

GEF INVESTMENT IN ENERGY EFFICIENCY: EXPERIENCE IN ECA AND LOOKING FORWARD

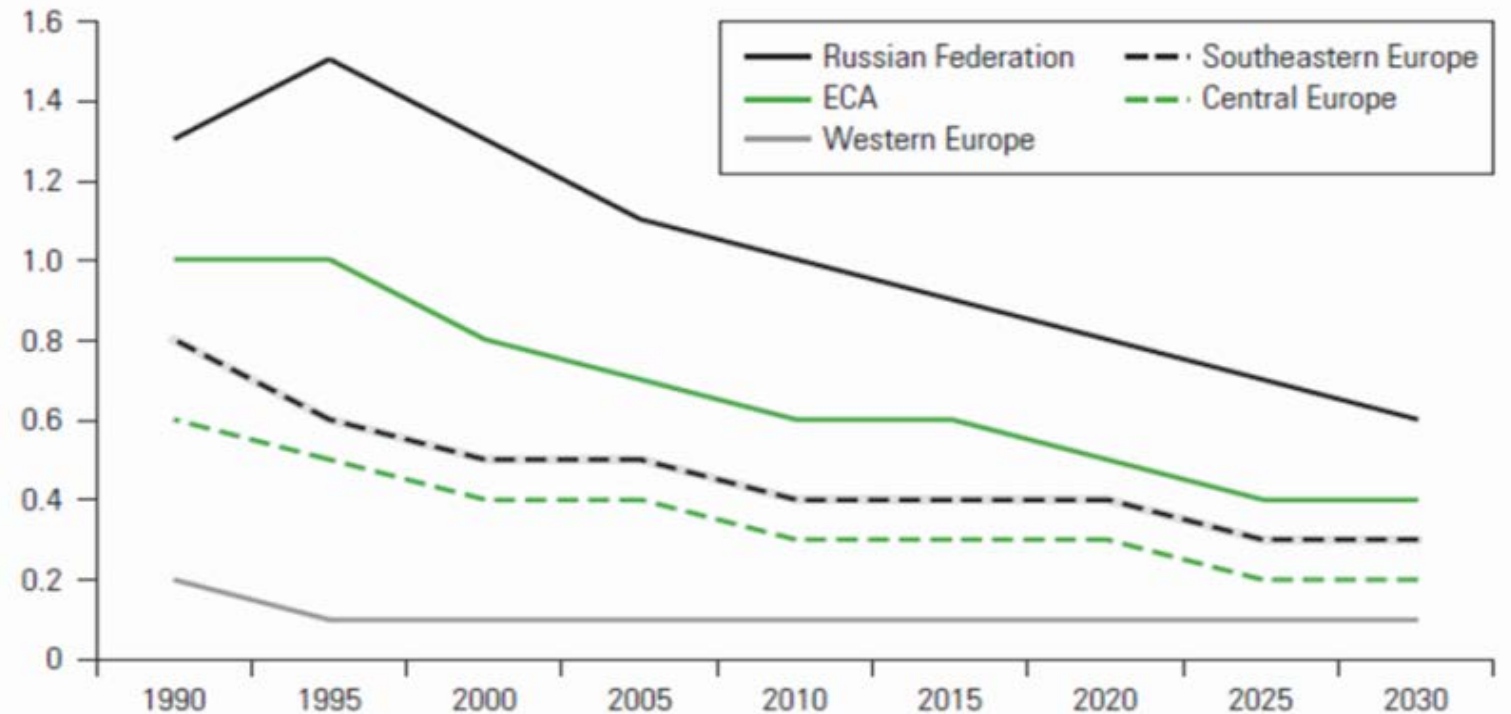
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Energy Inefficiency in ECA

- Energy intensity (energy consumption/\$1000) is very high
- Root drivers:
 - Subsidized energy production and use; (tariffs Kazakhstan \$0.02/kWh)
 - Inefficiency in buildings due to poor design & construction

