



Changes in Gas Market and Gas Production in Ukraine in 2016-2017

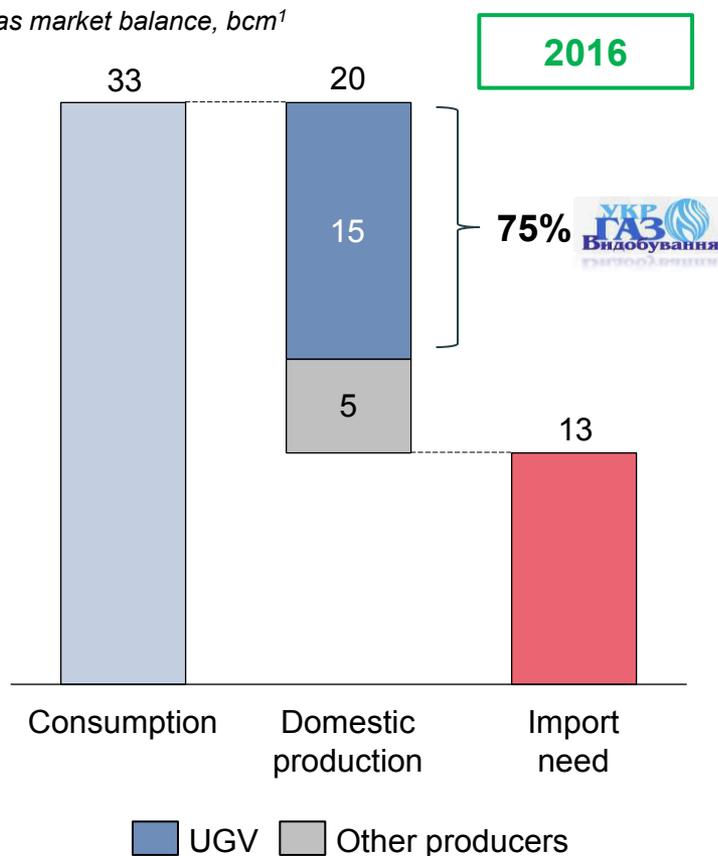
Opportunities for cooperation with
international companies
Oleg Prokhorenko, CEO, UkrGasVydobuvannya

June 2017
Calgary

UGV is the fourth largest gas producer in Europe and has the largest reserve base in Eastern European market

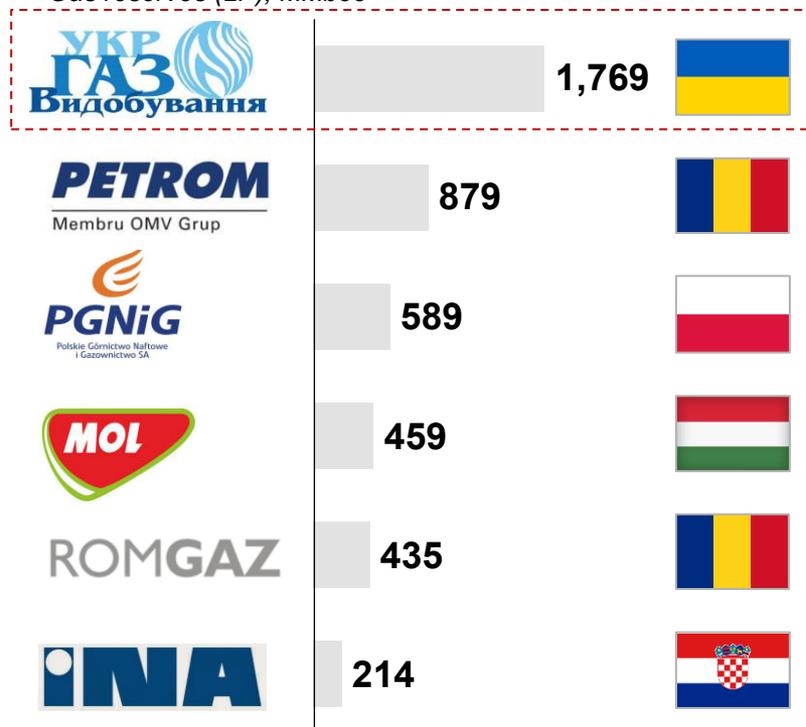
UGV accounts for 75% of domestic natural gas production

Gas market balance, bcm¹



UGV has the largest reserve base among Eastern European players

Gas reserves (2P), MMboe¹



UGV is the largest oil & gas company in Ukraine and biggest tax payer in the country



Production of 14.6 bcm - 75% of total Ukrainian gas production

- ~500 thsd t of oil and condensate (20% of the market)



291 bcm of 2P reserves¹ (> 600 BCM – Ukr. classification)

