

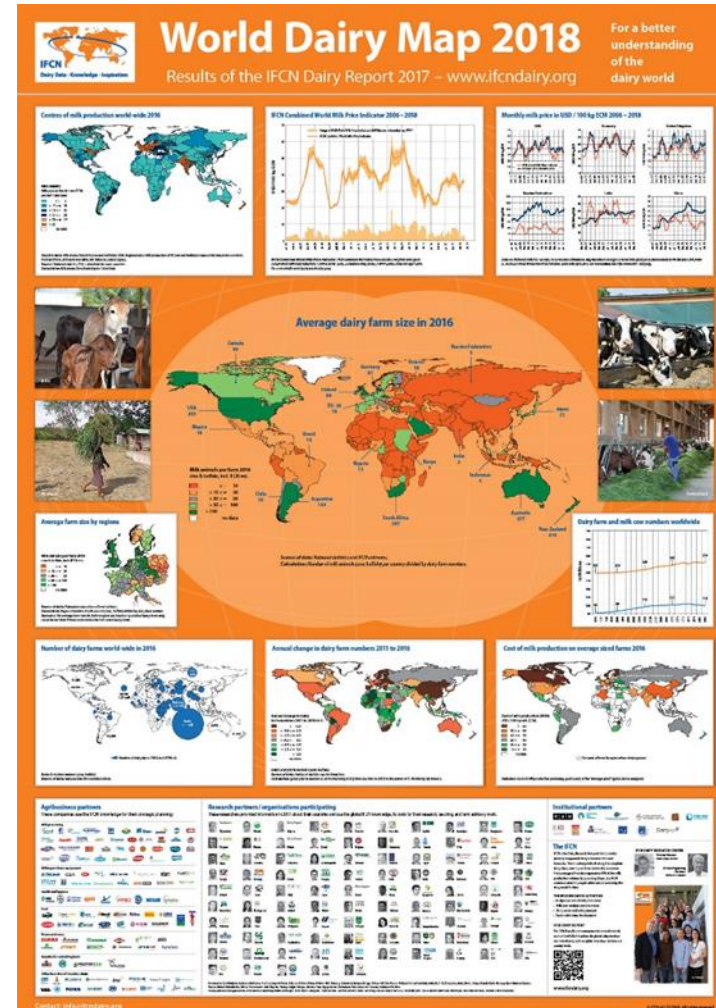
Trends of dairy world (2017 vs 2030)

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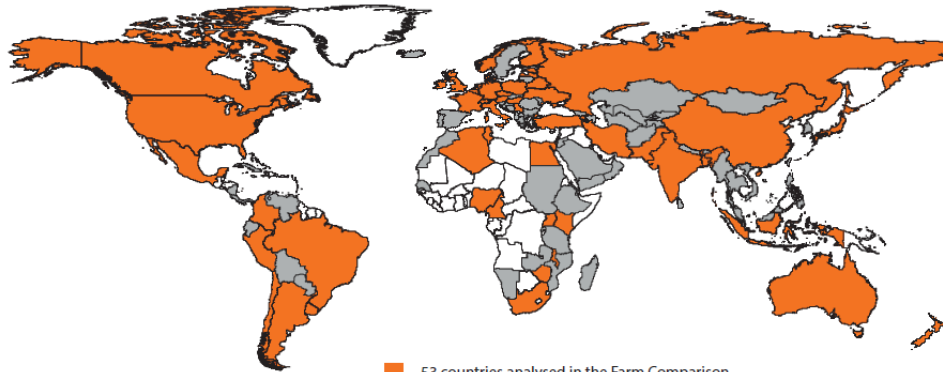
Outline

1. What is IFCN?
2. Milk Market (past – present)
3. Perspectives
4. Summary



Status of the IFCN Network in 2018

Research partners in over 100 countries



■ 53 countries analysed in the Farm Comparison
■ 60+ countries participated in the Country Pages



Supporting partners (> 120)

Milk processing

Milking and barn equipment

Health and hygiene

Feed

Farm machinery

Genetics for animal & plants

Other branches of the dairy chain

Mission:

Create a better understanding of the dairy world by providing comparable data, knowledge and inspiration.

IFCN Data Products

Annual Data

Annual Dairy Sector Data + Forecast
Farm Structure Data + Forecast
Processor Data

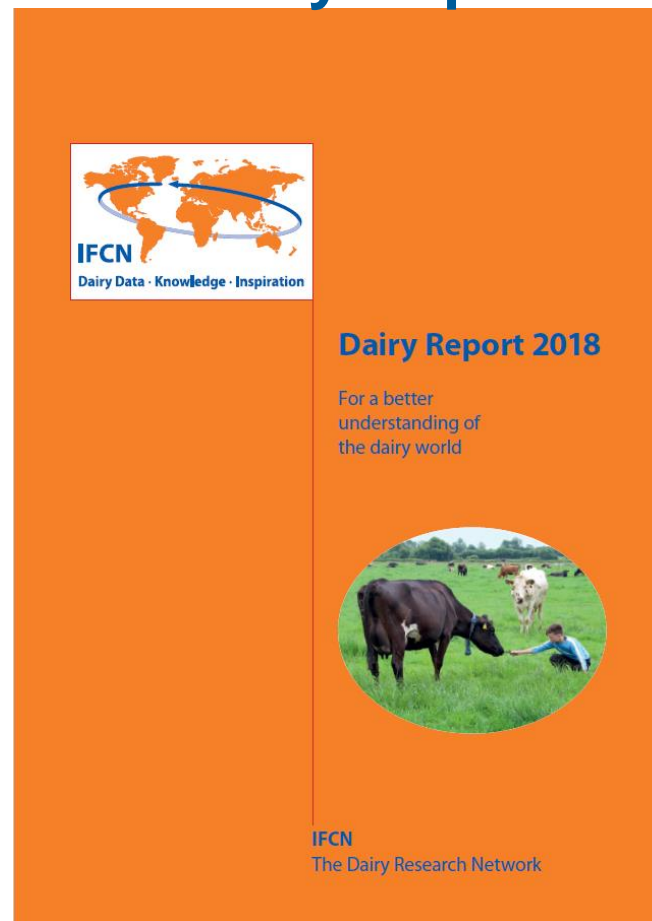
Monthly Data

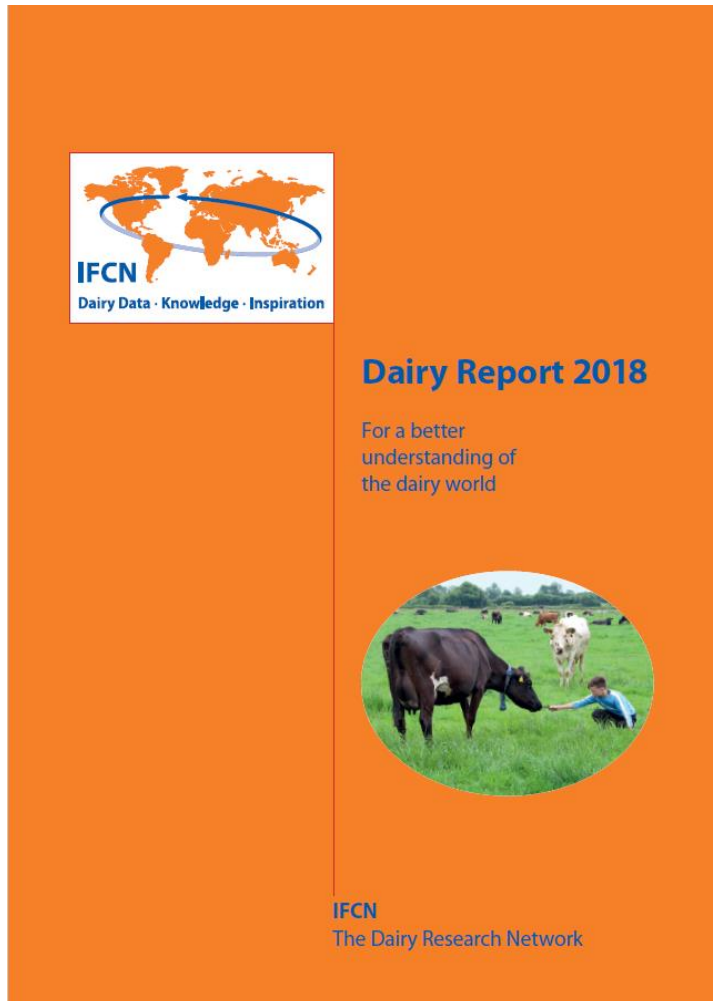
Real Time Production and Price Data
Real Time Farm Economics
Dairy Demand and Trade Data

Farm data

Farm Economic Data – time series
Farm Feeding System Data

IFCN Dairy Report





Structure of the Dairy Report

Comparison of the typical farms

- Cost of milk production
- Dairy Enterprise: profits, return to labour and asset structure, cost components
- Sustainability and resilience etc.

