), GIB GRESB and EDHEC etc..

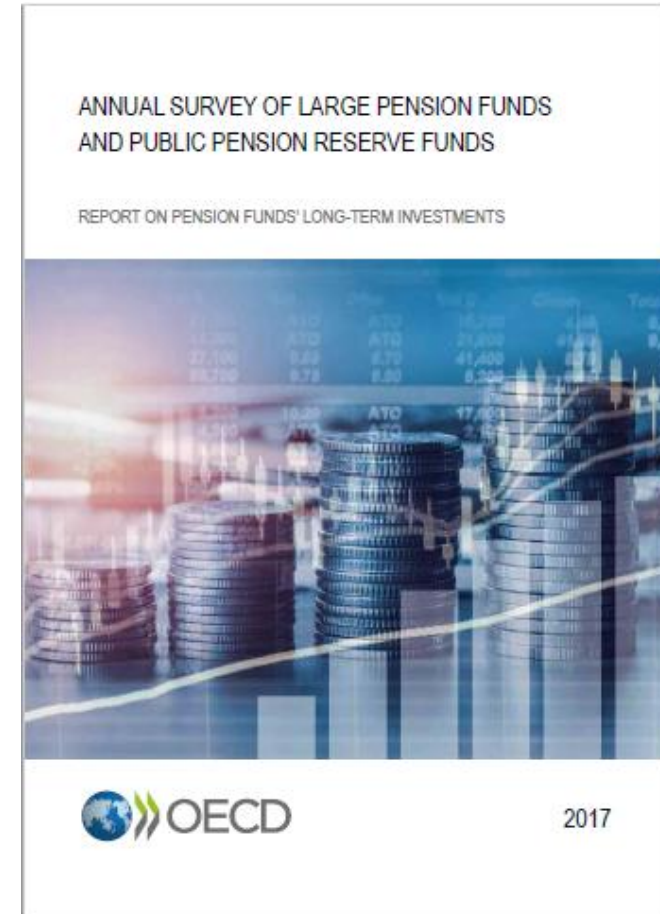
# ANNEX - SUPPORTING MATERIAL



# Download the report

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<https://www.oecd.org/finance/private-pensions/survey-large-pension-funds.htm>



# Major data points covered in the survey

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For pension funds, questions on membership, contributions/benefits paid and funded status