- 140 production fields



~5% of state budget receipts of Ukraine

- 39bn UAH in taxes in 2016 - #1 tax payer in Ukraine



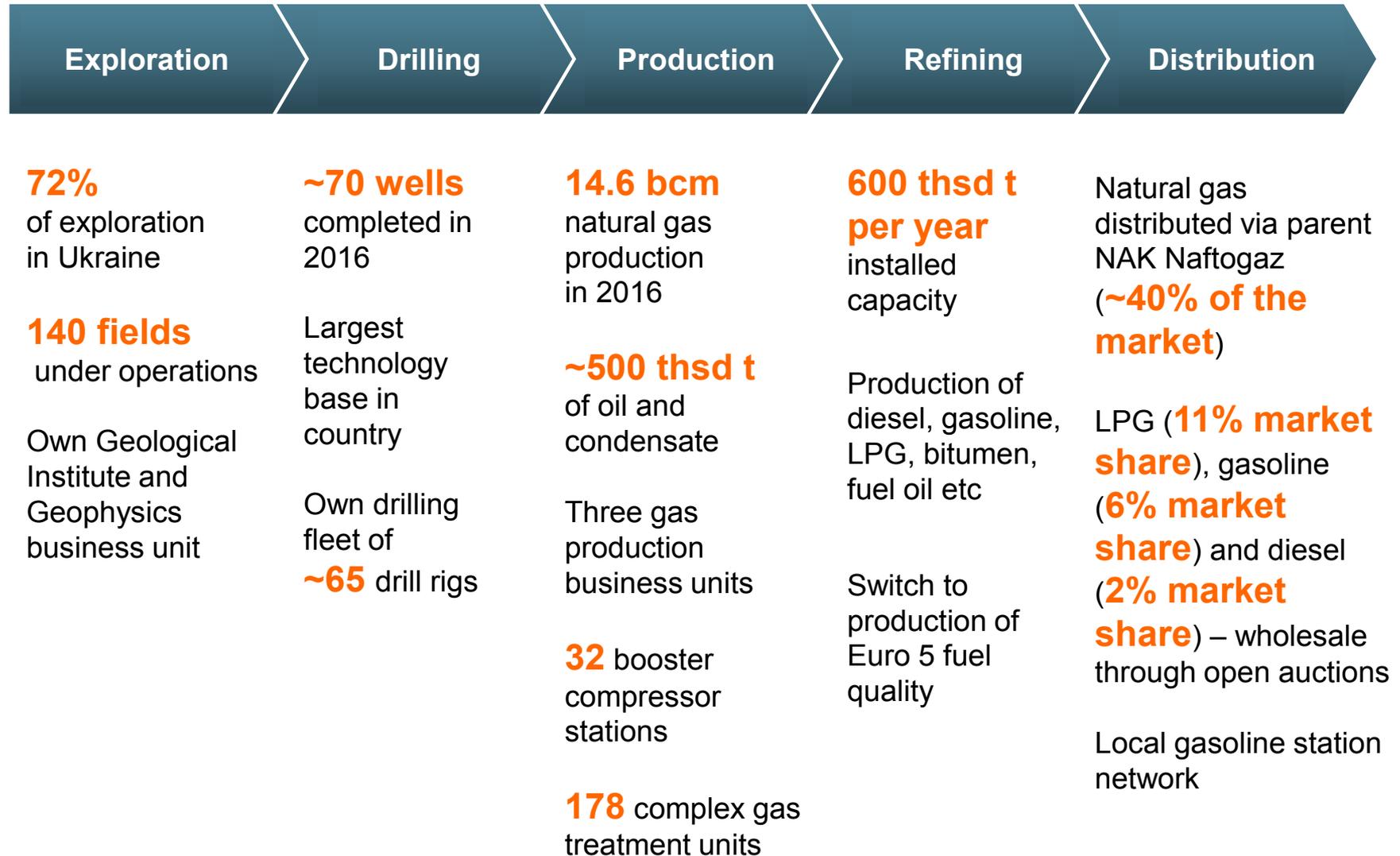
Vertically integrated company

- Full operational cycle from exploration to distribution

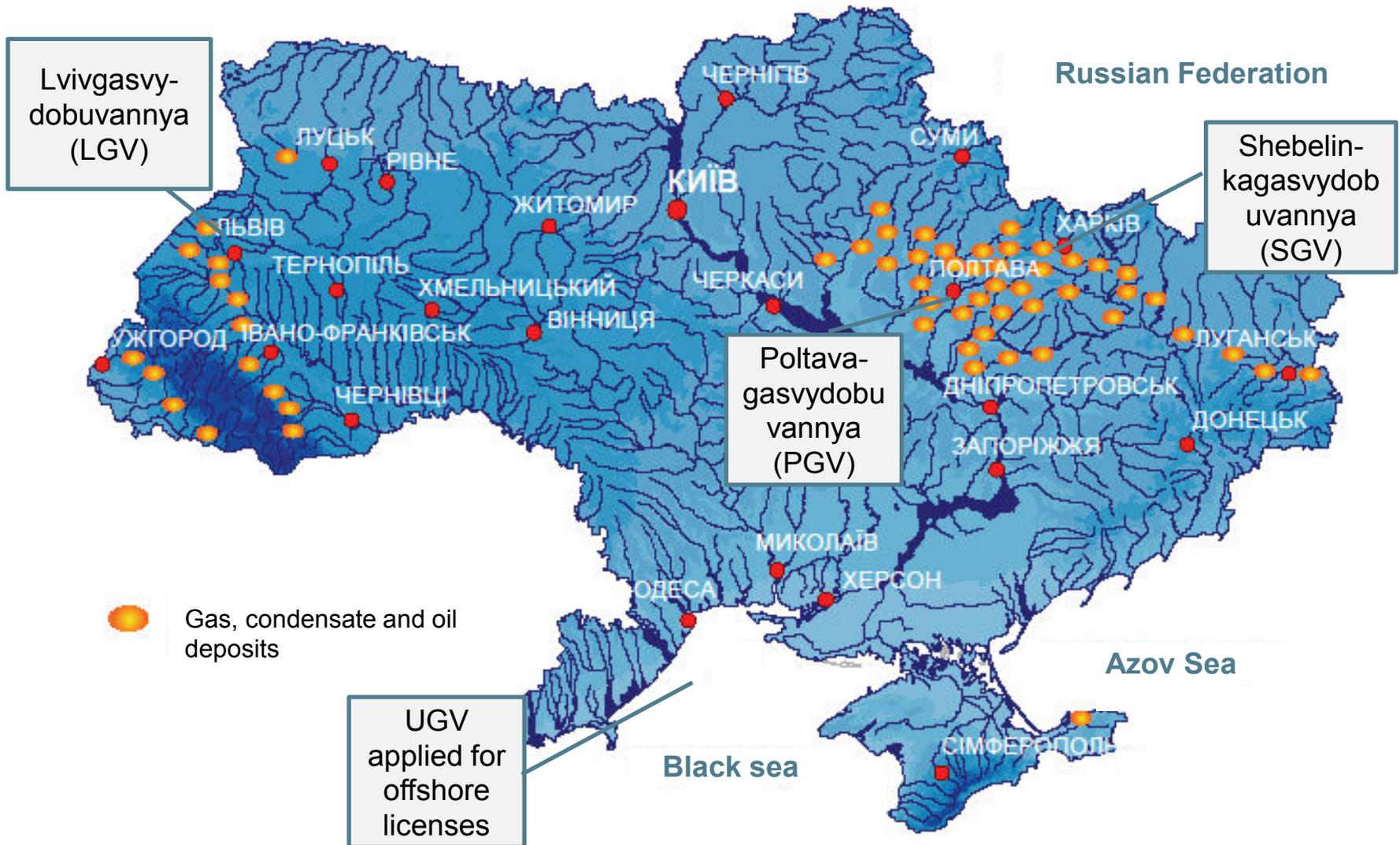
Notes: 1. Calculated based on Ryder Scott as of 01.01.2015 and production 2015, based on 73 major fields

Source: UGV

UGV has strong presence across all segments of the value chain



UGV has operations across all Ukraine's oil & gas regions with significant reserves



