



Trans Adriatic
Pipeline

TAP and IAP pipelines as part of Southern Gas Corridor

International Meeting of Experts on Reliable and Stable Transit of Energy
Sheraton Hotel, Tirana
13 July 2016,

Shkelqim Bozgo
Country Manager

Content;

- Southern Gas Corridor, TAP and IAP
- TAP's Commercial, Contractual and Regulatory Framework
- Project Update

Southern Gas Corridor (SGC), Natural Gas Reserves (trillion M³)

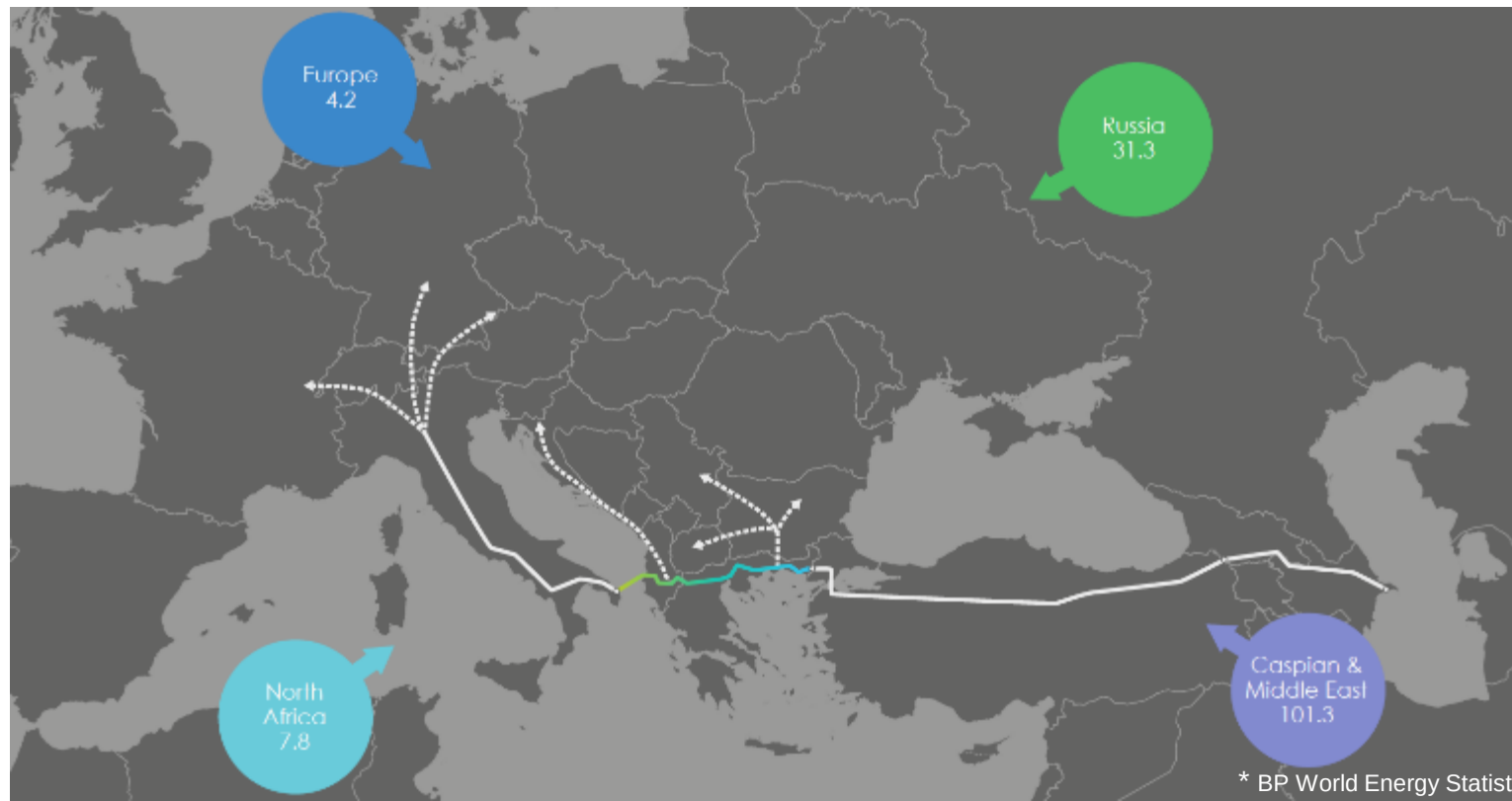
SGC:

- Investment of approx. USD 45 bln
- Crossing six countries – 3,500 km*

TAP:

- The first pipeline to open the SGC
- Enhance Europe's energy security by connecting to new sources of natural gas

- 10 bcm/a initially available from Shah Deniz II will correspond to the amount of energy necessary to supply 7 million households in South Eastern and Western Europe.
- Contributes to the development of the SEE gas and energy network



Shah Deniz is just the start....