→ 53 countries covered. **New:** Latvia, partner: LLKC

Global monitoring dairy economic indicators

- Trends in oil, milk and feed prices
- Monthly milk price transmission
- Farm economics etc.

Dairy sector and chain profile

- Milk production and consumption,
- Dairy chain and dairy trade, country pages etc.

Dairy Development Work

TWO WORKING AREAS

1. Evidence of the contribution of dairy to sustainable development

2. Supporting guidelines and tools for measuring dairy impact



GLOBAL AGENDA FOR SUSTAINABLE LIVESTOCK



LIVESTOCK INFORMATION, SECTOR ANALYSIS AND POLICY BRANCH



GLOBAL DAIRY PLATFORM
KNOWLEDGE · INSIGHT · GUIDANCE

DAIRY DEVELOPMENT PILLAR



IFCN
Dairy Data · Knowledge · Inspiration

IFCN DAIRY NETWORK

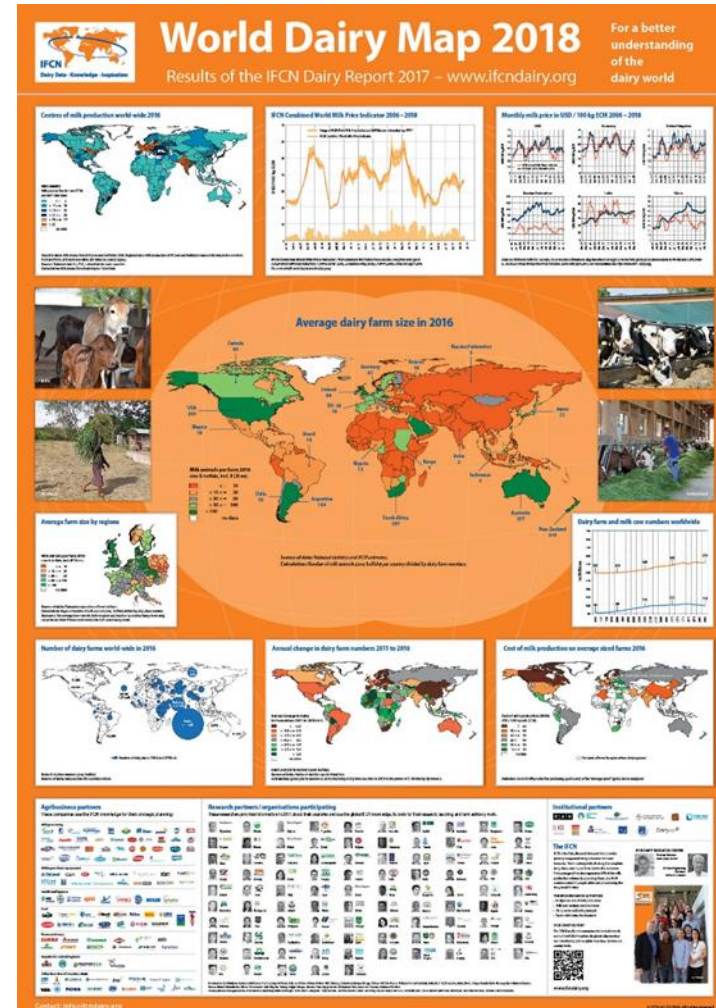


Dairy Development's Impact on Poverty Reduction



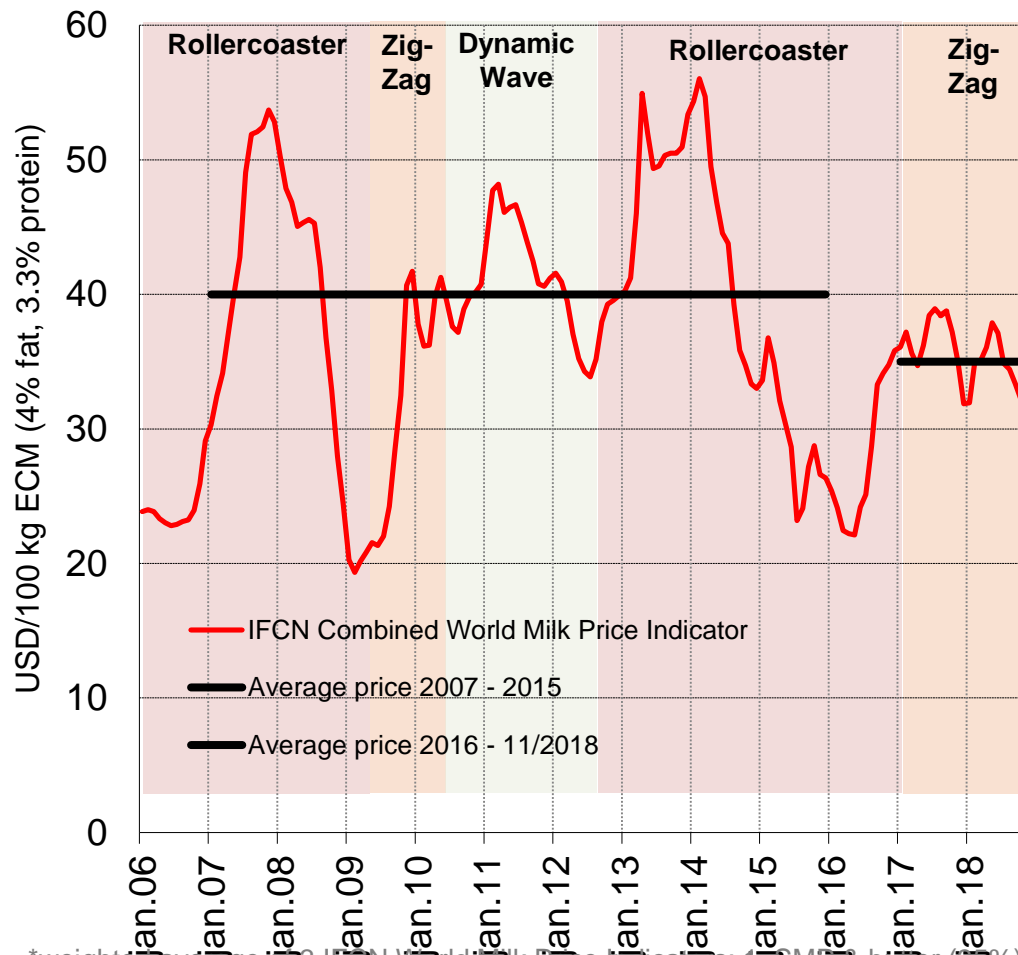
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Prices: World Milk Price Cycles

IFCN World Milk Price Indicator*



Long-term Average

2007 – 2015 = 40\$ (35 EUR)
 2016 – 2018 = 35\$ (31 EUR)
 “new reality”

Probable price scenario for the world**:

Nov. 2018 Estimate: **31.5 USD**
 ~27.7 EUR

Short-term Outlook: **35 – 38 USD**
 (2019) ~31 – 33 EUR

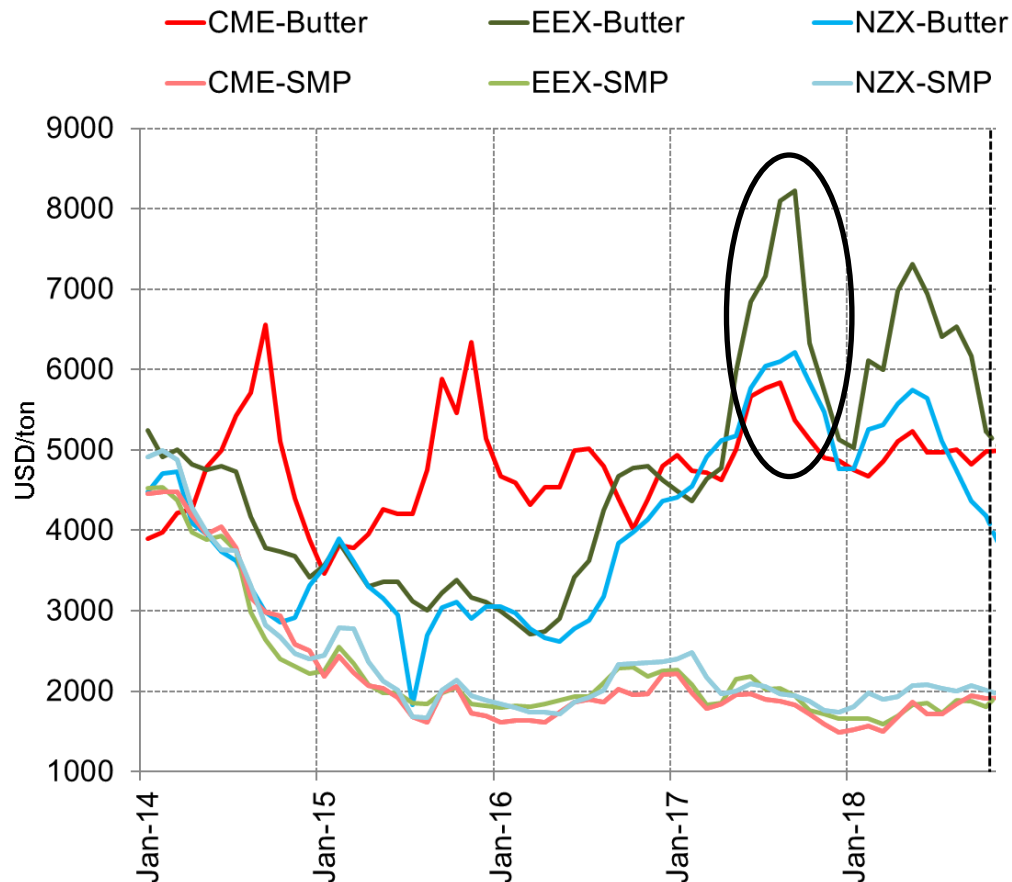
Long-term Outlook: **41 USD**
 (2030) ~ 36 EUR

*weighted average of 3 IFCN World Milk Price Indicators: 1. SMP & butter (35%), 2. Cheese & whey (45%), 3. WMP (20%)

** prices per 100 kg ECM

Prices: Butter as key driver in 2017+2018

SMP and butter prices on different trade platforms



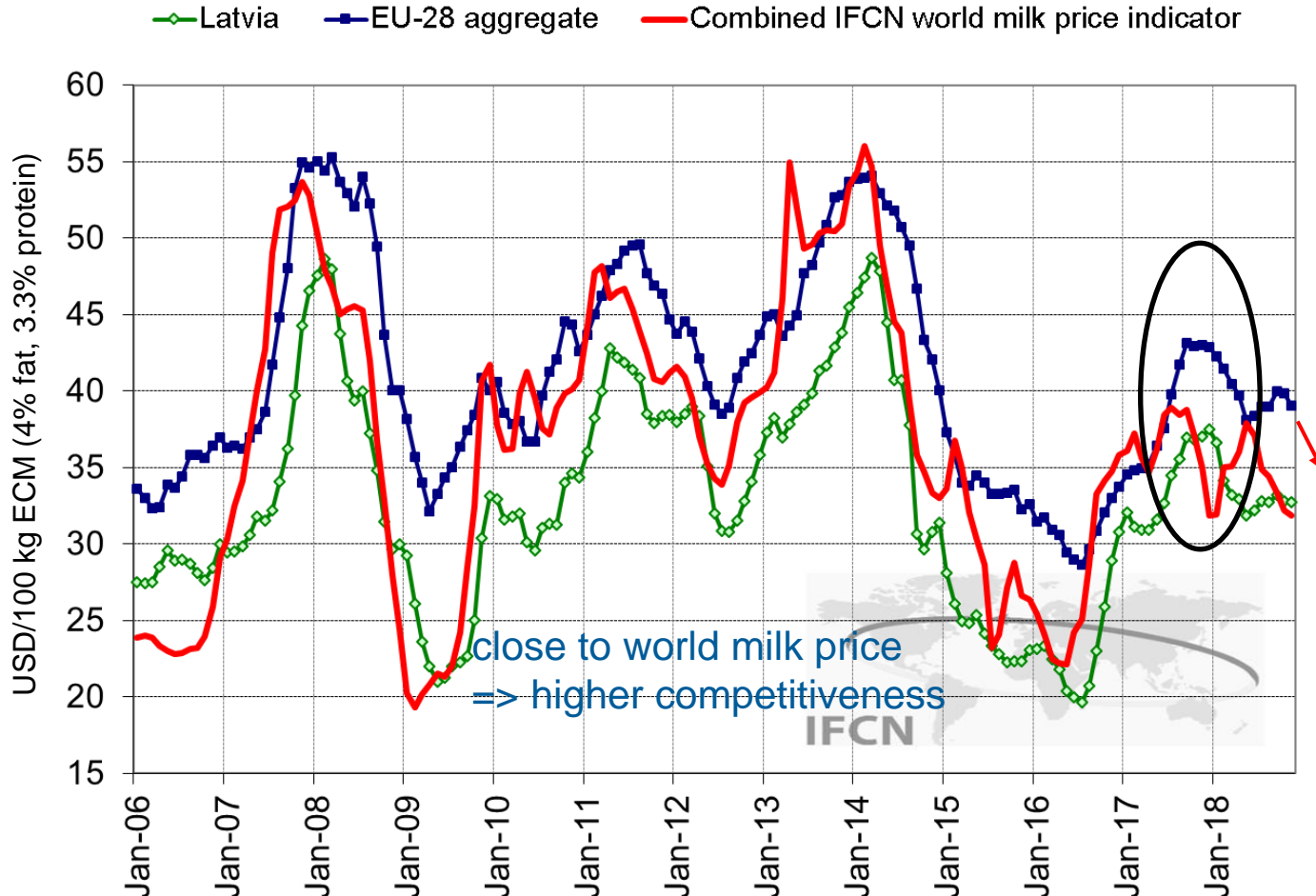
Protein prices are aligned between key markets (NZ, US, EU)

Fat prices make the difference for farmers payout price → Case EU 2017

CME: Chicago Mercantile Exchange, EEX: European Energy Exchange, NZX: New Zealand Stock Exchange