UGV's new team has a vision to become a production and technological leader in Ukraine's O&G industry

MISSION:

Ensure energy security and energy independence of Ukraine through developing its gas resources potential, domestic technological competence and robust industry ecosystem

VISION:

Production and technological leader in Ukraine's O&G industry with full fledged capabilities and at par with market standards in operating and HSE practices

GOAL 1:

Achieve sustainable increase of production scale and reach **20 bcm by 2020**

GOAL 2:

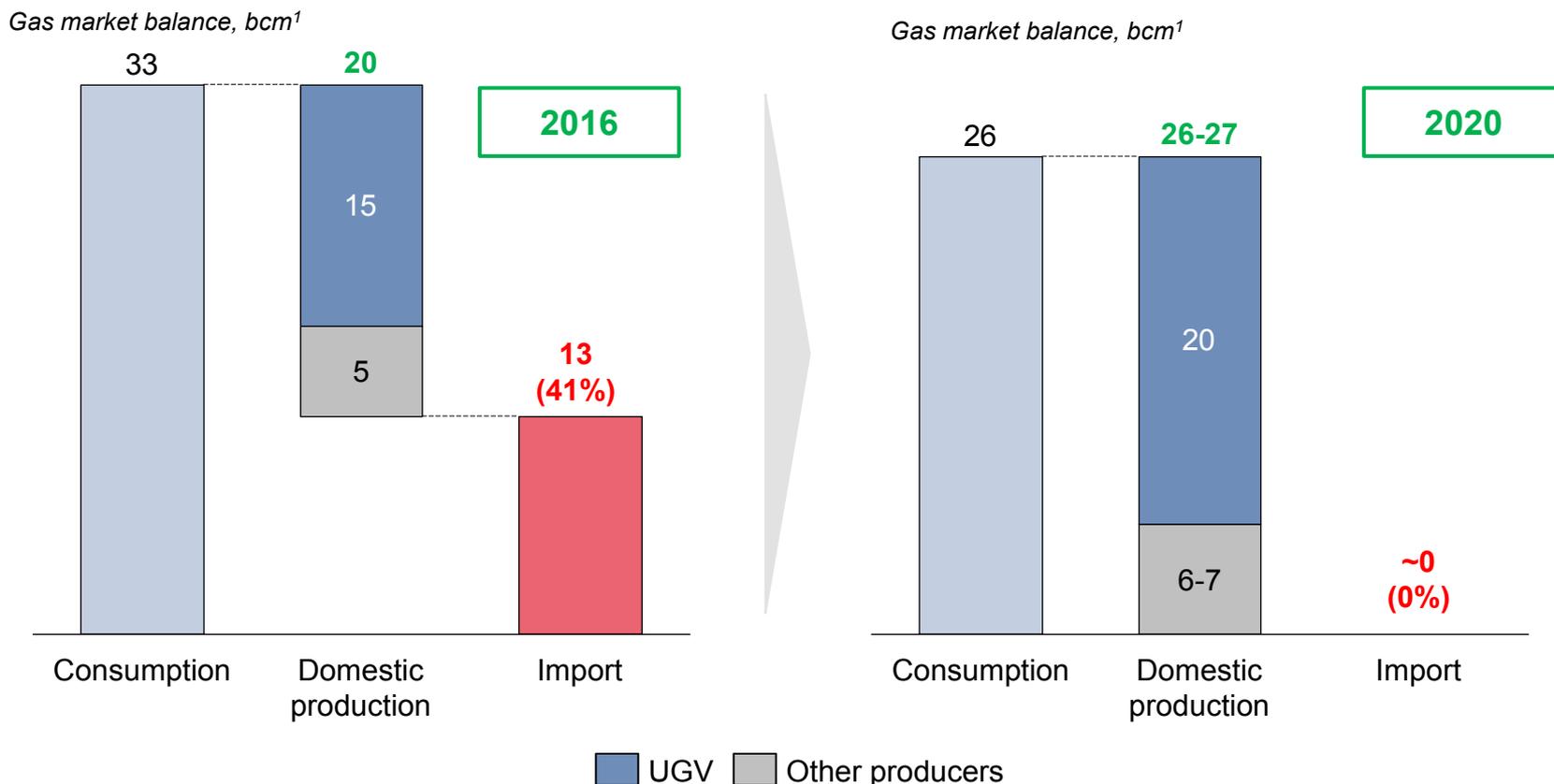
Increase **economic efficiency** and keep cost of gas below import price