Azerbaijan: reliable supplier of gas to Europe

- Azerbaijan's role as a stable supplier of gas contributing to Europe's energy security will continue to grow in the next decades
- Production from gas fields in the Caspian could increase Azerbaijan's natural gas production to **c.40 bcm/a by 2030**
- The giant Caspian gas and condensate field **Shah Deniz – 1.2 tcm**
- SOCAR's current exploration of the Umid field and Babek along with Total's exploration of Absheron
- Other fields including ACG Deep, Nakhchivan, Shafag-Asiman, and Zafar-Mashal resulting in overall proven reserves of approximately **2.5tcm**
- TANAP IGAs and HGAs signed and ratified by Azerbaijani and Turkish parliaments represents a clear export route to the border with the EU



Cooperation along the SGC



TAP's Key Features

Supports EU's energy policy objectives



Can expand from
10 to 20bcm/a



878 km
105 km offshore



48" onshore
36" offshore



Built-in physical
reverse flow



Facilitating
interconnections
with several markets

Cooperation with Western Balkans

TAP cooperates with developers of IAP project

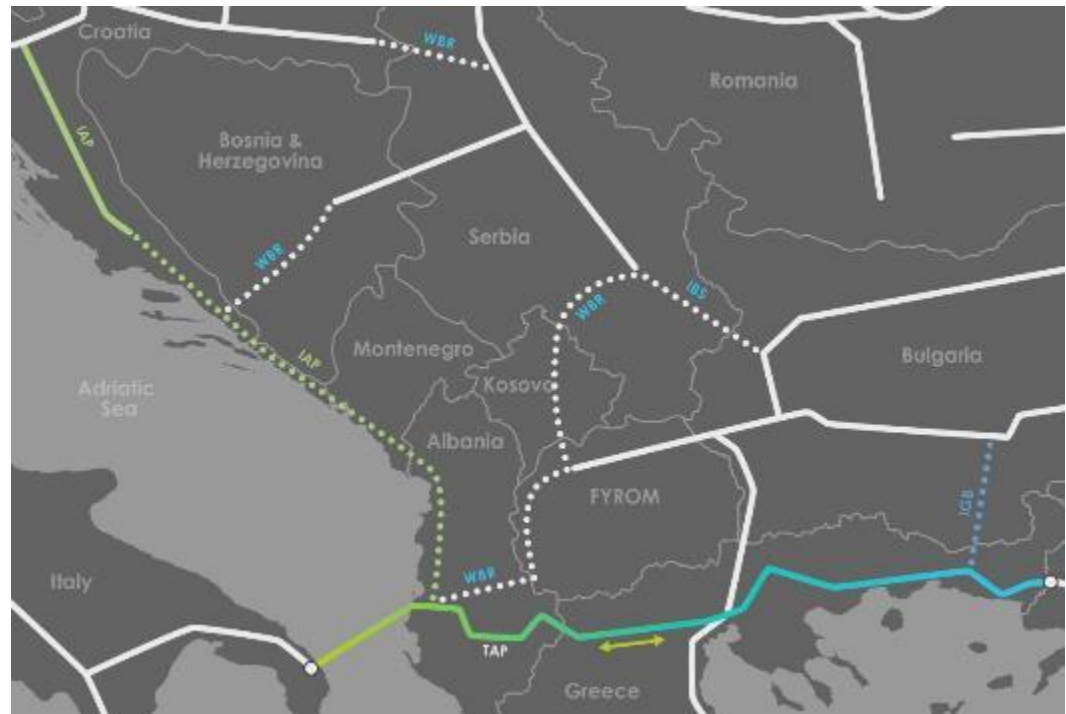
Ionian Adriatic Pipeline (IAP)

- Independently developed by Plinacro, BH-gas, Ministries of Energy of Albania and Montenegro
- 5-bcm bi-directional pipeline
- ~500 km, ~600 Mio. EUR
- Connects ungasified markets of Southern Croatia, Albania and Montenegro (possibility for a spur line into Bosnia and Herzegovina)

IAP throughput scenarios*:

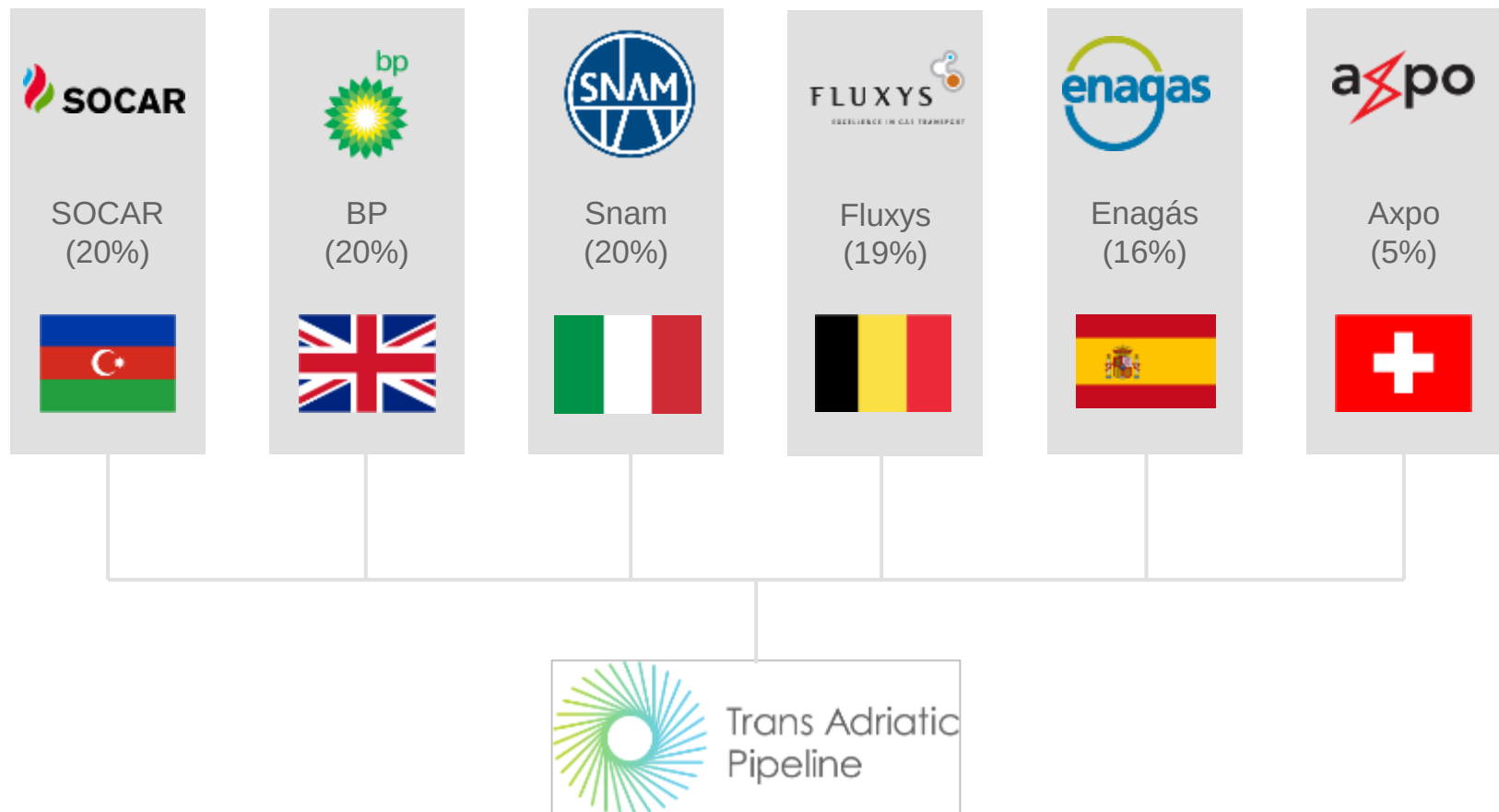
- 1 bcm to Albania
- 0.5 bcm to Montenegro
- 1 bcm to Bosnia and Herzegovina
- 2.5 bcm to Northern Croatia or 0.2 bcm to Southern Croatia