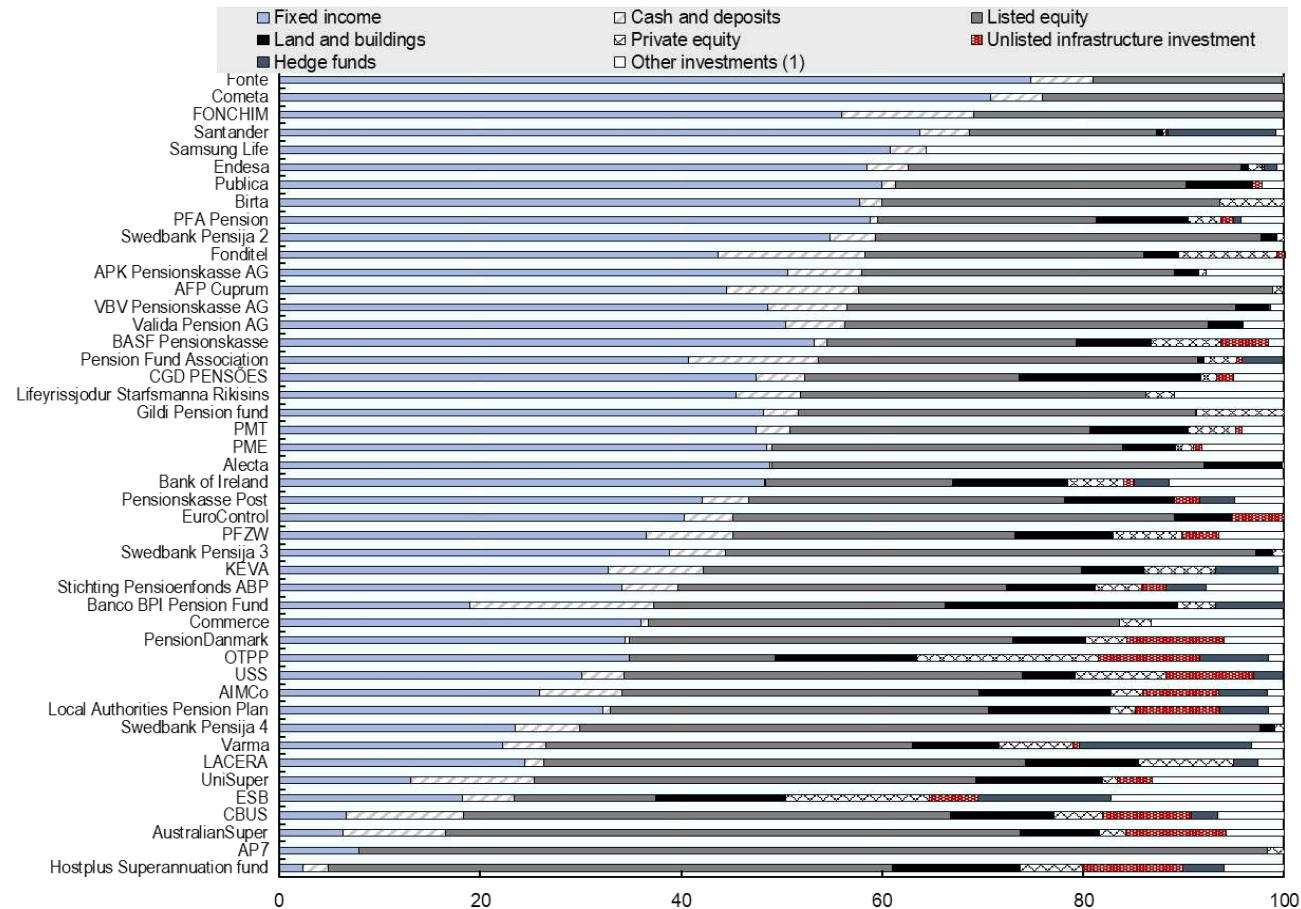
Net- and gross-of-fee returns for LPFs and PPRFs

Quantitative questions on:

- Target asset allocation
- Asset allocation
  - purpose is to create a template of data for comparison across funds, given the large variation in self-reporting practices
  - Includes sub-asset classes in fixed income
- Foreign allocations (by asset class and region)
- Detailed questions on infrastructure investment
  - By instrument, vehicle, sector, and stage of development
  - A major focus of the survey providing valuable data for policymakers
- Detailed questions on sustainable investments (including qualitative)

Data is supplemented with publicly available sources and national data gathered by the OECD