GOAL 3:

Transform company culture and implement **world-class management, operational and HSE practices**

Strategy 20/20 will allow Ukraine to **cover 100%** of consumption by domestic gas in 2020

Government aims to cut imports by 2020 to ensure energy security of Ukraine



Notes: UGV/McKinsey estimates. Does not include gas for underground gas storage facilities, Gazprom balancing volume and take-up / filling of gas pipelines. 2. Under the condition of fulfilling of production plans by UGV and private players. 3. Calculated based in Ryder Scott as of 01/01/2015 on 73 major fields and production 2015. Source: UGV, Naftogaz

UGV's 20/20 strategy further backed by positive fiscal and institutional changes in the Ukrainian market

Fiscal liberalization and switch to price import parity

Implementation of 3rd Energy Package

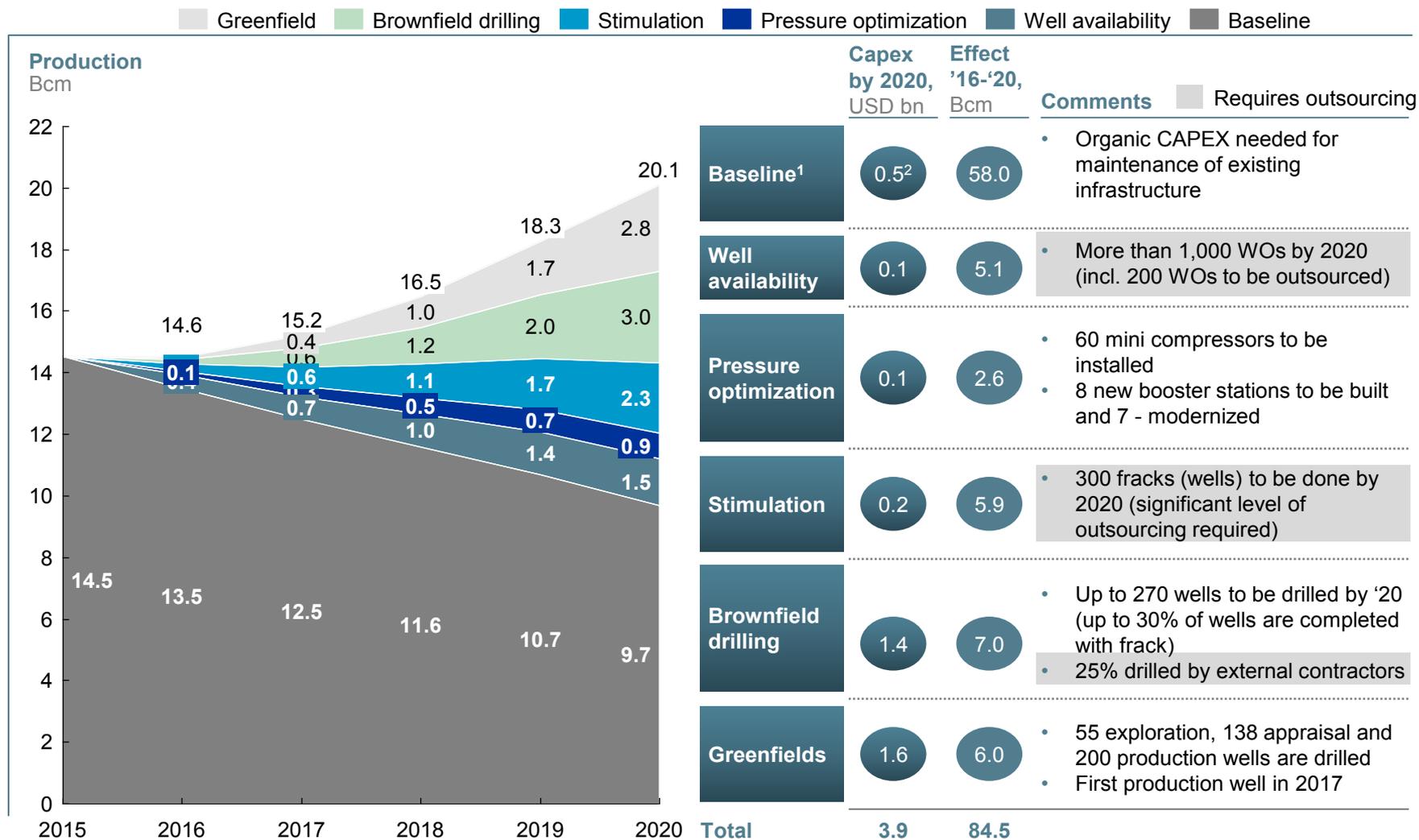
Structural reforms to improve business environment