Prices: Transmission of global commodity price developments to the farm level

Farmgate milk prices with estimates for last 3 months



World market price **influences** the national milk prices

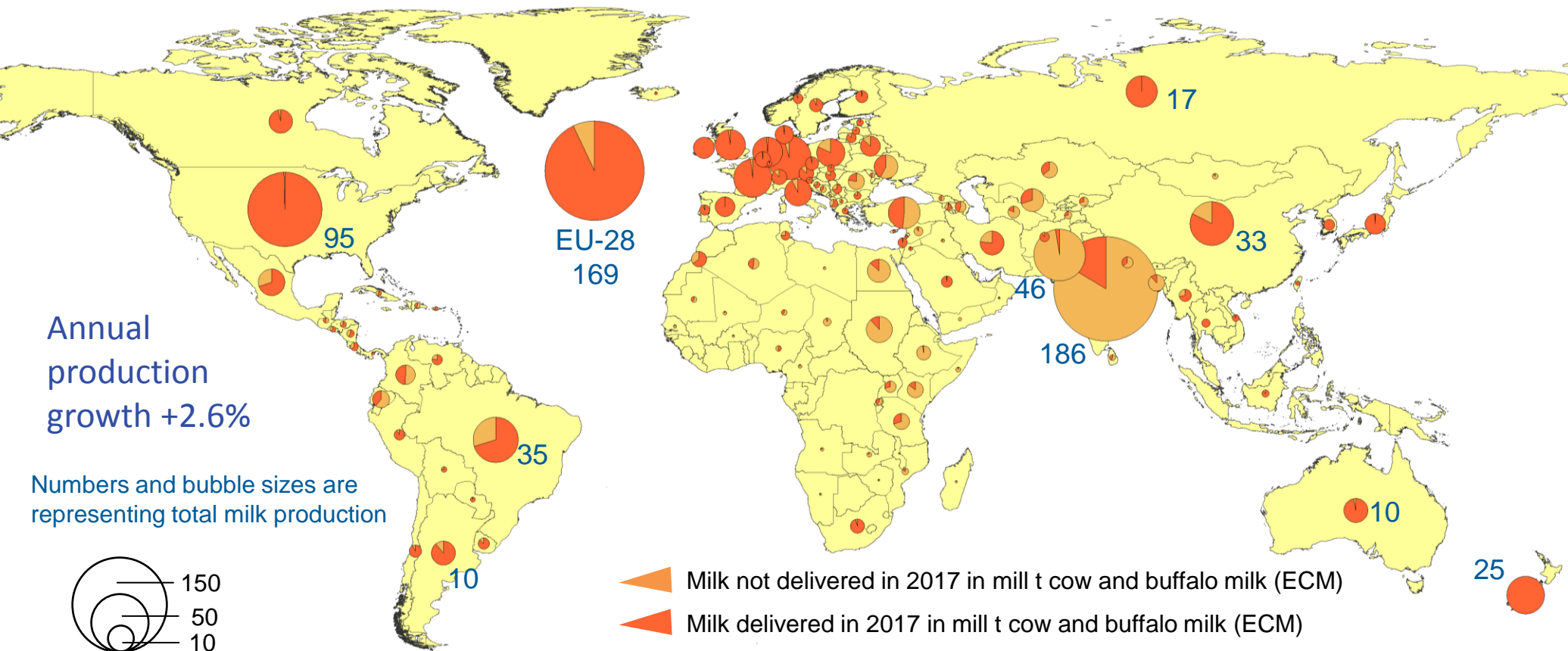
Two ways of disconnection

- Time based →
- Level based ↑

Q4 2017: Disconnection due to higher butter prices and time lag on avg. 4 months

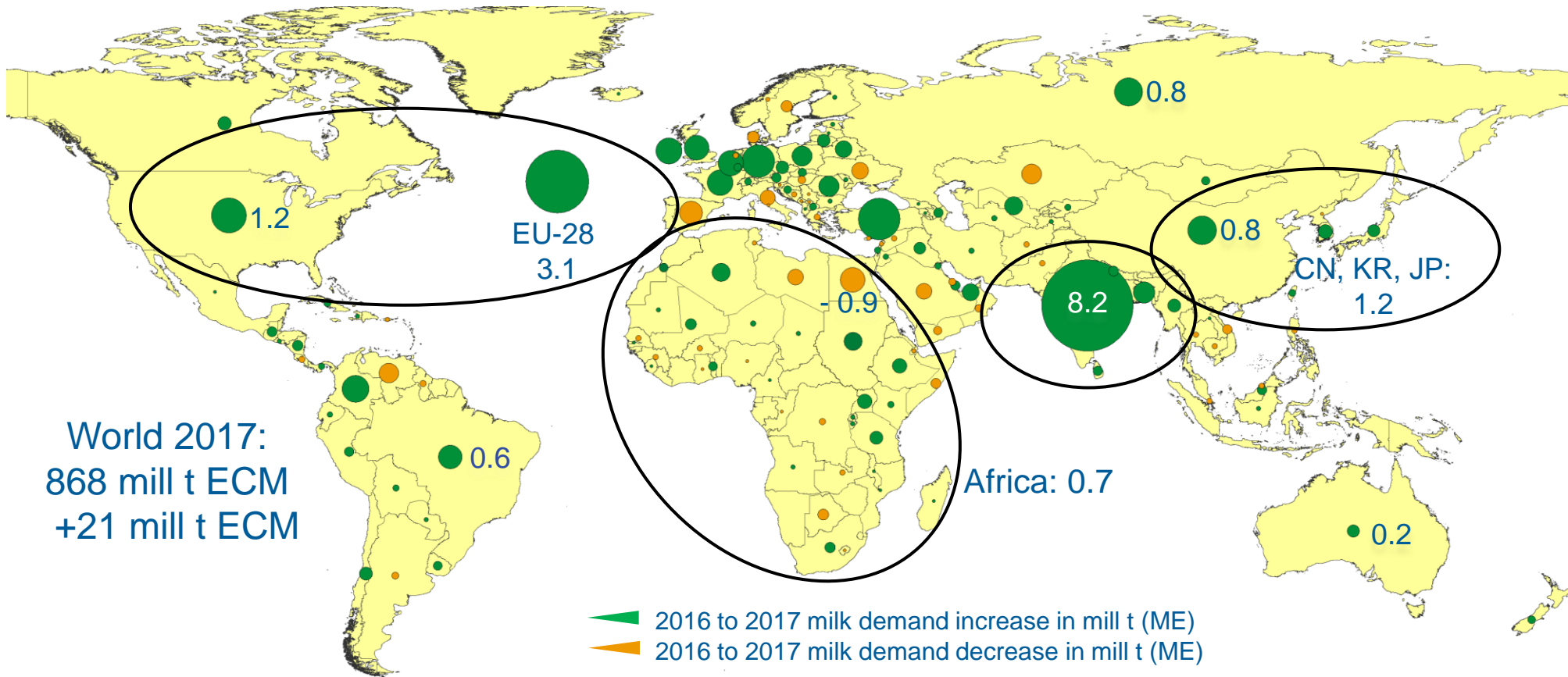
Due to reaction lag: EU farmgate milk prices down in Q1 2019

Status of milk production & delivery in 2017



- **Top 3 regions:** South Asia, EU, USA
- **Share of milk delivered worldwide in 2017:** ~60%
- **Top Exporter:** Self-sufficiency = 223%
(EU,US,NZ,AU,BR,AR,UY) Delivery share = 90%
- **Top Importer:** Self-sufficiency = 84%
(RU, CN, JP, MX, KZ, EG) Delivery share = 61%

World milk demand growth 2017 vs. 2016



- Most significant increase in India – represents 40% world demand growth
- EU-28/US demand growth driven by high demand in fat – more than 20% of world demand growth
- Share on high potential demand regions below 10% (CN, KR, JP/ Africa)