* According to IAP's own Feasibility Study



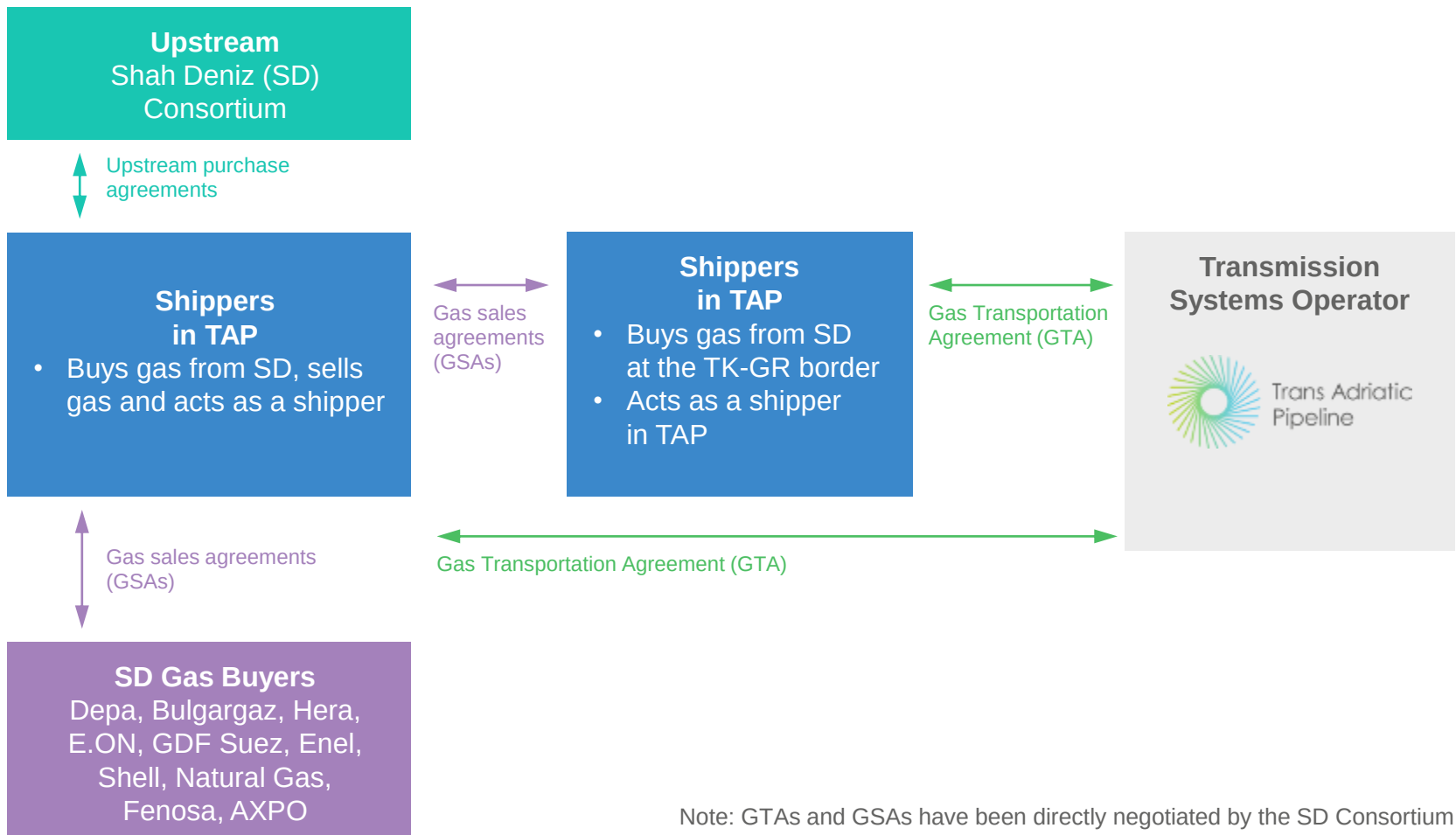
TAP's shareholders

Supported by major energy companies



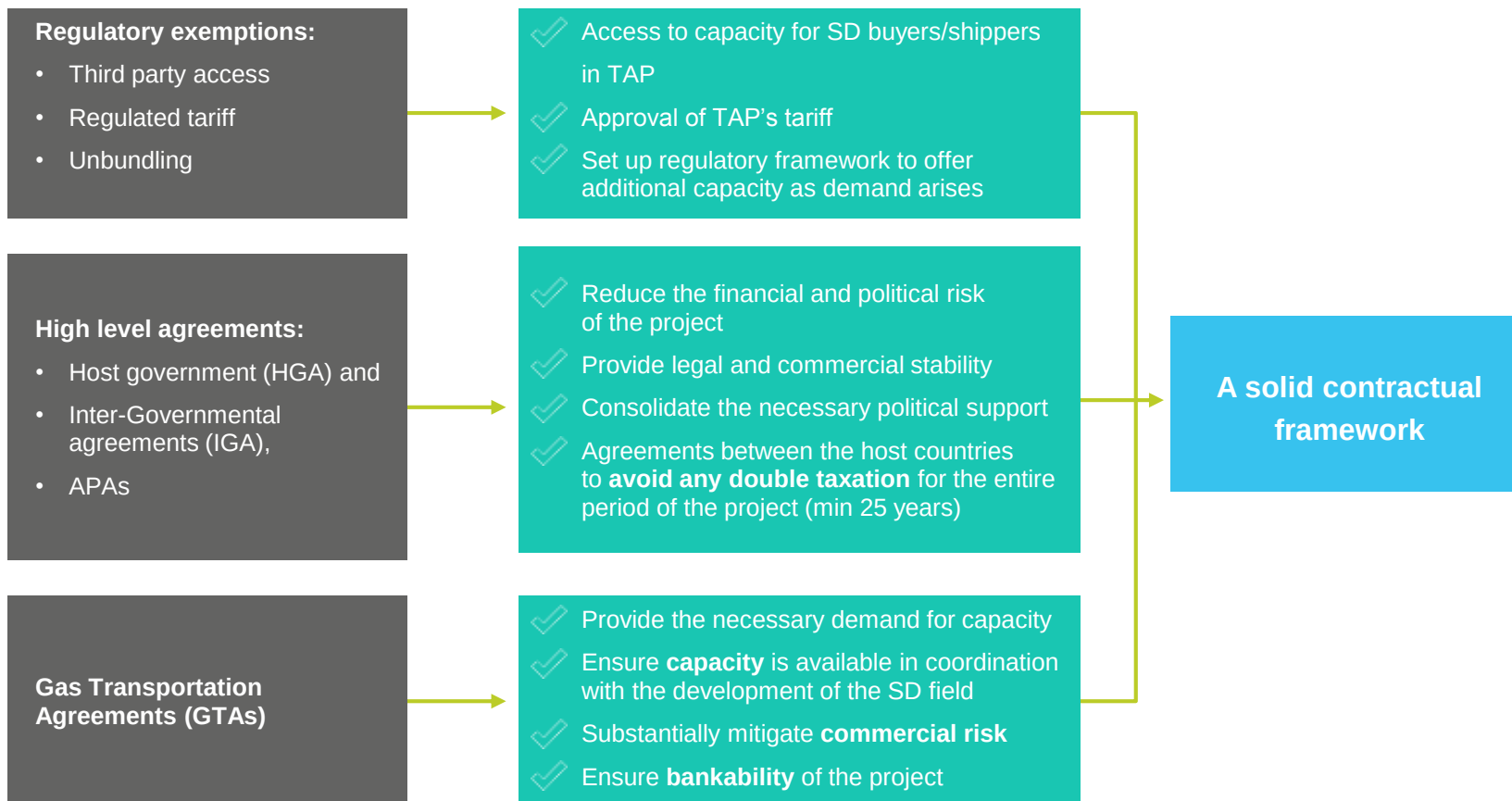
Commercial, Contractual and Regulatory Framework