Improving investment conditions for UGV and private market players

Transparent and convenient gas market for investors

Deregulation, demonopolization, open competition

UGV is implementing a strategy to increase production ~40% to 20bcm in 2020; required CAPEX ~4bn USD



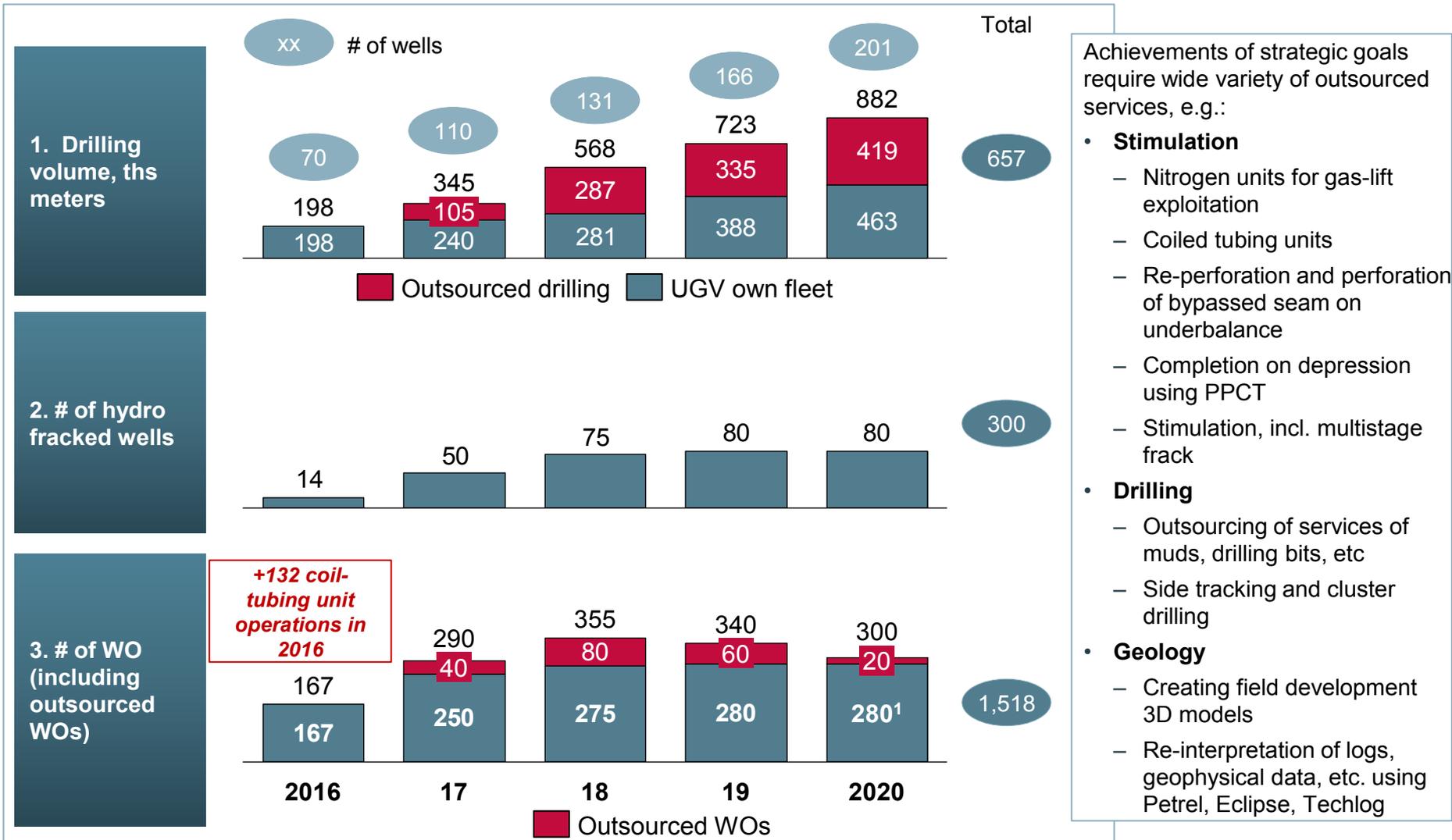
Notes: brownfield drilling first year adjustment factors of 0,25, 0,25, 0,3, 0,3 and 0,5 for 2016-2020 respectively