# Asset allocation, select LPFs in OECD countries



Source: OECD Annual Survey of LPF and PPRF

# Detailed portfolio level data on infrastructure investment

Country head office	Name of fund	Infrastructure allocation	Where does it fit in the portfolio allocation	Invest in greenfield projects	Actual allocation to unlisted infrastructure (2017) (% of total assets)	Most recent reported target asset allocation
<b>LPFs</b>						
Australia	AustralianSuper	Separate	Infrastructure	No	9.9	11.0
Australia	CBUS	Separate	Infrastructure	Considering	8.9	..
Australia	Hostplus Superannuation fund	Separate	Infrastructure	Yes	10.0	..
Australia	Unisuper	Non-separate	..	Yes	3.5	..
Brazil	Banesprev	Separate	..	No	0.3	..
Brazil	FAPES - BNDES	Non-separate	Private equity, equity	No	0.8	..
Brazil	FORLUZ	Non-separate	Private equity, equity	No	1.6	..
Brazil	Fundação Petrobras de Seguridade Social	Non-separate	Equity	No	3.0	..
Brazil	Fundação Sistel de Seguridade Social	Non-separate	..	No	0.3	..
Brazil	Previ	Non-separate	Equity	Yes	5.1	..
Brazil	Real Grandeza - Fundação de Providência e Assistência	Non-separate	Private equity	No	1.3	..
Brazil	Valia - Fundação Vale do Rio Doce Seguridade Social	Non-separate	Private equity	Yes	0.3	..
Canada	Alberta Investment Management Company (AIMCo)	Separate	Infrastructure	..	7.6	8.4
Canada	Local Authorities Pension Plan	Separate	Infrastructure	..	8.4	15
Canada	OTPP	Non-separate	Real assets - Infrastructure	Yes	10.1	..
Denmark	PensionDanmark	Separate	Infrastructure	Yes	9.7	10.0
Denmark	PFA Pension	Non-separate	Private equity, equity, fixed income	No	1.2	..
Finland	Keva	Non-separate	Private equity	No	0.8	..
Finland	Varma Mutual Pension Insurance Company	Non-separate	..	No	0.6	..
Germany	BASF Pensionskasse	Separate	Alternative assets, infrastructure	Yes	4.7	6.0
Iceland	Gildi Pension fund	Non-separate	Private equity	..	0.4	..
Iceland	Lifeyrissjodur Starfsmanna Ríkisins	Non-separate	Equity	No	0.2	..
Iceland	Pension Fund of Commerce	Non-separate	..	No	0.8	..
Ireland	Bank of Ireland	Separate	Infrastructure	No	1.0	3.0
Ireland	ESB	Separate	Infrastructure	No	4.8	4.0
Japan	Pension Fund Association	Separate	Infrastructure	No	0.5	1.0
Netherlands	PFZW	Separate	Infrastructure	Yes	3.8	4.2
Netherlands	PMT	Separate	Real estate	No	0.7	1.0
Netherlands	Stichting Pensioenfonds ABP	Separate	Infrastructure	Yes	2.4	3.0
Netherlands	Stichting Pensioenfonds van de Metalektro (PME)	Separate	Infrastructure	Yes	0.8	..
Portugal	CGD Pensões	Non-separate	..	No	1.7	..
South Africa	GEPP	Non-separate	Private equity	Yes	1.2	..

Source: OECD Annual Survey of LPF and PPRF

# Infrastructure investment levels and interest are increasing, but this is uneven and overall levels are low

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Forty-nine funds reported a range of allocations to unlisted infrastructure equity: 10.1% on the high end, 0.1% on the low

- Higher allocations in Australia and Canada
- Moderate in some European countries, low or no allocations in others
- Emerging allocations in Eastern Europe
- Eight funds in Brazil reported investment ranging from 0.3% to 5.1%
- Low or no investment from funds based in Asia
- Average of 3.9%

When investment levels are compared to the entire survey population, investment levels are **just 1.2%** in unlisted infrastructure equity

Potential unmet demand: seventeen funds that reported a separate target allocation to infrastructure were below target levels