Commercial Framework



Solid contractual framework

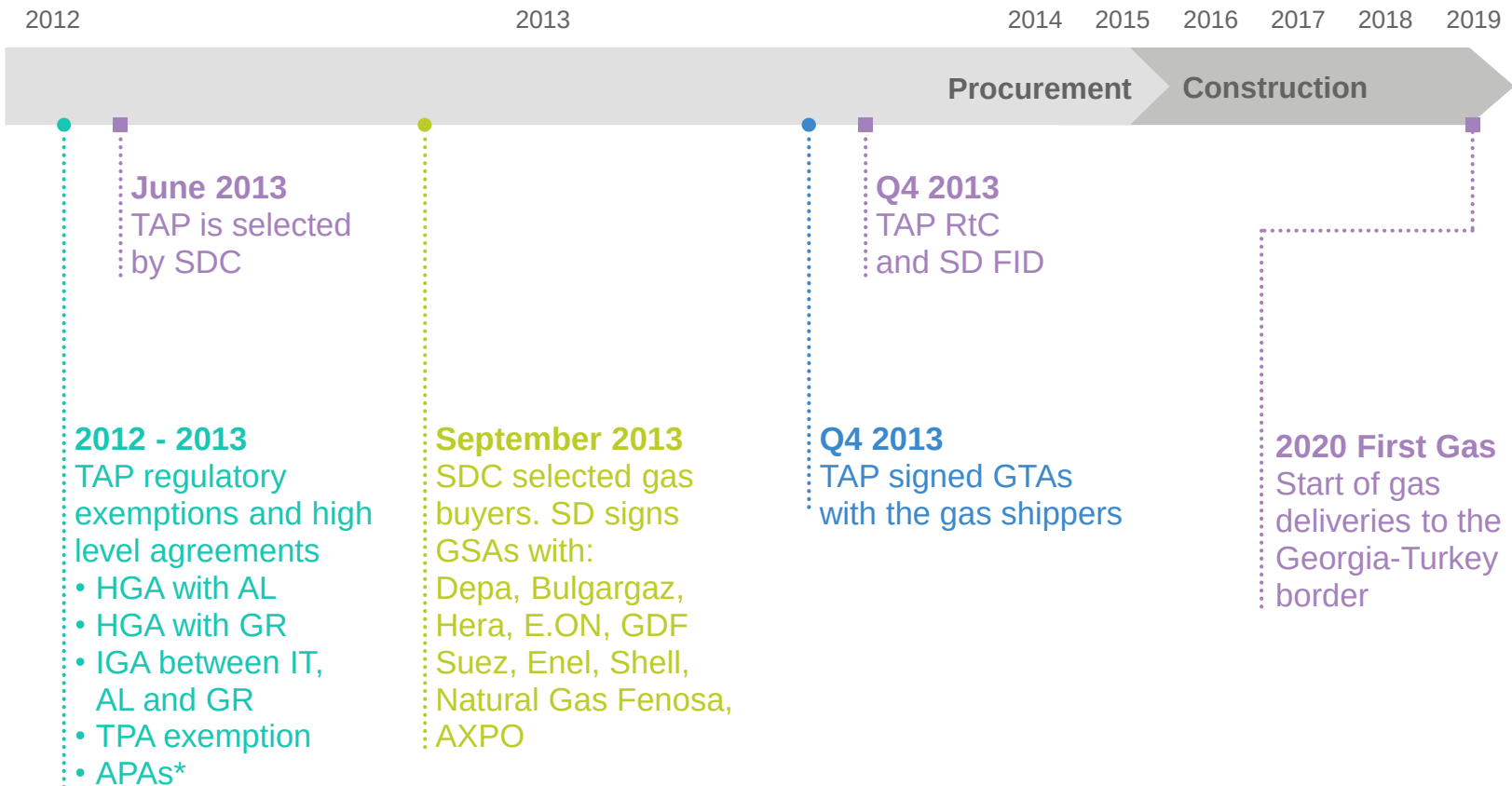
Key elements underpinning the TAP project



Note: GTAs and GSAs have been directly negotiated by the SD Consortium

Solid contractual framework

Necessary steps and timeline



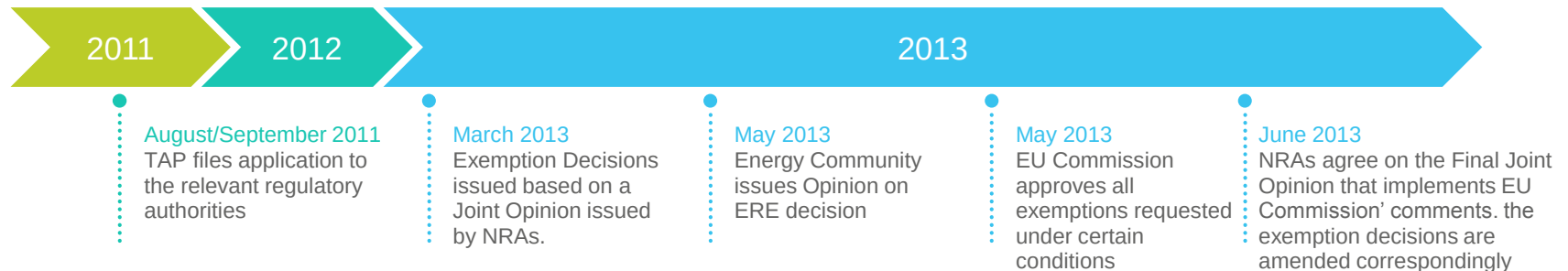
(*) APA applications were filed with the Swiss competent authority (SIF) in December 2012 with the aim to have final agreements concluded before award of major procurement contracts. The APAs are under negotiation with the competent authorities.

TAP Regulatory Framework



TAP Application for Exemptions

- TPA (third party access) exemption on initial capacity (10bcm/y)
- Exemption from regulated tariff on initial and expansion capacity. Tariff Code approved by regulatory authorities
- Exemption from ownership unbundling. TAP certified as an ITO (independent transmission operator) prior to construction



Exemption – Key Issues

- Excellent cooperation between the regulatory authorities
- Exemptions valid for 25 years from the Commercial Operation Date (early 2020)
- Initial 10 bcm/y will be used to bring SD gas volumes to Italy, Greece and Albania
- The capacity above 10 bcm/y will be offered to the market. Every two years a market test will be performed
- Obligation to offer short term products: 5% of the Initial Capacity and 10 % of the Expansion Capacity
- Virtual reverse flow will be offered to the market at 5% of the relevant forward flow tariff

ITO certification

TAP Application for ITO certification prior to construction

- Legal and functional unbundling
- Regulatory Compliance Programme
- Road Map to full compliance with the ITO model by start of operation



Certification – Key Issues

- MEI & ERE timely implemented the Third Package
- Excellent cooperation between the regulatory authorities, the European Commission and the Energy Community Secretariat
- TAP's tailor-made regulatory regime prevents conflicts of interest between TAP and shareholders
- A Supervisory Body should be in function at start of operation, but not during construction phase
- Services and personnel from shareholders fundamental for the project are allowed during construction
- The certification decisions do not limit the ability of shareholders to determine the financing structure necessary for successful project implementation

Commercial Operations Readiness

TAP is currently developing the TAP Network Code defining:

- the rules and procedures for the [operations](#) of the TAP Transportation System
- the rights and obligations of the TAP and Shippers regarding [booking and use of Capacity Products](#)
- TAP's compliance with the [EU regulatory framework](#) on transport of gas

Regular consultation sessions are held with the “National Regularity Authorities”

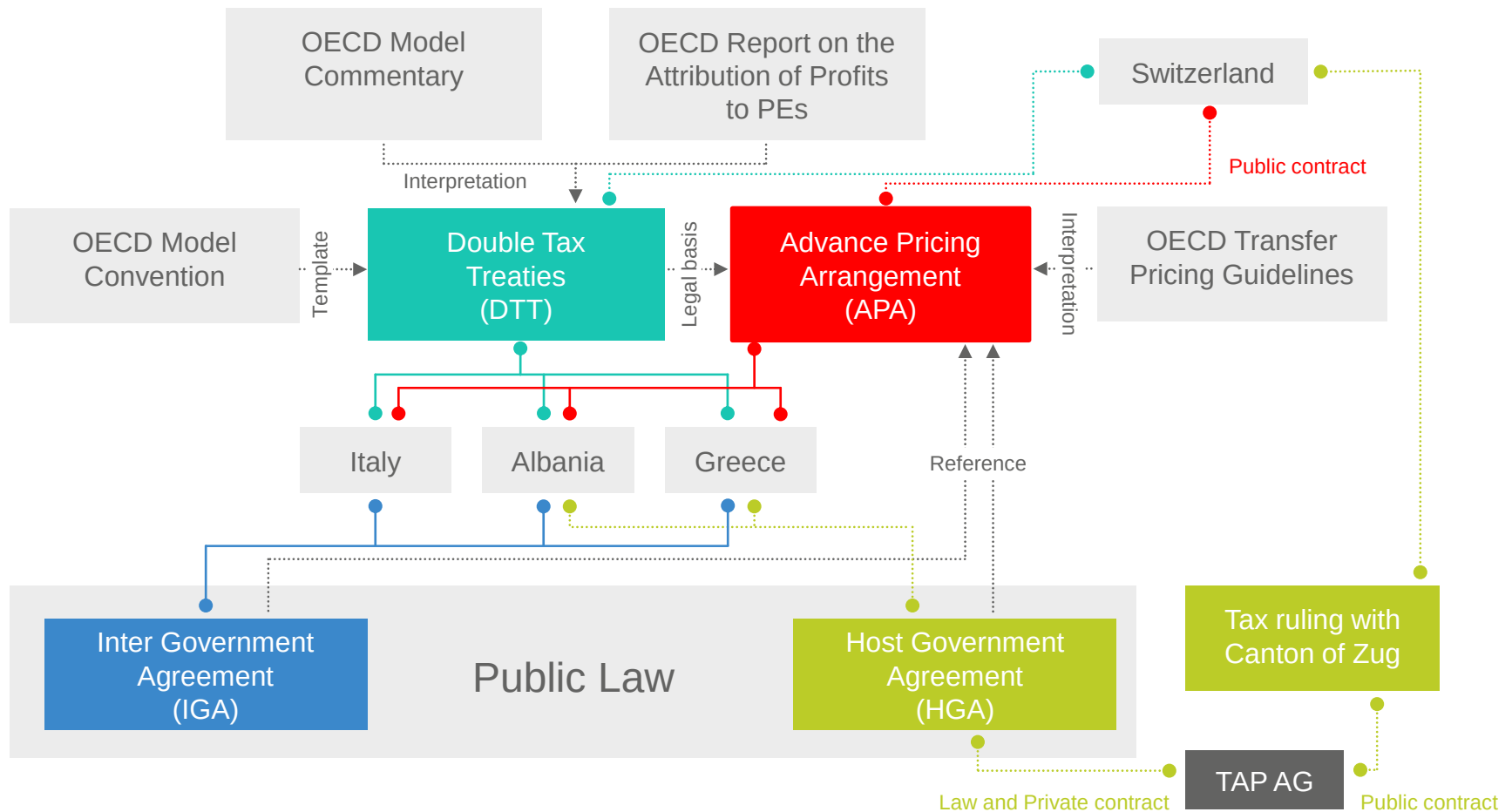


TAP is also developing together with the adjacent TSOs the [Interconnection Agreements](#) in order to define the commercial and technical procedures and harmonise the rules along the gas value chain