1. Baseline level is within +/-5% of Ryder Scott numbers

2 UGV financial plan

Source: UGV, team calculations

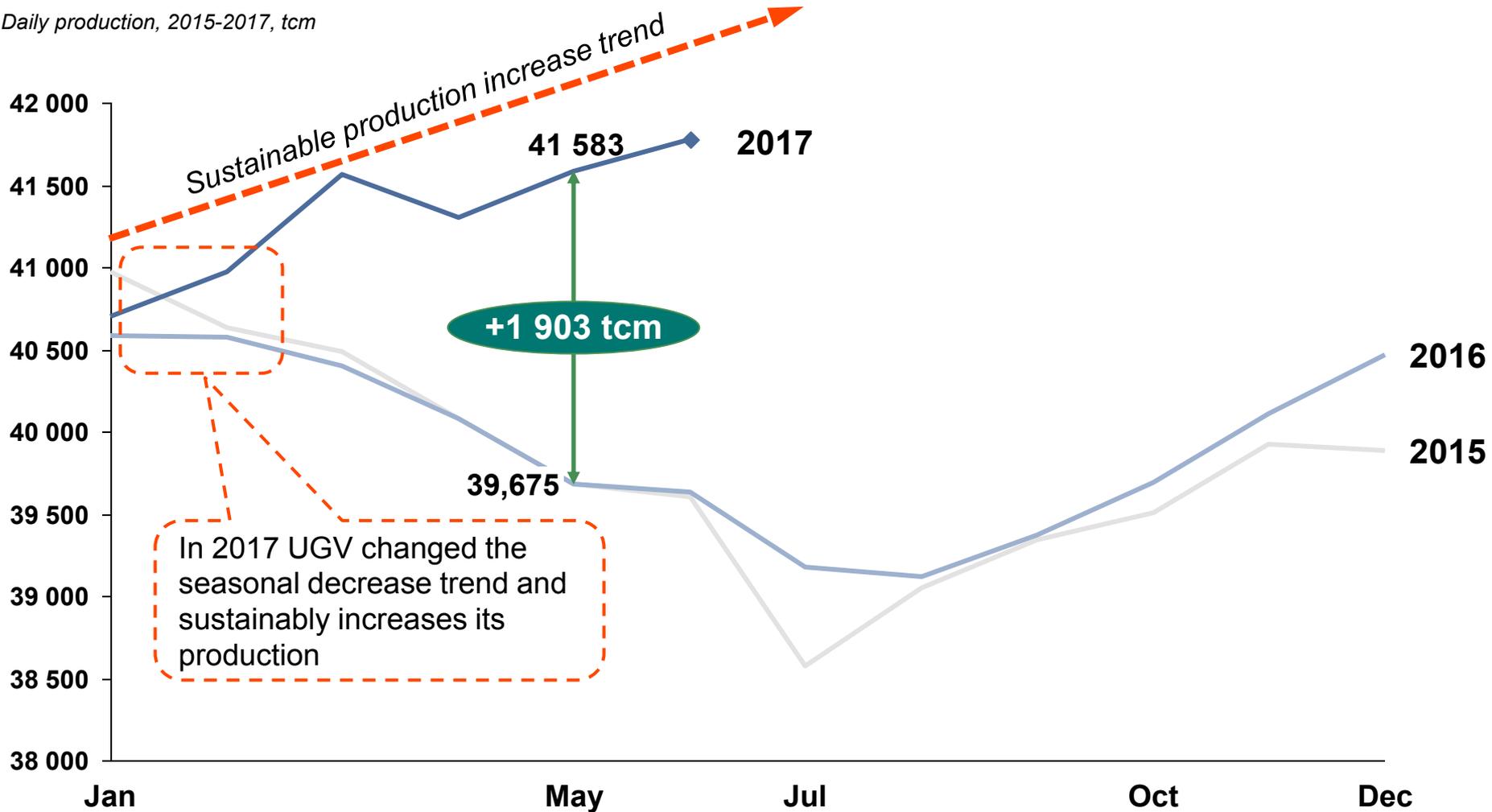
UGV has started operations' scale increase to fulfill production program