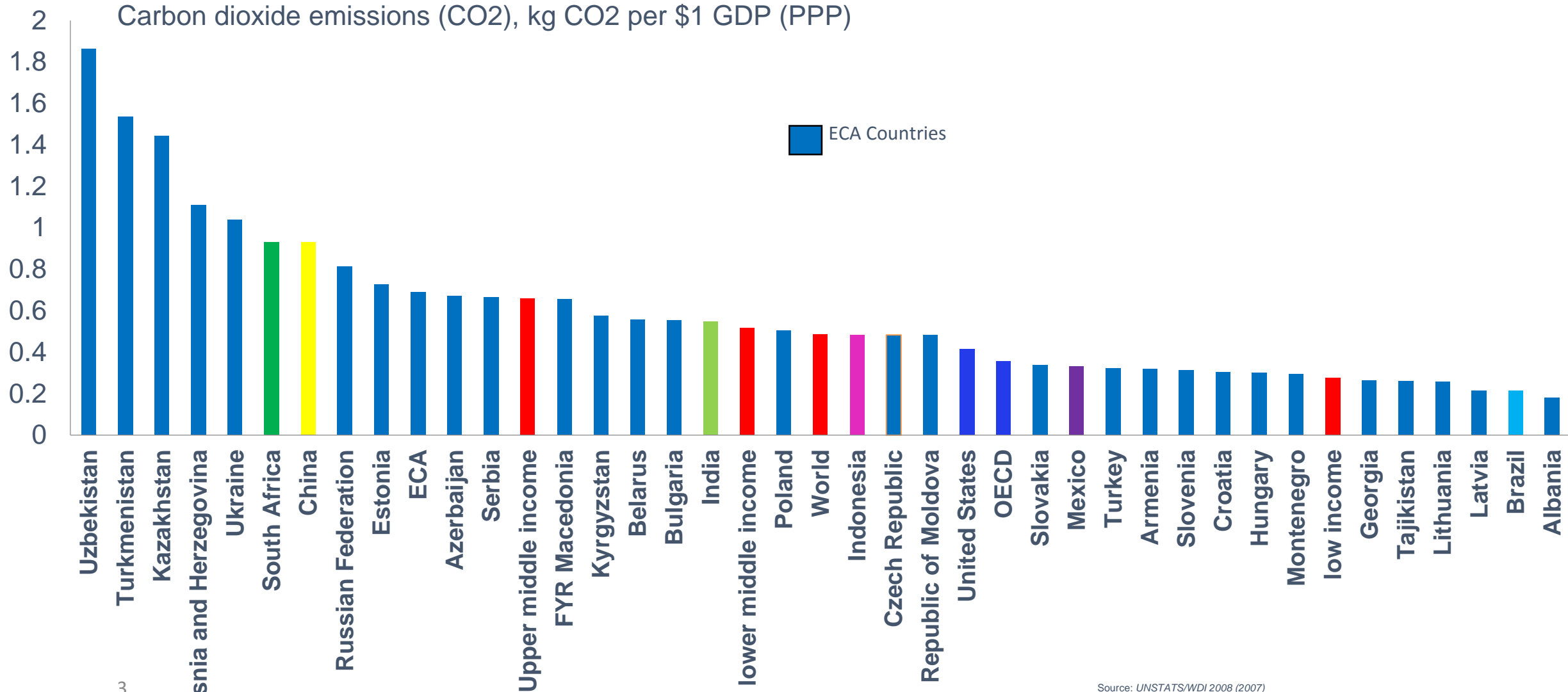
Actual and Projected Energy Intensity in the Russian Federation and Selected Groups of Countries in the Region, 1990–2030