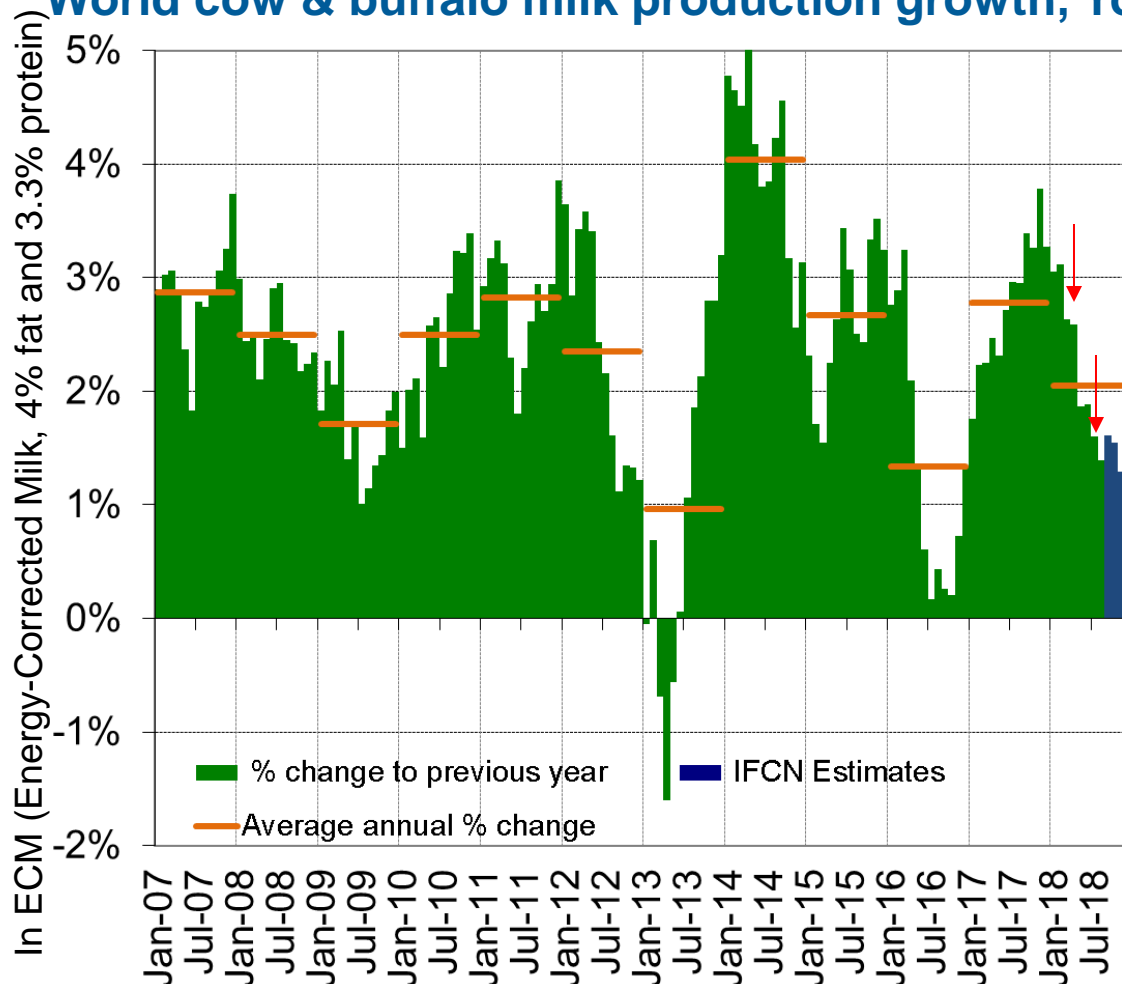
Summary so far: 2017 –market in balance

- 1. Milk price:** avg. IFCN World Milk Price Indicator ~**35.5 USD**/ 100 kg milk in 2017
- 2. Milk supply 2017:** growth of 2.6 % (**22 mill t ECM**), recovery of milk production
- 3. Milk demand 2017:** increase of 2.4 % (**21 mill t ME**), avg. demand growth → “run for butter”



World milk supply 2018

World cow & buffalo milk production growth, YoY



Jan-Nov avg.: 2.1% YoY* – below long-term average (2.4%)

Slow down from Jan **+3.1%** YoY to November 2018 estimate **+1.3%**

Main drivers:

- Weather
- Economics
- Milk content

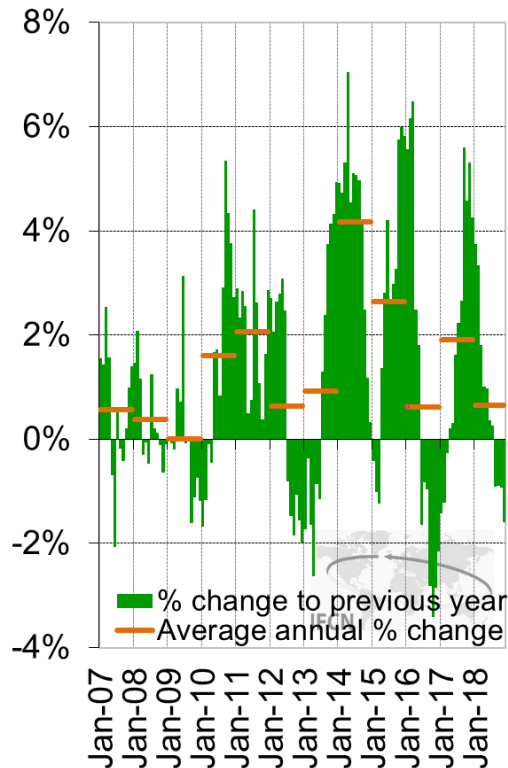
Method:

- 62 countries analyzed monthly
- Cow & buffalo milk
- Covers 92% of world milk production
- Real time estimate Sept.-Nov.