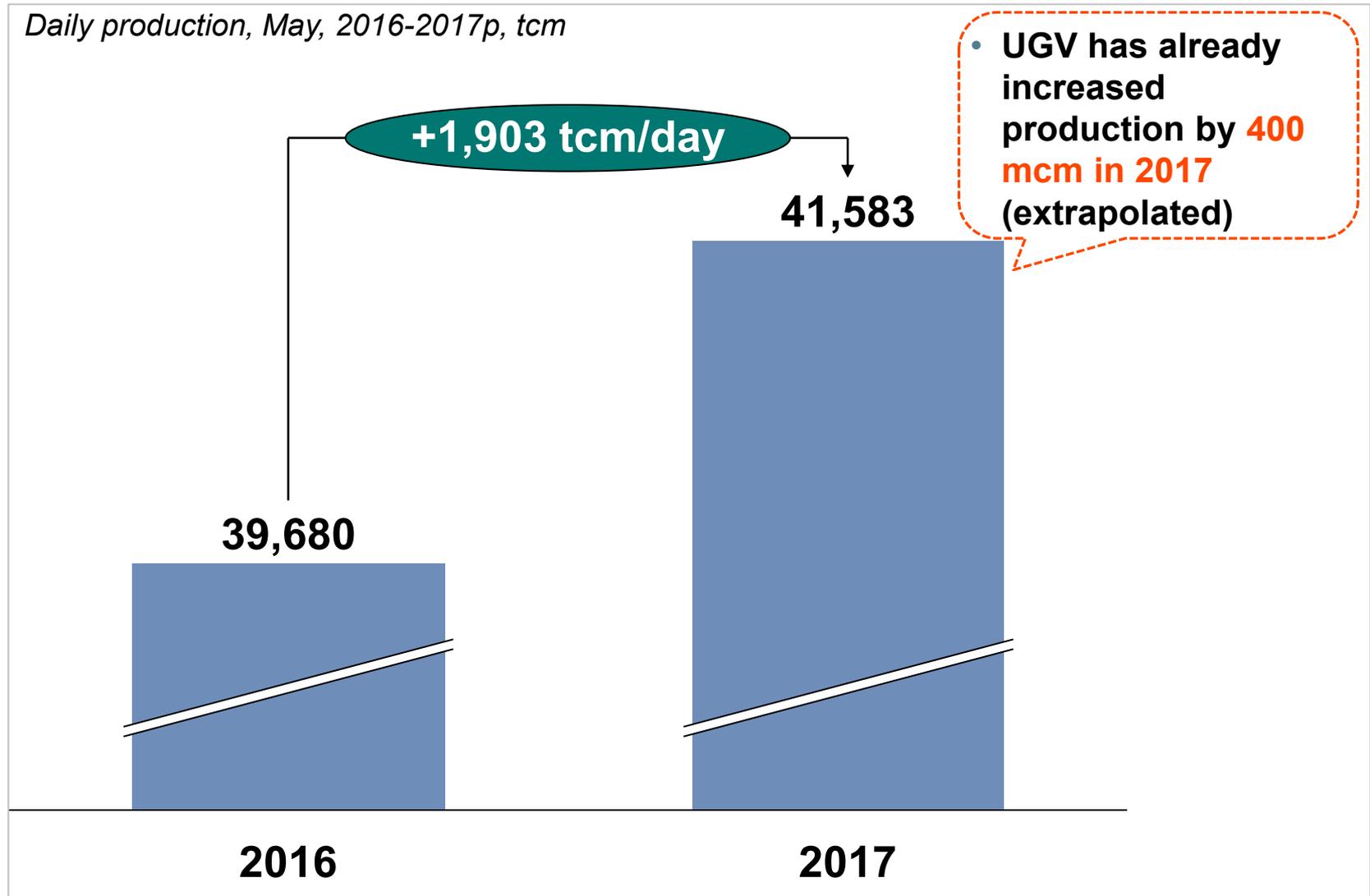
1. Number may decrease after implementations of preventive measures (inhibitors, tubing metallurgy etc.)
Source: UGV

Helicopter view: 2017 has become the year when UGV managed firmly change production trajectory

Daily production, 2015-2017, tcm



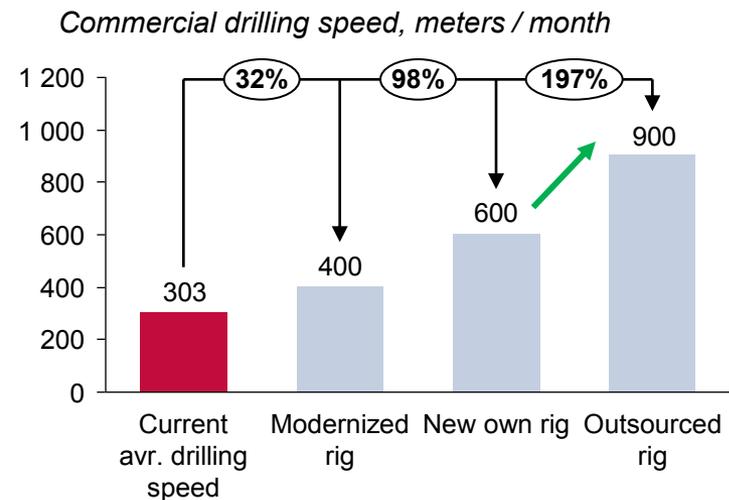
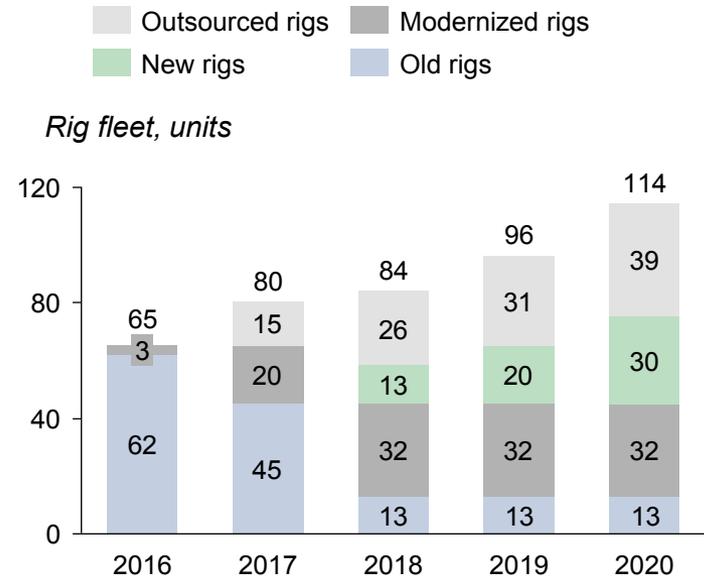
UGV's transformation has already enabled production increase – UGV is on track to hit 2017 target