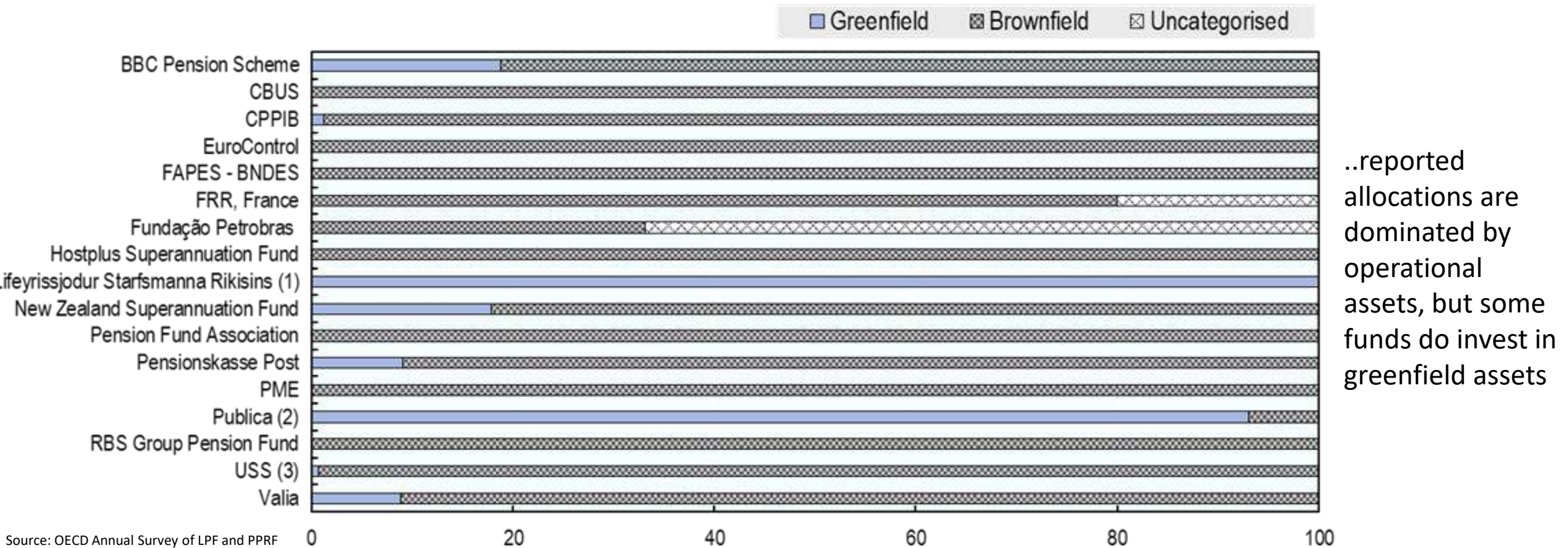
Investor interest: nineteen funds indicated that they plan to open new allocations in the future

Funds reported regulatory barriers, liquidity constraints, sponsor constraints, or high levels of risk preventing investment

Sustainability considerations are a major trend amongst investors in infrastructure