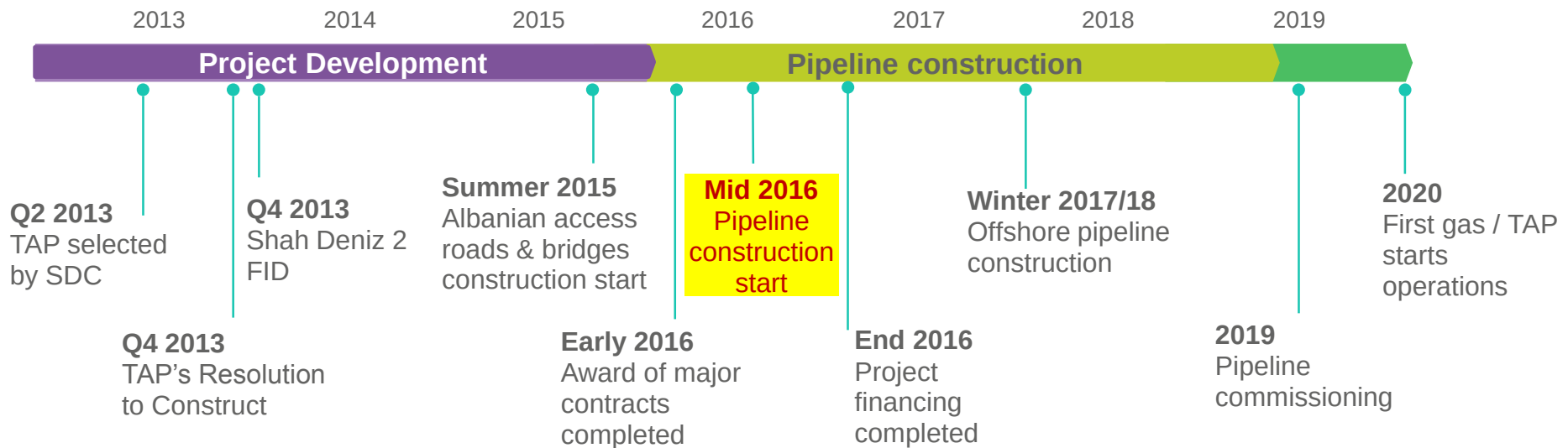
Solid contractual framework

APA within the overall TAP legal framework



Project Update

TAP Schedule to completion



Political milestones & Events



On 13 February 2013, the governments of Italy, Greece and Albania signed an **Intergovernmental Agreement** (IGA) on TAP in Athens, Greece.



On 3 July 2015, TAP organised an **inauguration ceremony** to mark the start of construction and **rehabilitation of access roads and bridges** in Albania.



On 18 April 2016, TAP hosted a **ceremony** to mark the **arrival of the first steel line pipes** and machinery for the construction of the Albanian section of the pipeline.

Construction Inauguration Ceremony

17 May 2016, Thessaloniki, Greece



- TAP officially marked the start of construction under the auspices of Alexis Tsipras, Prime Minister of the Hellenic Republic
- Presence of high-level dignitaries from over 10 countries and the European Union.
- Shareholders from BP, SOCAR, Snam, Fluxys, Enagás and Axpo and over 500 high-level guests attended the event.



Pipeline Construction Process (I)



Survey

1

Detailed environmental surveys and surveys for possible archaeological findings are conducted to determine the most suitable construction techniques.



Clear and grade easement

2

A 38 meter ROW (Right of Way) is cleared and graded along the pipeline route. The top soil is stored at the edge of the ROW for later reinstatement.



Stringing and bending

3

The 48 inch steel pipes are hauled by truck to the easement. The pipes are laid end-to-end. The pipe can be bent using specialized equipment to match changes in terrain or direction in route.

Pipeline Construction Process (II)



4

Welding and X-ray / ultrasonic testing

The pipe is welded above ground. All the welds are subject to automatic ultrasonic testing to ensure they meet national and international standards



5

Weld joint coating

Each weld is grit blasted and covered with a protective coating to prevent corrosion and protect against mechanical impacts.



6

Trenching

A trench is dug for the pipeline. The top soil is placed separately for the reinstatement.

Pipeline Construction Process (III)



Lowering in

Side boom tractors are used to lower the welded pipe into the trench. Generally, up to one kilometer of pipe is lowered into the trench at a time.



Tie-ins

A tie-in is carried out when two lowered-in pipe strings are welded together in the trench.



Padding and backfilling

Fine soil is placed around the pipe in the trench to act as padding, protecting the pipeline. After padding is completed the trench is backfilled and compacted with the subsoil and the original topsoil.

Pipeline Construction Process (IV)



Pressure testing

10

The integrity of the pipeline is further verified using hydrostatic testing. The pipeline is capped with test headers and water is pumped to a pressure higher than the maximum allowable operating gas pressure.



Reinstatement

11

The ROW is restored to its original state as much as possible. Where required, erosion control mechanisms are constructed and additional topsoil is spread to encourage soil retention and vegetation growth.



Signage

12

As a safety measure, signs (marker posts) are erected to warn of the location of the buried pipeline. Also cathodic protection equipment is placed where needed.

TAP's route in Albania

- Compressor station near Fier (additional compressor station planned near Bilisht for 20 bcm),
- 9 block valve stations (BVS)
- Access roads in mountainous areas: ~50 km new and ~50 km upgraded
- Bridges: more than 40 refurbished and 3 new
- Crossing 551 roads, 511 rivers and 1 railway (major and minor crossings)

215 km

2 compressor stations

6 camp sites

9 block valve stations



Albania – Recent Progress

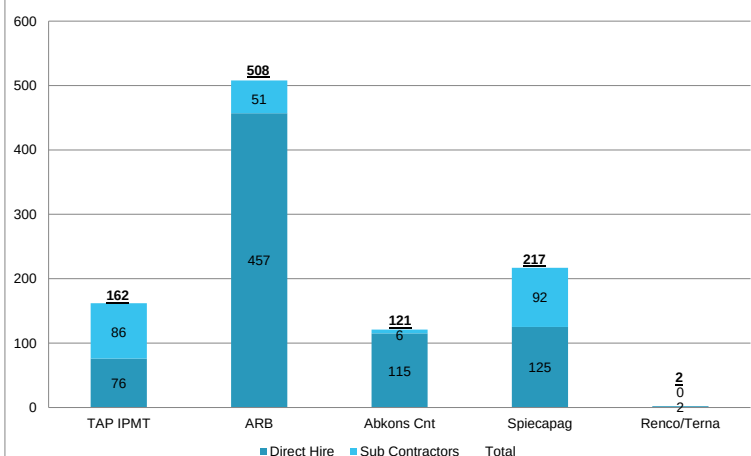
- Over 80% of access roads & bridges (combined progress) are completed
- 99% local content
- Line pipes & bends continue to arrive in Durrës
- ESIA Amendment 3 approved (May 2016)