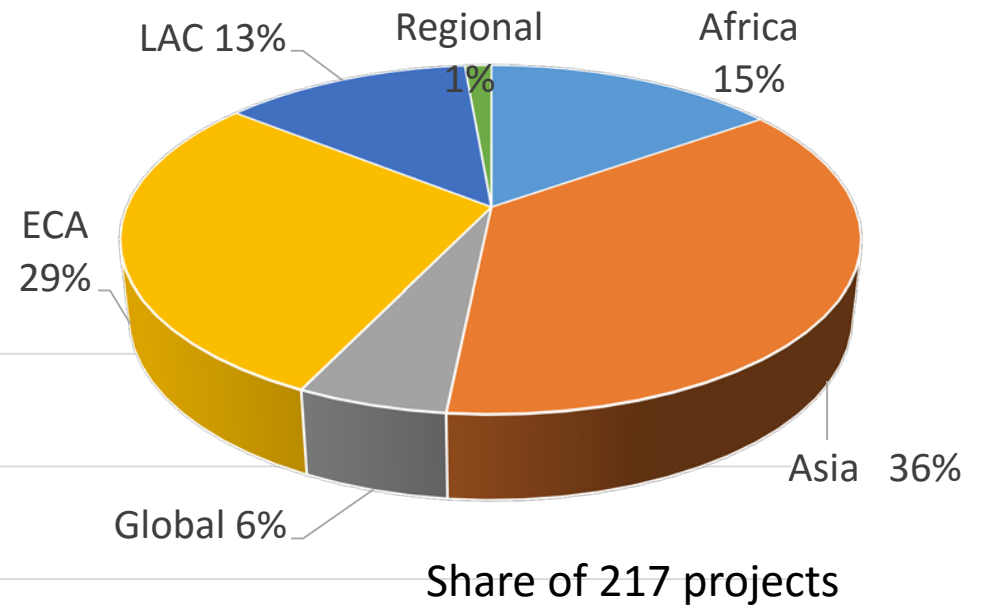
Source: Data for 1990–2005 are from IEA (2008a and 2008b) and World Bank 2007b; data for 2010–30 are World Bank staff projections.

Note: Index is the total primary energy supply (in Ktoe) divided by GDP (in millions of 2004 dollars).