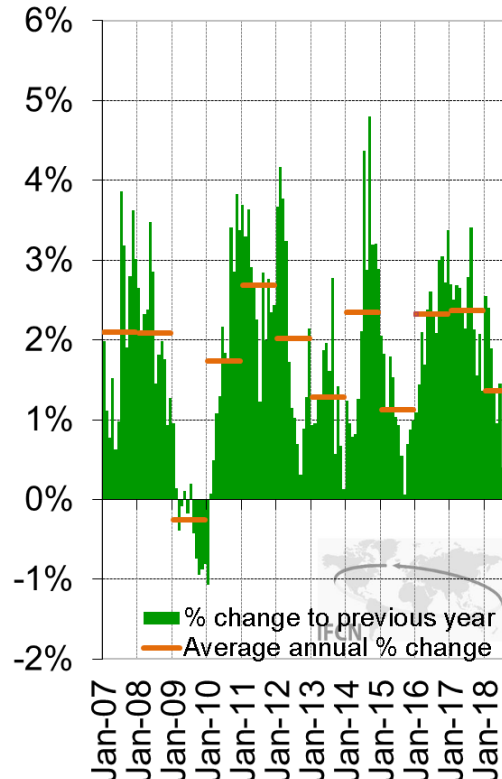
*Year-on-Year

YoY Change of Milk Production 2018

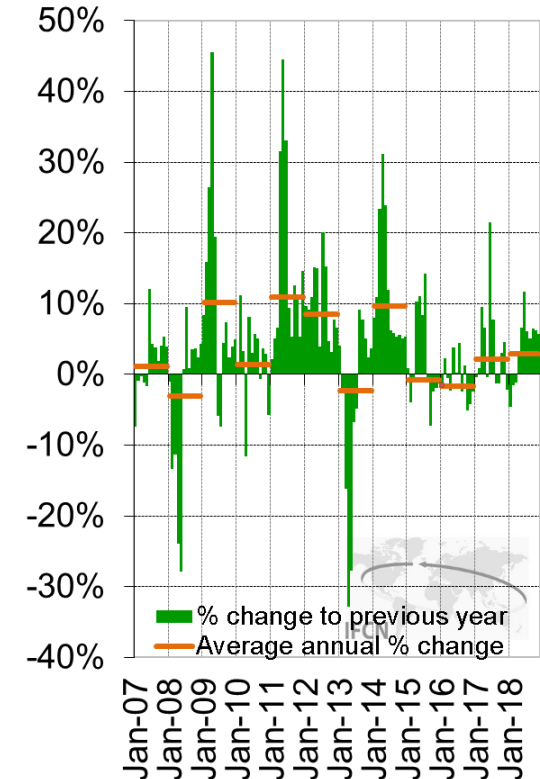
EU-28



United States



New Zealand



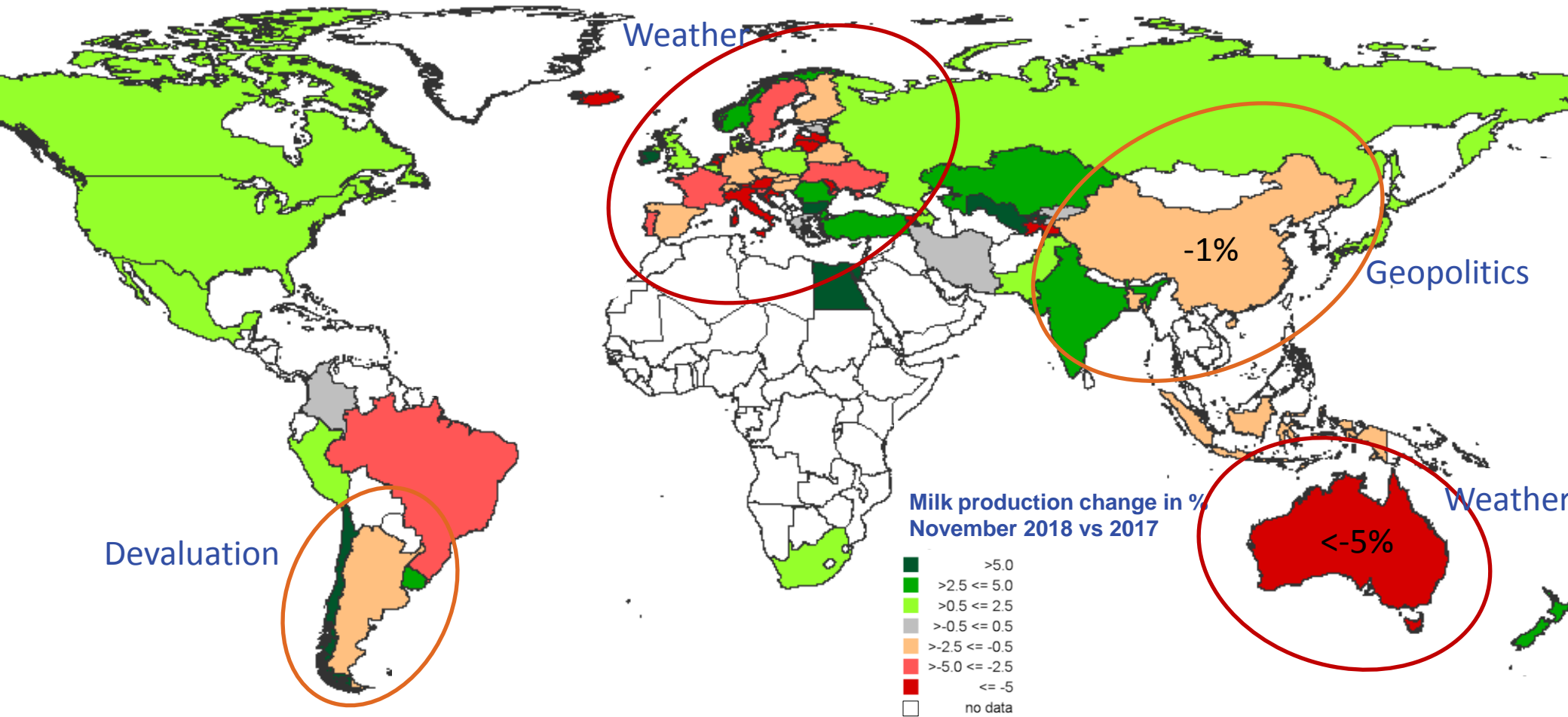
EU: Production below previous year since August (November estimate: -1.6%)

US: Production growth (October: +0.9% YoY) below average (+1.8% YoY)

World: Lower volumes from main producers (EU, US) partly compensated by record production in New Zealand in its **seasonal peak** (+6% YoY in October) → high relevance for price

62 countries, covering 92%

Percent changes in milk volumes



2018: **Costs** as main burden for milk production

IFCN Long-term Dairy Outlook - concept

IFCN Long-term Dairy Outlook:

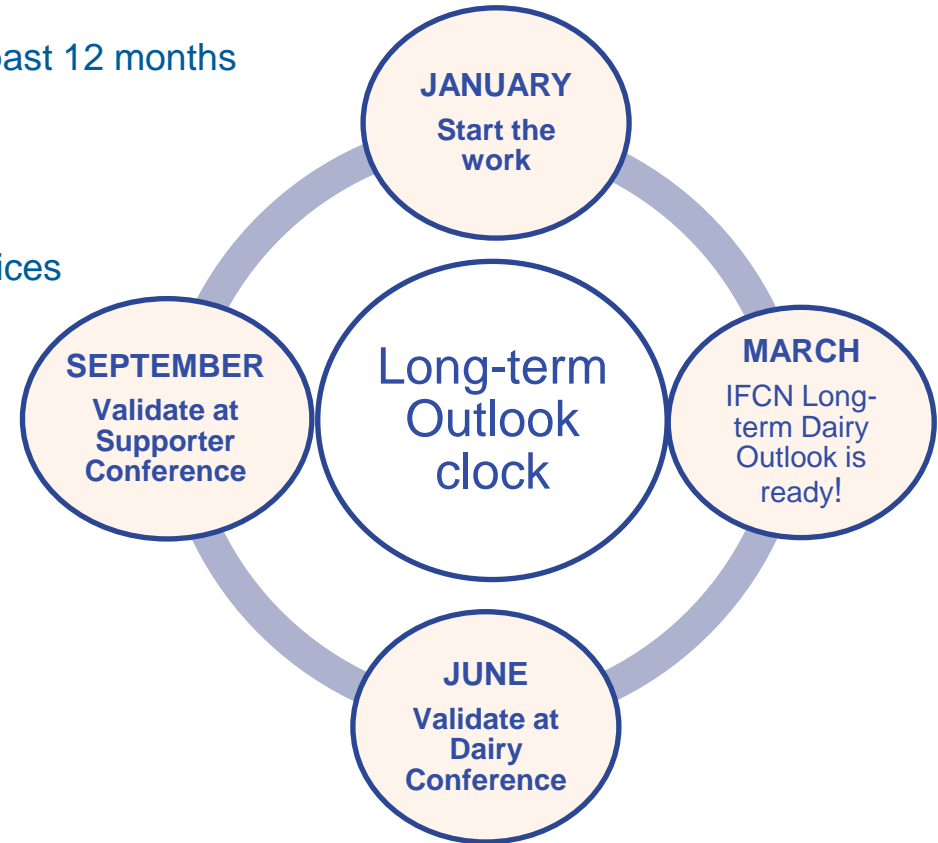
1. Every March since 2012 for around 200 countries
2. It is based on feedback of Research Partners from the past 12 months
3. It is done via a supply/demand modeling process

Method:

1. Select scenario assumptions and define milk and feed prices
2. Define technical assumptions
3. Simulate milk supply and demand for every country
4. If supply and demand are not in balance start again