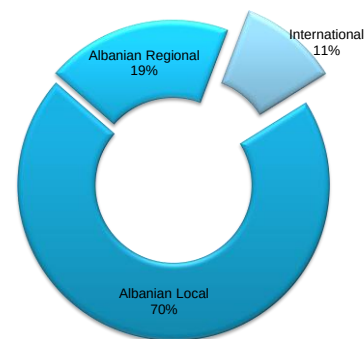
Resourcing as at 30th June 2016

LOCAL CONTENT - IN COUNTRY RESOURCES

Direct Hire vs Contracted Personnel



Ratio of Albanian Personnel



COMPANY	Direct Hire	Sub Contractors	Total
TAP IPMT	76	86	162
ARB		51	508
Abkons Cnt	115	6	121
Spiecapag	125	92	217
Renco/Terna	2	0	2
Total Employees	775	235	1010

Percentage of Direct Hire Personnel

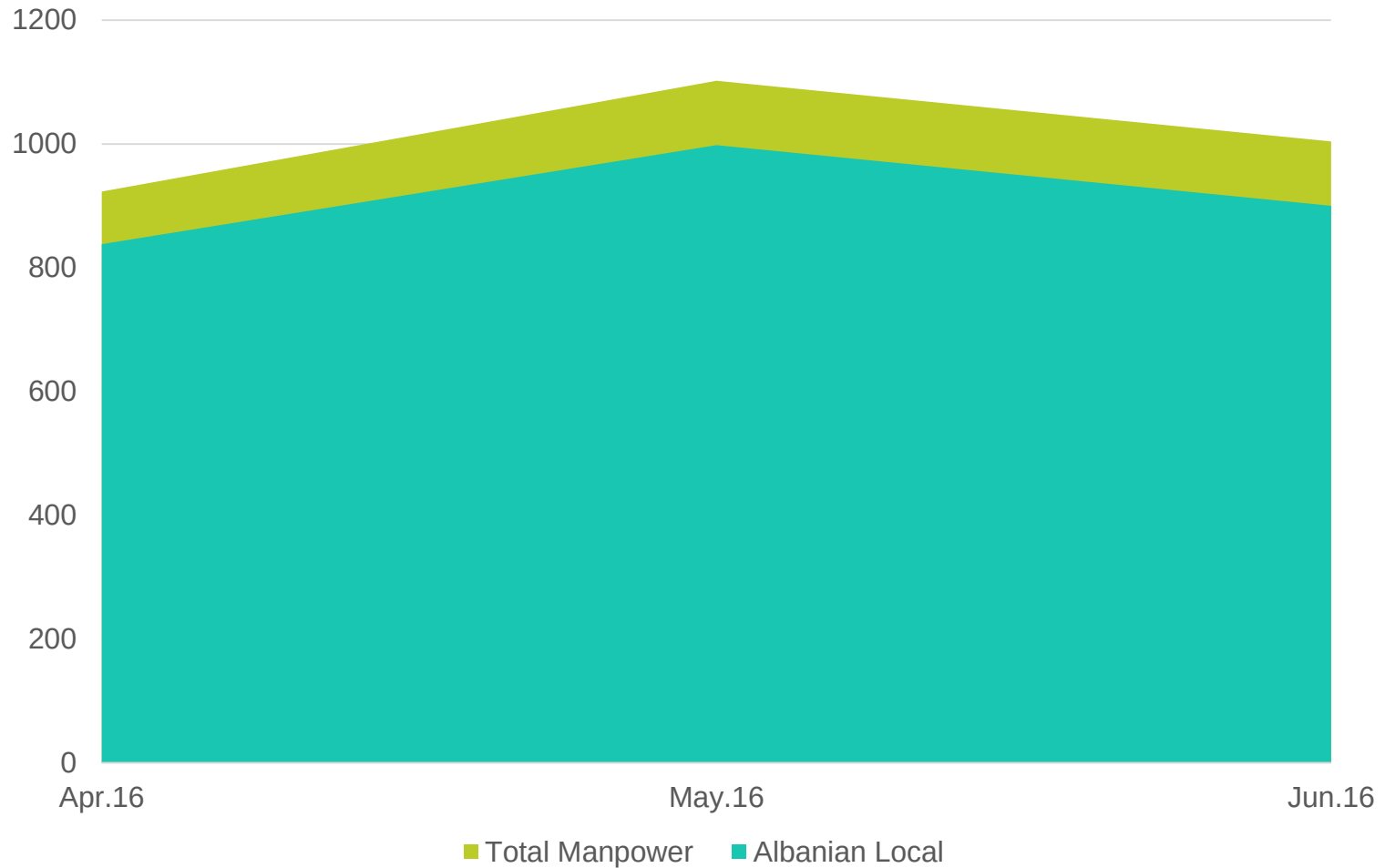
76.7%

Number of Personnel	Albanian Local	Albanian Regional	International	Total
TAP IPMT	127	0	35	162
ARB	322	185	1	508
Abkons Cnt	106	9	0	115
Spiecapag	150	0	67	217
Renco/Terna	1	0	1	2
Total PO's	706	194	104	1004

Percentage of Albanian Personnel

89.6%

Resourcing as at 30th June 2016



Data Includes TAP iPMT; Abkons; Gener2/Sicilsaldo JV; Spiecapag; Renco/Terna JV

CSR Albania

Social and Environment Investment (SEI)

SEI will focus on:

- Education and skills
- Environment
- Livelihoods
- Community quality of life

“We understand that our long term success is based on building and maintaining **our social licence to operate**. We will achieve this by **developing enduring relationships** with our stakeholders at international, national, regional and local levels and working with them to sustain broad community support.”



Run4Autism
April 2016



Road Safety Drawing Competition
November 2015



Renovated gym at school in Fier
June 2015



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Thank you