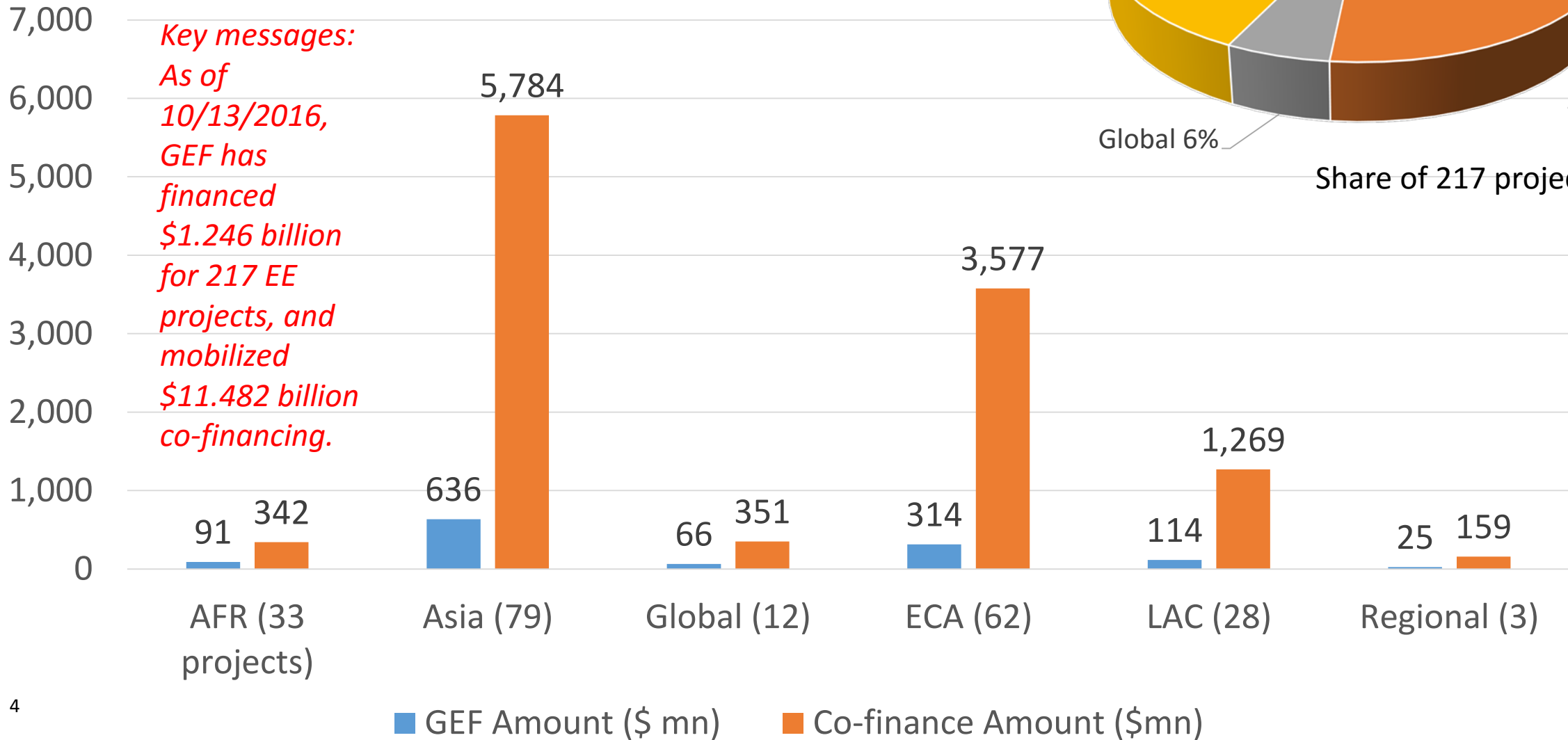
Carbon intensities – high in large countries