- Several funds reported alignment with SDGs

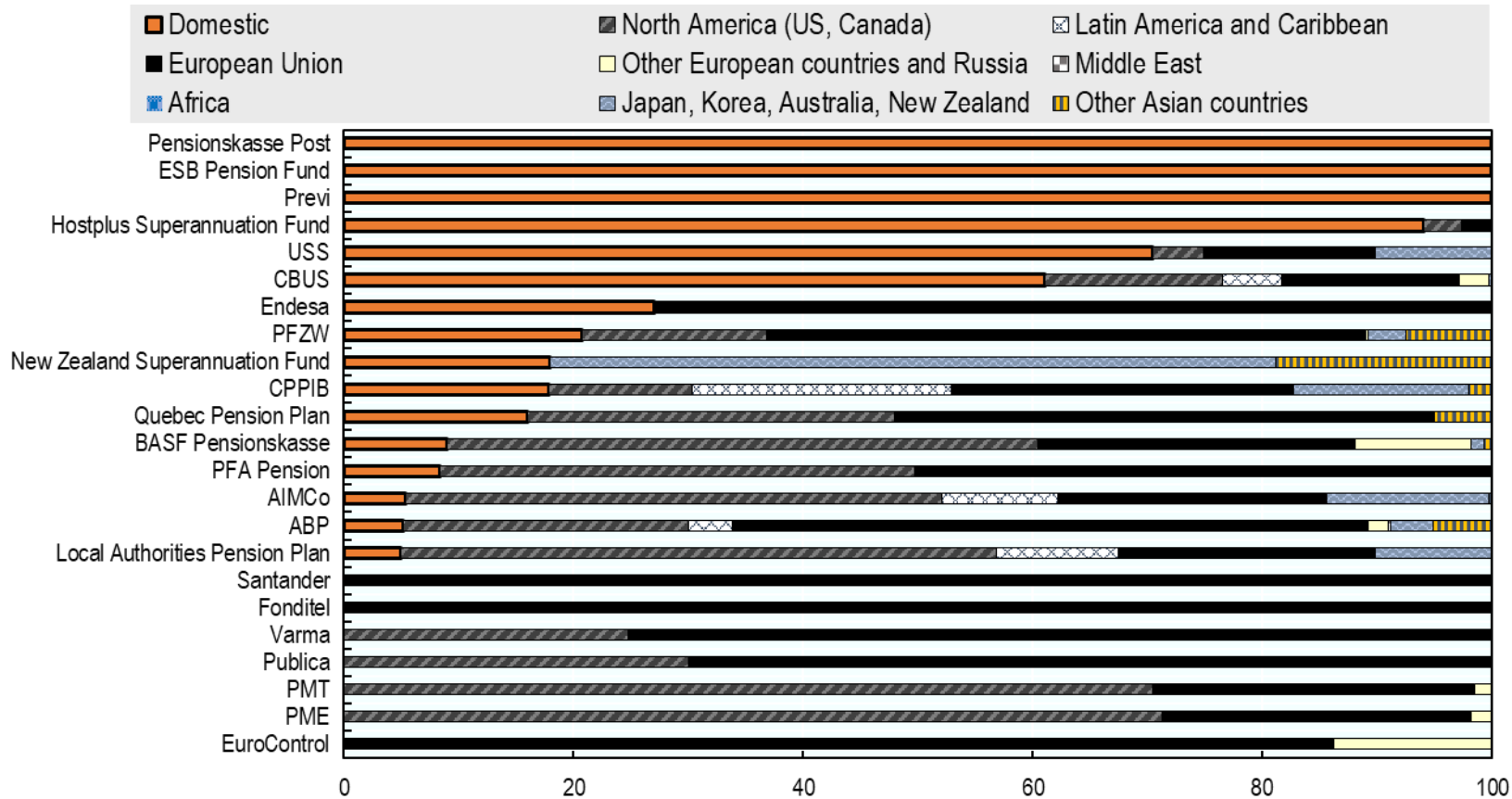
# Greenfield versus brownfield investment



..reported allocations are dominated by operational assets, but some funds do invest in greenfield assets

Source: OECD Annual Survey of LPF and PPRF

# Low investment levels in emerging markets



..some funds have a significant home-market bias. No investment reported in Africa, Middle East. Overall low levels in developing countries