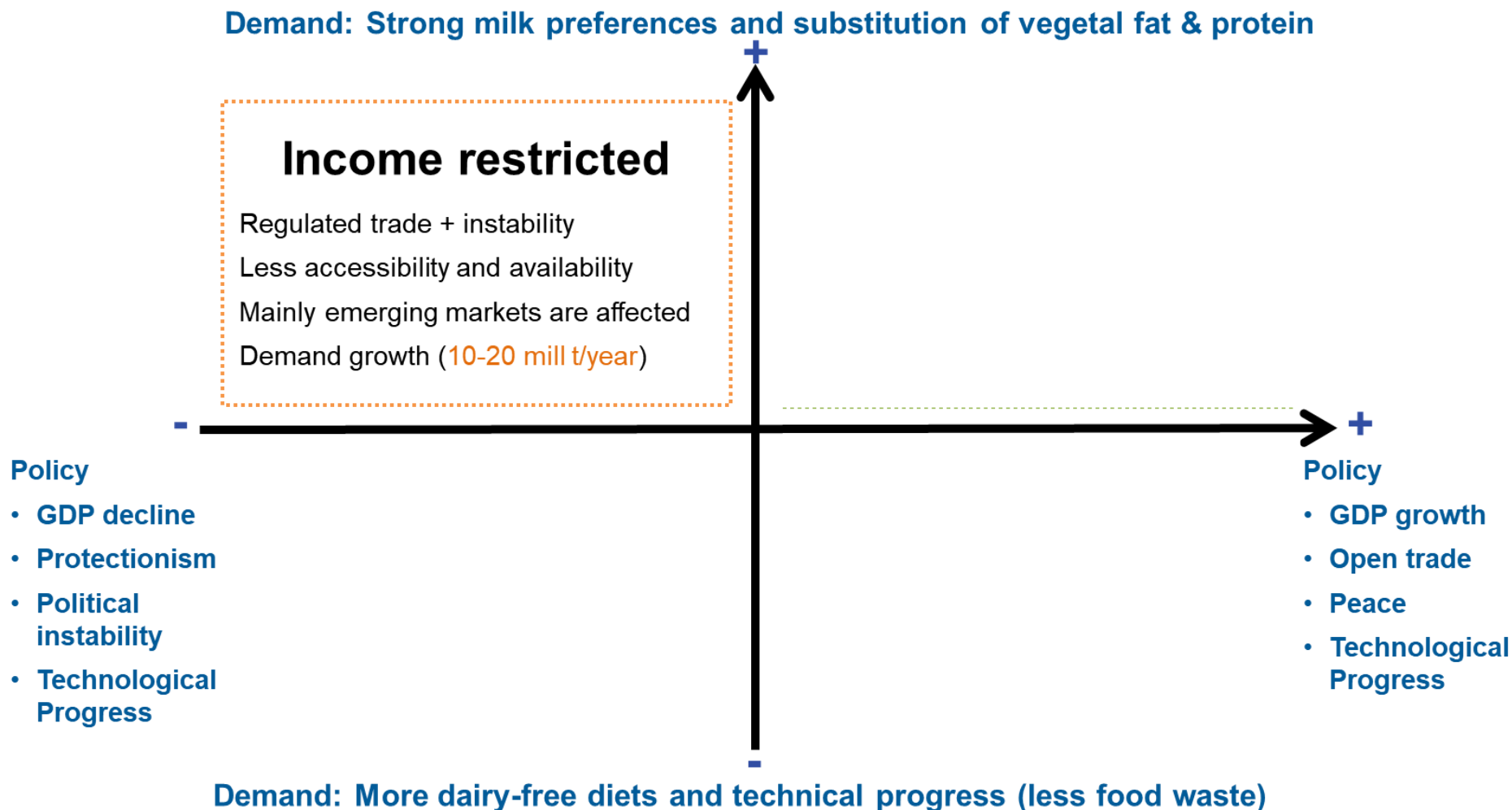
Output for every country

1. Milk supply estimation (cows/yield)
2. Dairy farm number and size
3. Milk delivered to processors
4. Population and demand per capita
5. Milk surplus/deficit per country
6. Dairy trade estimation



IFCN Long-term Dairy Outlook presentation + validation with researchers

IFCN Long-term Dairy Outlook - scenarios



Dairy World in 2007 / 2017 / 2030 Scenario 2,3%

Results based on 3/2018 data



World	Unit	Annual values			Change 2030 vs. 2017		
		2007	2017*	2030	Absolute	%	CAGR %/year
Milk supply and demand							
Milk production ≈ milk demand**	mill t ECM	696	864	1168	304	35%	2.3%
World trade							
Excl. EU-28 intra trade***	mill t ECM	36	55	95	40	73%	4.3%
Supply drivers							
Number of milk animals	mill head	332	372	417	45	12%	0.9%
Average milk yield	t / milk animal / year	2.0	2.2	2.7	0.5	23%	1.6%
Farm number	mill	119	118	104	-14.0	-12%	-1.0%
Average farm size	head / farm	2.8	3.1	4.0	0.9	29%	2.0%
Demand drivers							
Population	billion	6.5	7.5	8.7	1.2	16%	1.1%
Dairy consumption per capita	kg ME/ capita/ year	104	116	135	19	16%	1.2%

Explanations:

Results based on Scenario 1 (High milk demand due to consumer preferences and beneficial political and economic situation)

* Preliminary data of the year 2016, partly estimated

** Small deviations of total supply and demand due to changes in stocks

*** Representing volume traded from surplus countries; imports from net exporters not included

ECM= Energy corrected milk (standardized to 4% fat and 3.3 % protein)

ME= Milk equivalents, method: "fat and protein only"

CAGR= Compound Annual Growth Rate

Status of data : 03/2018

The Dairy World 2030 vs. 2017



Milk production:

+ 304 mill t

Approx. 3 times of the
current USA milk supply



Milk production per farm:

+ 54%



Per capita milk consumption:

+ 16%



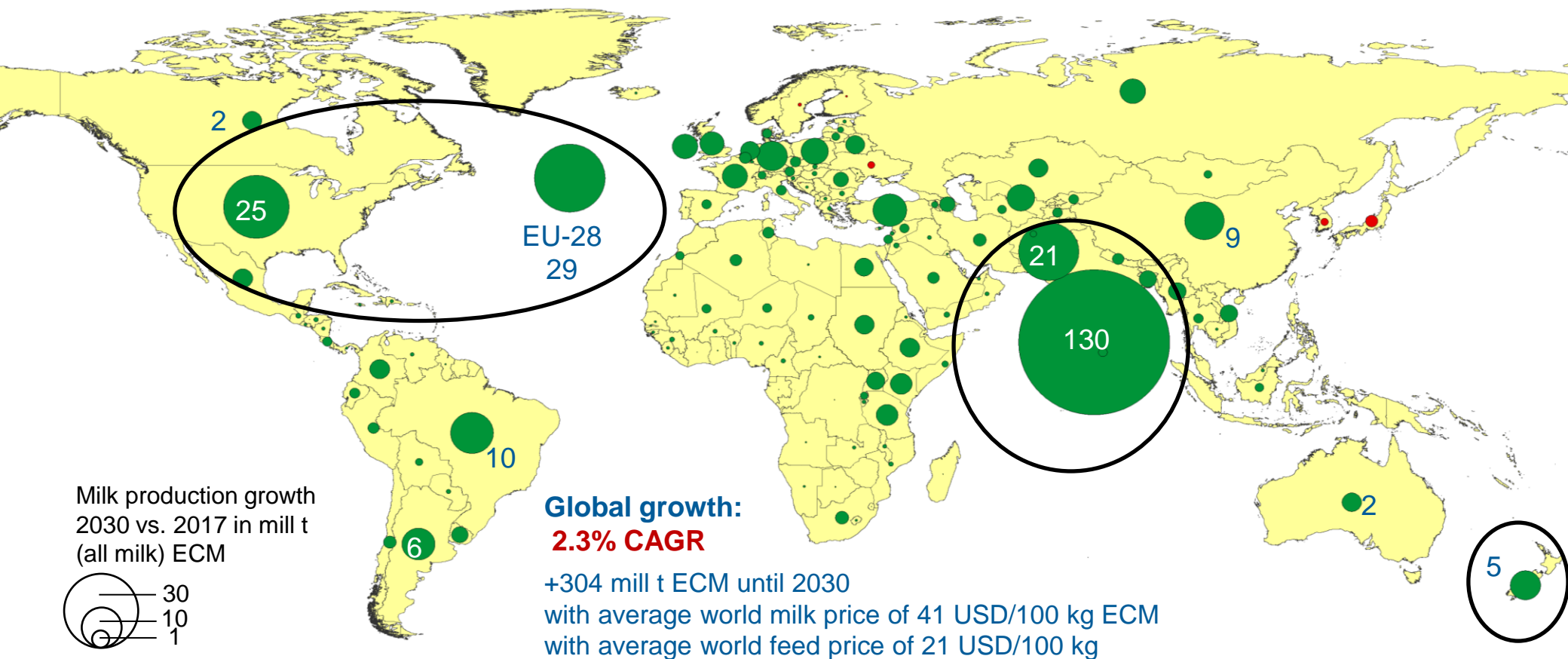
Average milk yield:

+ 23%



Until 2030, global population will increase **by 16%** to 8.7 billion people, so **1.2 billion more consumers** will demand milk products.

World milk production growth until 2030

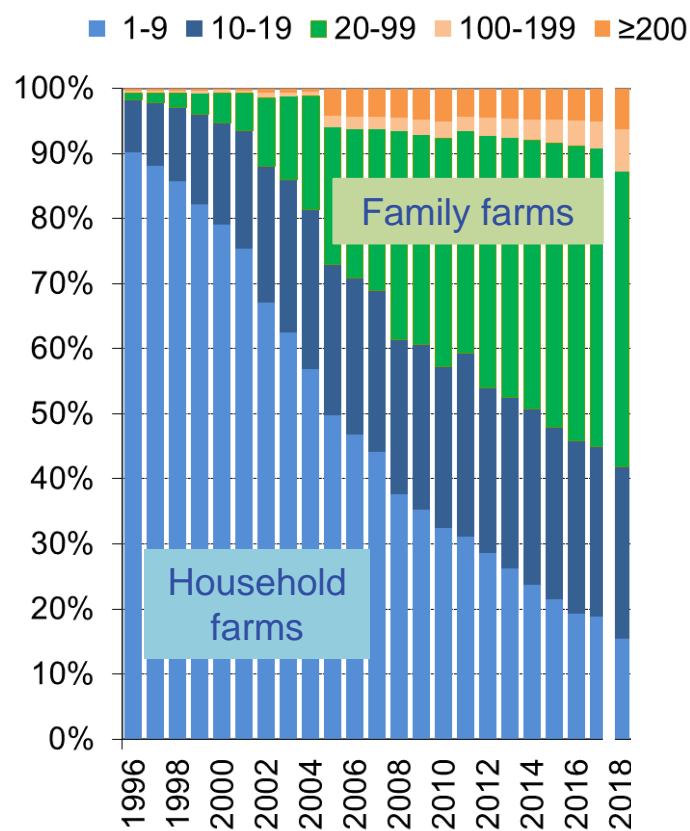


- IN: ~43% of total world growth in 2030 (2017: ~40% of total growth)
- NZ, EU-28 and US: ~20% of total world growth in 2030 (2017: ~22% of total growth)
- PL, DE, FR, UK, IE: ~70% of EU-28 growth