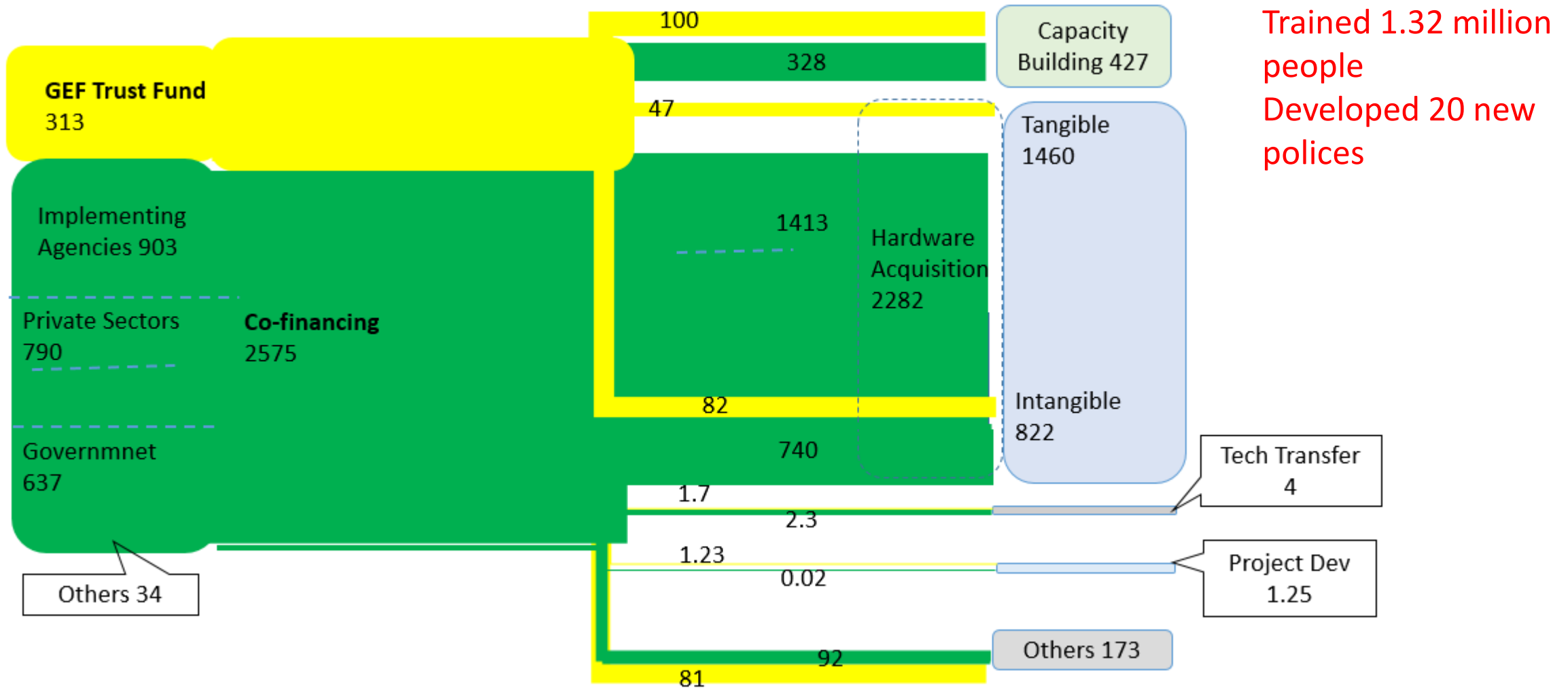
GEF financed EE projects



*Key messages:
As of
10/13/2016,
GEF has
financed
\$1.246 billion
for 217 EE
projects, and
mobilized
\$11.482 billion
co-financing.*



GEF and co-financing funds flow by source and project activities in closed 47 EE projects (unit: US\$ million)



Cost Effectiveness of GEF Investment in 49 closed EE projects

	Number of Projects	Direct GHG Mitigation (Mt CO ₂)	Average Direct GHG Mitigation per project (Mt CO ₂)	GEF Funds \$/Ton Direct GHG Mitigation	Total Funds \$/Ton Direct GHG Mitigation	Indirect GHG Mitigation (Mt CO ₂)	Average Indirect GHG Mitigation per project (Mt CO ₂)
Heating	5	164	32.8	0.24	0.96	106	21.2
ESCO	9	213	23.7	0.40	1.82	52	5.8
Appliances & Equipment	3	47	15.7	0.36	3.46	371	123.7
Industrial Processes	6	75	12.5	0.70	2.90	77	12.8
National Strategy	5	62	12.4	0.40	8.73	44	8.8
Lighting	5	18	3.6	1.05	2.57	7	1.4
Others	6	13	2.2	1.45	7.38	22	3.7
Financing	3	6	2.0	4.50	18.12	0	-
Energy Supply	2	2	1.0	6.30	45.23	1	0.5
Buildings	5	1	0.2	14.87	39.77	0	-
Grand Total	49	600	12.2	0.53	4.87	681	13.9

Case 1: GEF/UNDP/EE Project: Improving Energy Efficiency of Municipal Heating and Hot Water Supply

Project information at PIF:

- GEF \$: 3.16 million
- Co-financing: 8.87 million
- Implementation: 2005- 2014
- Target to reduce 9.6 million t CO₂eq

Project Achievements:

- Mobilized US\$ 16.4 million;
- 24 pilot EE projects developed;
- 5,000 citizens accessed to central heating and 2,400 accessed hot water;
- 890,000 t CO₂eq direct reductions



Case 2: GEF/WB/Turkey Small and Medium Enterprise Energy Efficiency Project

Project information at PIF:

- Project period: 3/2013-9/2018
- GEF funding: \$3,640,000
- Co-financing: \$302,250,000
- Targeted GHG reduction: 10 million tonnes of CO2



Project Achievements:

Before / after GEF intervention



Case 3: GEF/EBRD EE Umbrella Program in Russia

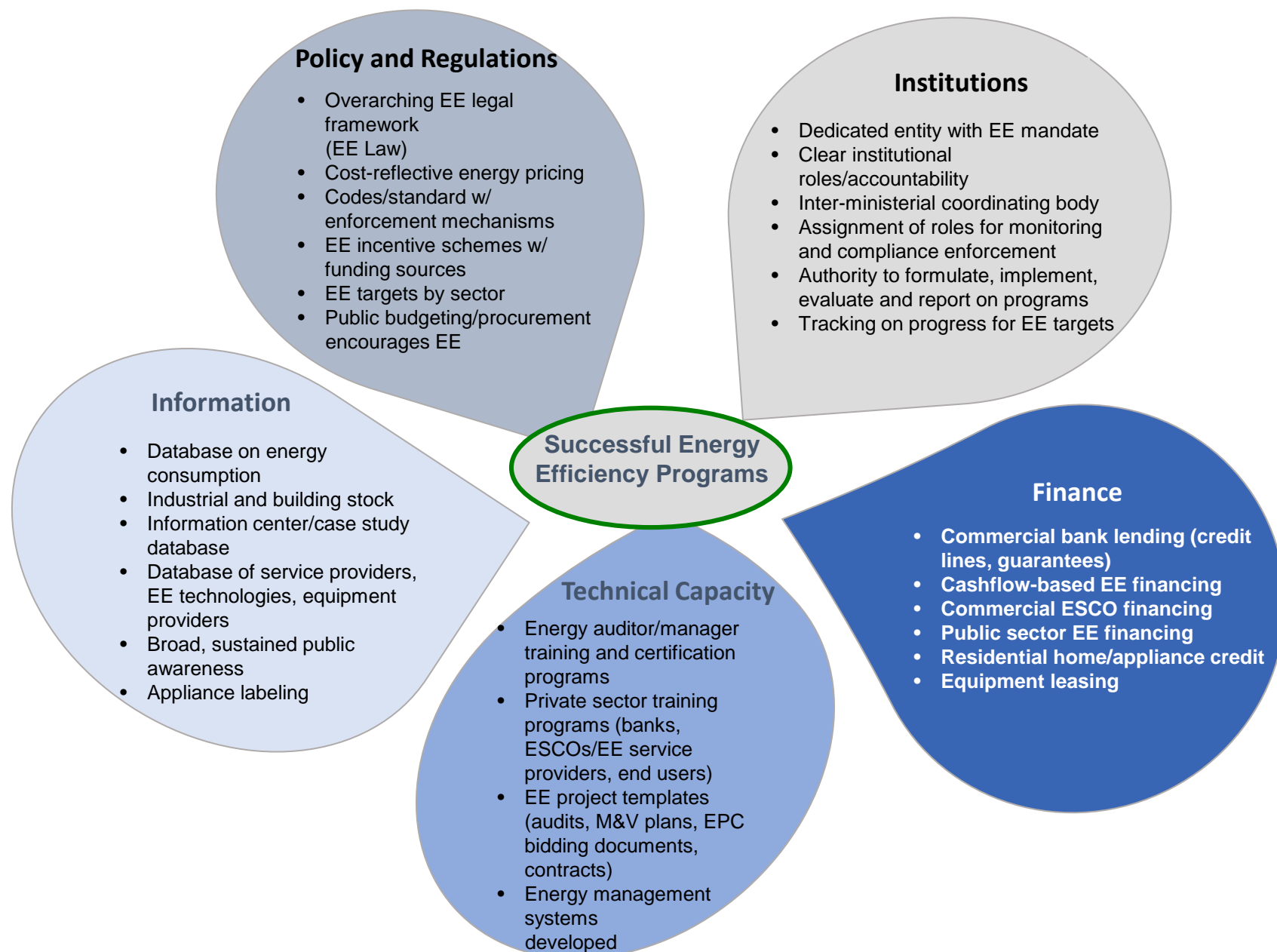
GEF/EBRD EE Umbrella Program in Russia	GEF Grant (\$ mn)	Cofinance (\$mn)
1. Building Energy Efficiency in the North West of Russia (3659 closed 1/16)	5.8	23.3
2. Targeted Support for Energy Efficiency and Renewable Energy in the Russian Arctic (4683)	6.1	81.0
3. Improving Efficiency in Public Buildings in the Russian Federation - under the Energy Efficiency Umbrella Program (3596 to be closed 11/16)	9.2	62.9
4. Standards and Labels for Promoting Energy Efficiency (3216 closed 4/15)	7.8	32.3
5. Improving Urban Housing Efficiency in the Russian Federation (3597)	9.7	86.7
6. Market Transformation Programme on Energy Efficiency in GHG-Intensive Industries in Russia (3593 closed 5/15)	15.4	135.8
7. Transforming the Market for Efficient Lighting (3658 closed 11/2014)	7.0	20.5
Total	61.0	442.5