Drilling capabilities development plan to substantially increase drilling speed

Three key streams of UGV rig fleet capabilities development

- Rig fleet modernization**
 - 32 rigs until 2018
- Outsourcing of drilling**
 - 15 rigs already in 2017
- New rig purchasing**
 - 30 rigs until 2020



Today UGV has new experienced management and is closely engaged with international institutions

New management from international and Ukrainian well-known companies



...which is supported by international partners



UGV has started cooperation with some of the major international players in oil & gas sector



Weatherford[®]

Solar[®] Turbines

A Caterpillar Company



Schlumberger



Polskie Górnictwo Naftowe
i Gazownictwo SA



SIEMENS

Schneider
Electric

 **YOKOGAWA**

UGV has significantly ramped up its technical modernization and scale of operations in 2016

Workover and intensification

- **Upgrade of coil-tubing unit capacity:** repair of existing 5 coil-tubing units and purchasing of 4 new coil-tubing units
- **Scale-up of WO /CT / stimulation program:** ~300 well operations conducted, including 120 coil-tubing operations; over 150 well stimulation operations
- Restored **hydro fracking fleet**, new international hydro fracking team built, **international partners** hired to perform 100 hydro fracking operations
- Over 350m m3 of incremental production from WO, coil-tubing and stimulation operations

Pressure optimization

- **New booster compressor station launched**, modernization of 4 more stations to be completed shortly
- **22km gas pipeline** construction and 8 **gas dryer unit** installation started

Drilling and geology

- **Drilling volume increase** in 2016 to **almost 200k meters** from 175k meters in 2015
- Commercial drilling speed increased in 2016 to 303m / month from 287m/month
- Tender for **outsourced drilling** services for **90 wells** announced
- Tenders for **15+ new drill rigs** under way
- **13 new field licenses** obtained over 2015-2016
- **~7bn m3** reserves added
- **25 3D hydro dynamic models** being built for key brownfields
- **5 450-ton rigs purchased** from Bentec

Cooperation opportunities with UGV currently include four key dimensions

1

Equipment and technology supply cooperation

- Tenders for new equipment (drill rigs, WO rigs, booster compressor station equipment) or modernization of existing equipment (cleaning systems, mud pumps etc)

2

Key oil & gas services outsourcing cooperation

- Outsourced drilling and drilling services tenders (drilling, drill bit, mudding, cementing, completion, MWD/LWD services etc)
- Outsourced WO and fishing works
- Seismic works

3

Field development cooperation

- Partnerships for maximizing recovery rate on depleted fields or development of greenfields (including potential new offshore licenses) through PEC/PSA partnerships

4

Institutional cooperation

- Partnership in UGV capability and Ukraine market development as well as providing project financing for ambitious UGV investment and growth program

UGV's key tenders for services and equipment

Drill rig outsourcing

- Tender for 90 wells to attract 15 outsourced rigs is already at contractor qualification stage
- Further tenders for outsourced rigs expected in 2017-2018 as the drilling program is ramping up

Drilling services

- To support outsourced drilling UGV is planning to tender key drilling services – tenders have been / to be announced in **February-March 2017**
 - (1) Drill bit service, (2) Drilling mud service, (3) Cementing service, (4) MWD/LWD service, (5) Completion service, (6) Coring service, (7) Mud logging service, (8) Drilling jar rent service, (9) Mud motor rent service, (10) Drilling supervising service

WO rig / services outsourcing

- Tenders for workover rig services and fishing tools and services have been / to be announced **in H1 2017**
- WO / coil-tubing services tenders will be conducted **in 2017** to cover needs for hydrofracking operations

Hydrofracking

- Four tenders for the total of 100 HF operations have already been completed, additional tenders will be conducted **during 2017**

Seismic works

- 2D and 3D seismic works tenders to be conducted throughout **2017**
 - Over 1 500 km² of 3D seismic planned to be done in 2017

For more information please contact



SERGIY BOEV

**Director for Business Development,
UkrGasVydobuvannya**

Email: Sergiy.Boev@ugv.com.ua

Tel: +380 99430 1642



VOLODYMYR GAIDASH

**Head of Communications,
UkrGasVydobuvannya**

Email: Volodymyr.Gaidash@ugv.com.ua

Tel: +380 67 6368149