Farm structure developments 2030

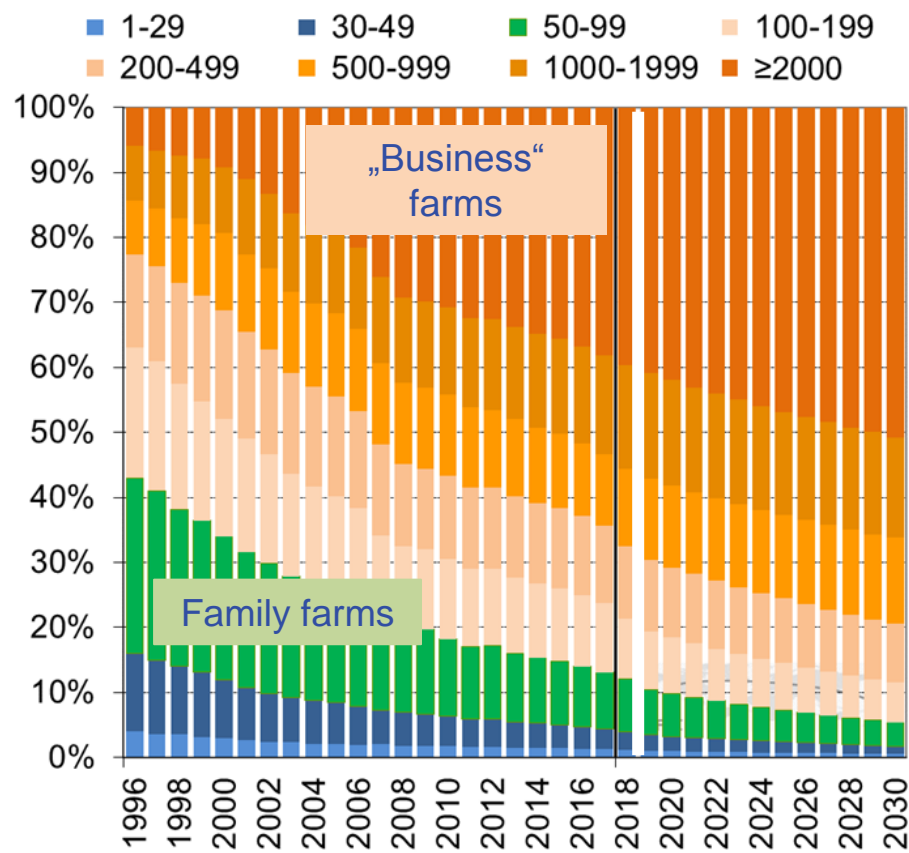
Poland

Dairy cows per national size class forecast



United States

Dairy cows per national size class forecast

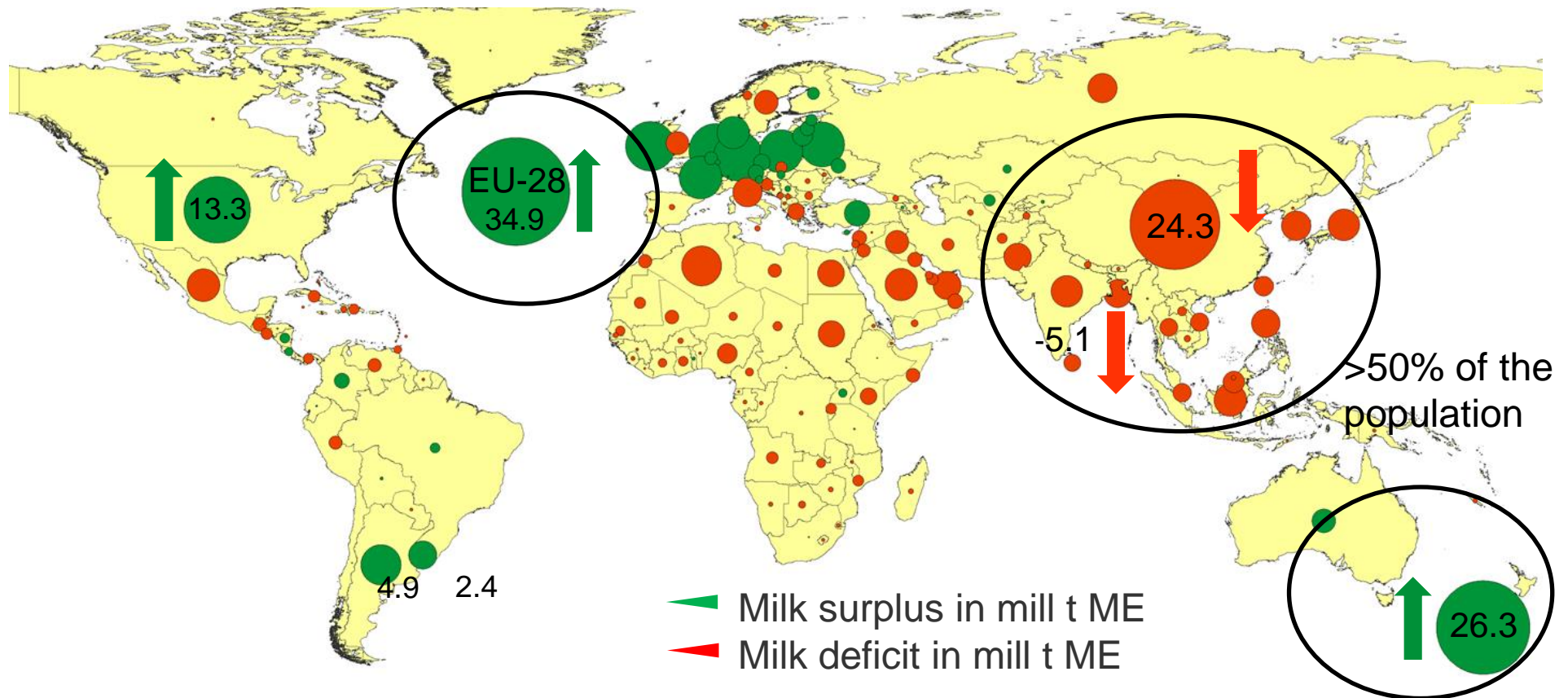


PL: 1996-2018: From Household to family farms, 2018-2030: From HH to business farms

US: Consolidation of business farms

Surplus deficit 2030

Milk surplus and deficit in mill t ME



1. EU surplus will exceed NZ surplus
2. Key exporters (NZ, US, EU) will increase their total surplus by +30.1 mill t ME
3. Key importer regions will be located in CN, South Asia, Africa and Middle East

Key messages from IFCN

2017

1. **Milk price:** avg. IFCN World Milk Price Indicator ~**35.5 USD/ 100 kg milk** in 2017
2. **Milk supply 2017:** growth of 2.6 % (**22 mill t ECM**), recovery of milk production
3. **Milk demand 2017:** increase of 2.4 % (**21 mill t ME**), avg. demand growth rate

2018

3. **High production costs** pull world milk production growth down (November: +1.3% YoY)
4. **Global commodity prices** fell -16% since May, with butter -25%
5. **IFCN Dairy Long-term Outlook 2030:** IFCN expects 35% more milk in 2030 compared to today (+304 mill t ECM), which is approx. 3 times today's US production

Thank you for your attention



Network of IFCN Researchers



Network of IFCN Supporters



IFCN Dairy Research Center

A great number of people have collaborated since the year 2000 to make this presentation possible.