Program Achievements:

- 1. Improved energy efficiency in buildings in Northwest Russia**
- 2. Improved energy efficiency in urban housing**
- 3. Improved energy efficiency in public buildings**
- 4. New energy efficiency standards and labeling introduced**
- 5. Transformed markets for energy-efficient lighting**
- 6. Improved energy efficiency in GHG-intensive industries**

Lessons: Successful Energy Efficiency Programs Need a Good Framework



More Lessons Learned and Challenges

Lessons

- **EE is resource-intensive** and requires a long-term focus
- **Sector reforms** have been crucial to create enabling environment and proper incentives for EE
- **EE governance** is critical to ensure strong policy/legal frameworks are in place and implementation is effective (e.g., time-based targets with clear accountability)
- Development of efficient **delivery mechanisms** (e.g., credit lines, ESCOs, utility programs, labeling schemes) are more important than technology
- **Financing** is available, but not always **accessible and affordable**
- Access to **credible data and information**, incentives, linking to other co-benefits (i.e., improved comfort) are also needed

Challenges

- **Cost reflective pricing** and **universal metering** reforms remain slow
- EE investment needs are massive requiring increased **focus on leverage**
- Emerging EE agencies are **politically weak** and under-resourced
- Credit lines for industrial and commercial sectors need to **act as market catalysts**
- Need for more robust, scalable and **sustainable models for EE** in public and municipal buildings
- Region has underdeveloped energy service/ESCO markets, **weak legal and regulatory frameworks**, mixed track record
- **EE cuts across all sectors**, requiring cooperation with urban, water, transport, agriculture, health, education sectors



Looking ahead: Priorities of Central Asia in SDGs

SDGs	Central Asia Region Voting Scores	SDGs	Central Asia Region Voting Scores
1 Poverty	10	10 Reduced Inequalities	4
2 Zero Hunger	6	11 Sustainable Cities and Communities	7
3 Good Health and Well-being	8	12 Responsible Consumption and Production	7
4 Quality Education	6	13 Climate Action	9
5 Gender Equality	6	14 Life below water	2
6 Clean Water and Sanitation	8	15 Life on Land	11
7 Affordable and Clean Energy	6	16 Peace, Justice and strong Institutions	2
8 Decent Work and Economic growth	13	17 Partnerships for the Goals	5
9 Industrial Innovation and Economic Growth	6		

Key messages:

In Central Asia region, climate action is voted by national governments as one of the four top priorities in achieving their SDGs.

Source: GEF ECW 2016 in Kazakhstan

Thank you!

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