# Return on investment has been a strong tailwind

Country head office	Name of fund or institution	Nominal						Real					
		2013	2014	2015	2016	2017	5-year annualised	2013	2014	2015	2016	2017	5-year annualised
Australia	AustralianSuper (1)	17.5	8.9	7.7	8.2	13.6	11.1	14.4	7.0	6.1	6.8	11.4	9.1
Australia	CBUS	..	8.5	7.5	9.6	12.1	..	..	6.6	5.8	8.2	10.0	..
Australia	Hostplus Superannuation fund	..	9.3	7.0	10.1	13.4	..	..	7.5	5.2	8.7	11.2	..
Australia	UniSuper Management Pty Ltd	..	15.0	12.1	7.7	8.3	..	..	13.0	10.2	6.4	6.2	..
Brazil	FAPES - BNDES	-3.0	7.7	7.7	18.0	14.0	8.7	-8.4	1.3	-1.2	8.5	10.2	1.9
Brazil	Previ	7.1	2.6	-2.6	15.2	14.7	7.2	1.1	-3.6	-12.0	5.9	10.9	0.2
Canada	OTPP	10.9	11.8	13.0	4.0	9.7	9.8	9.5	10.2	11.2	2.5	8.0	8.2
Chile	AFP Cuprum (3,4)	7.6	15.6	6.6	9.2	4.8	8.7	4.4	10.4	2.1	5.3	2.6	4.9
Croatia	PBZ CO	5.1	10.2	7.0	8.5	2.4	6.6	4.8	10.8	7.7	9.8	1.3	6.8
Croatia	Raiffeisen Mandatory Pension Funds	4.2	12.4	6.6	7.3	4.7	7.0	3.9	12.9	7.2	8.5	3.5	7.2
Denmark	PensionDanmark	..	4.9	4.3	7.1	8.6	..	..	4.5	3.9	6.8	7.4	..
Finland	KEVA	7.5	8.7	4.8	7.4	7.7	7.2	5.8	8.2	5.1	7.0	6.9	6.6
Finland	Varma Mutual Pension Insurance Company	..	7.1	4.2	4.7	7.8	..	..	6.6	4.4	4.3	7.0	..
France	ERAFP	6.5	12.8	4.0	4.9	..	..	5.8	12.7	3.8	4.7	..	..
Hong Kong, PRC	MPF (5)	..	1.5	-3.6	0.9	22.3	..	..	-3.3	-5.8	-0.3	20.2	..
Italy	Cometa	3.9	6.4	1.7	1.7	1.9	3.1	3.2	6.4	1.6	1.8	0.6	2.7
Italy	FONCHIM	6.7	6.5	3.0	3.2	3.2	4.5	6.0	6.5	2.9	3.3	2.0	4.1
Italy	Fonte	4.3	5.7	2.2	2.2	1.9	3.3	3.6	5.7	2.1	2.3	0.7	2.9
Japan	Pension Fund Association (4)	24.3	11.3	1.9	2.7	10.5	9.8	22.3	8.7	1.8	2.8	9.9	8.9
Malaysia	Employees' Provident Fund (6)	..	6.8	6.4	5.7	6.9	..	..	3.6	4.3	3.5	2.9	..
Netherlands	PFZW	3.7	15.5	-0.1	12.0	5.1	7.1	2.0	14.7	-0.8	11.6	3.7	6.1
Netherlands	PMT	1.1	20.6	2.3	11.0	4.1	7.6	-0.6	19.8	1.6	10.6	2.6	6.6
Netherlands	Stichting Pensioenfonds ABP	6.2	14.5	2.7	9.5	7.6	8.0	4.5	13.7	2.0	9.2	6.1	7.0
Nigeria	AES Fund	..	22.7	19.9	12.3	22.0	..	..	13.7	9.4	-3.0	4.7	..
Nigeria	CPFA Fund	18.5	4.4	13.0	23.4	29.5	17.4	9.8	-3.3	3.1	6.7	11.1	5.3
Portugal	Banco BPI Pension Fund	16.7	7.7	14.7	-1.2	13.0	10.0	16.5	8.1	14.2	-1.8	11.5	9.5
Romania	Azt Viitorul Tau (8)	10.3	6.1	2.4	3.2	4.0	5.2	8.6	5.3	3.4	4.8	2.6	4.9
Romania	Raiffeisen Acumulare	14.2	9.1	2.8	3.2	3.5	6.5	12.4	8.2	3.8	4.8	2.1	6.2
South Africa	GEPF (4)	16.0	12.2	4.7	5.6	14.4	10.5	10.1	6.5	-0.5	-0.9	8.7	4.7
South Africa	Sentinel Retirement Fund (10)	19.7	12.5	11.4	2.4	9.1	10.9	13.6	6.8	5.8	-3.9	3.7	5.0
Spain	Endesa	9.4	7.1	3.5	4.0	4.0	5.6	9.1	8.2	3.4	4.2	2.0	5.3
Spain	Fonditel (12)	4.2	5.8	2.7	1.8	4.8	3.8	3.9	7.0	2.6	2.0	2.8	3.6
Switzerland	Pensionskasse Post	..	6.8	0.2	3.2	6.1	..	..	7.1	1.5	3.6	5.5	..
United Kingdom	USS (5)	12.8	15.1	3.6	20.0	6.1	11.4	10.5	14.6	3.4	18.8	3.5	10.0
United States	LACERA	15.0	6.7	1.5	8.3	14.9	9.2	13.3	5.9	0.8	7.0	12.5	7.8