



Green and digital transition in agriculture

Presentation of JRC report

Towards a green and digital future

Agriculture

& Information about a related AGRI/JRC project

Civil Dialogue Group - Common Agricultural Policy

24 October 2022

Contents

1. Introduction

*AGRI – Directorate for Strategy and Analysis
Advisor on Foresight and Impact Assessment*

2. Presentation: Towards a **green** and **digital** future - agriculture

Joint Research Centre (JRC)

3. Information: AGRI/JRC project on implications of **digital** transition for farmers and rural communities

*JRC Competence Centre for Foresight
AGRI.A.4 Data Governance (and Digitalisation)*

EC strategic foresight – 2040/2050

EC strategic foresight reports

Resilience (2020) – 4 dimensions: **socio-economic**, **green**, **digital**, **geopolitical**

Open strategic autonomy (2021)

Twin **green** and **digital** transition in new **geopolitical** context (2022)

Communication to EP and Council

JRC Science for policy report



Eckhard STÖERMER (JRC, I2)
Carolina PUERTA-PINERO (JRC-Ispra, D5)

CAP Civil Dialogue Group (CDG)
24 October 2022

TOWARDS
**A GREEN &
DIGITAL
FUTURE**



European
Commission

The JRC report underpins the European Commission's Strategic Foresight Report

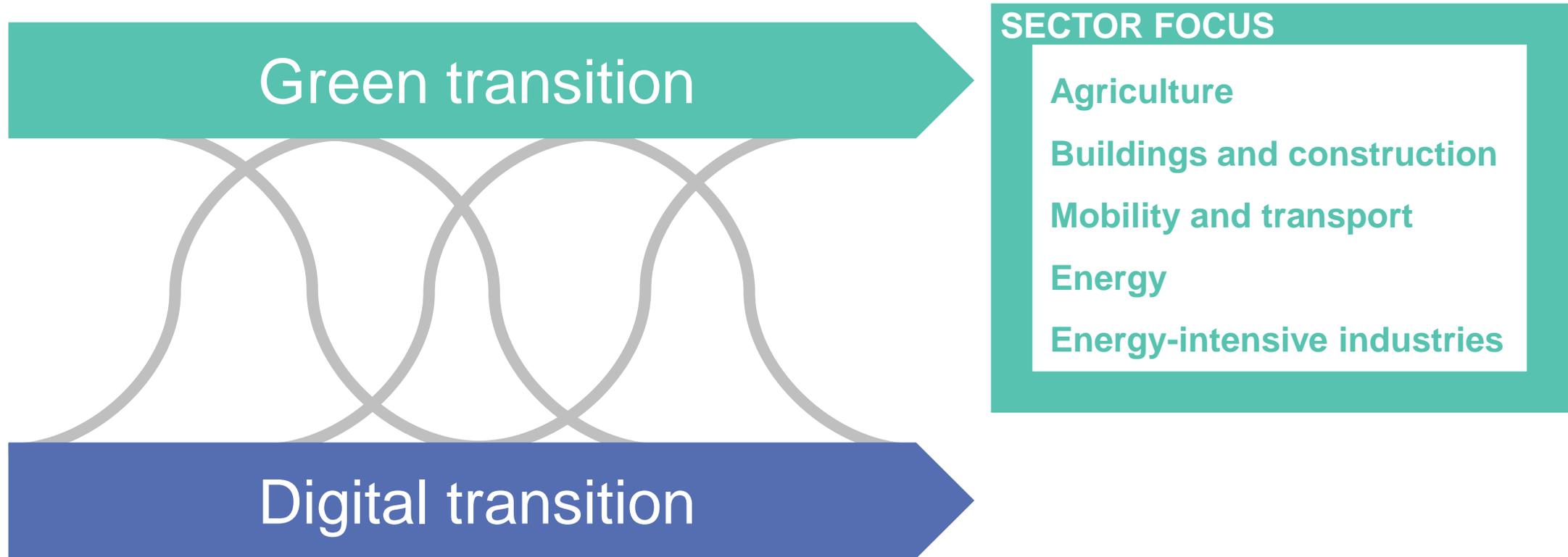


Science for Policy Report

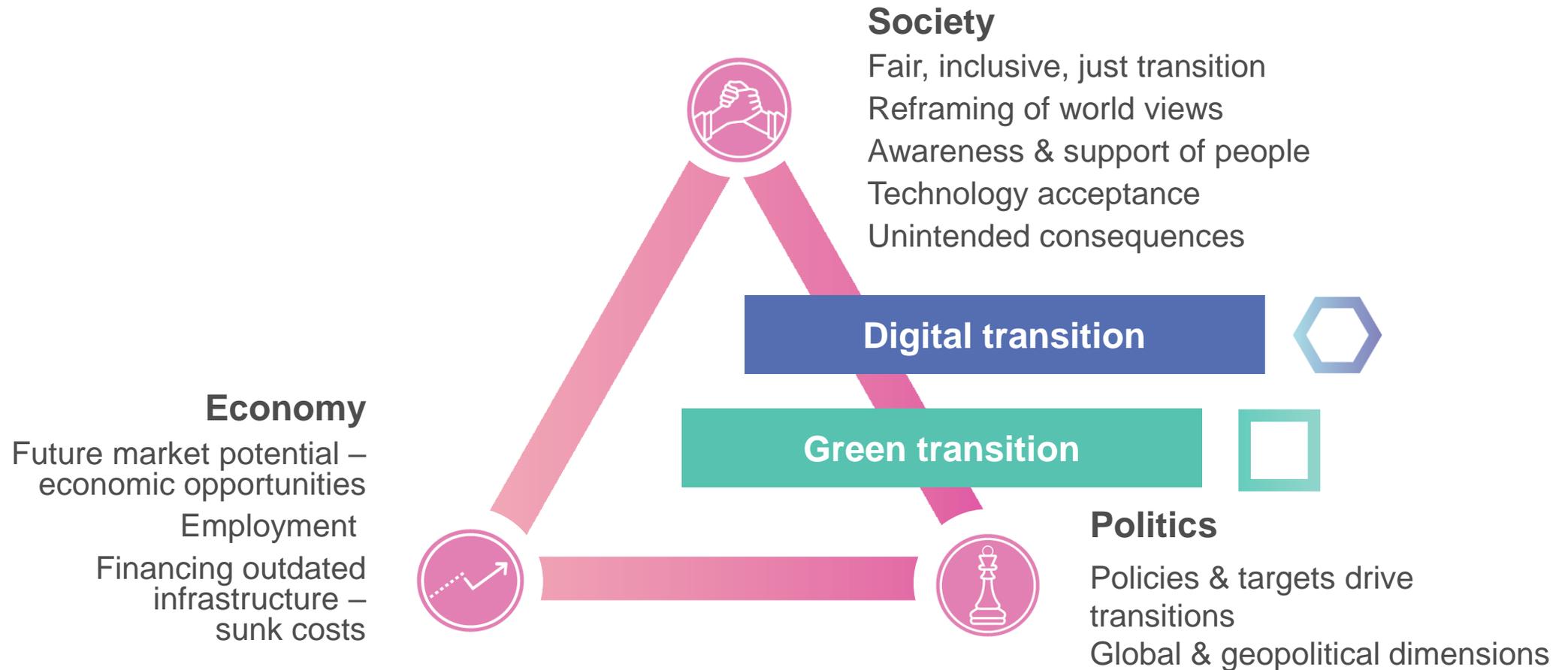


Communication

How can the green and digital transitions reinforce each other?



Contextual factors can determine success



Key challenges for green and digital transition



Agriculture is driven by trends

- Resilience becoming more important
- Increase in food demand
- Consumer choices and social norms change
- Increased health-consciousness

Green and digital technologies enable tackling new challenges

Digital functions enable transition



Monitoring and tracking

Gather knowledge on biodiversity deficits



Simulation and forecasting

Digital Twins of animals to improve prediction capacity



Virtualisation

Virtual fencing



Systems management

Increase productivity and decrease use of fertilizers in agriculture



Information and communication technologies

Supply chain tracking e.g. via RFID chips

DIGITAL ENVIRONMENTAL MONITORING SYSTEMS

Role of digital technologies

- Real-time monitoring
- New ways of analysing and visualising data (e.g. geographical mapping, multi-temporal trends)
- Improved data accessibility and usability to various stakeholders / decision makers with different degrees of expertise
- Information sharing among individuals

SMART SUSTAINABLE FARMING

Role of digital technologies

- Real-time monitoring of health of plants and livestock
- Data analysis and decision support
- Managing autonomous devices and drones
- Communication and management of the agri-food supply chain
- Traceability and transparency of products

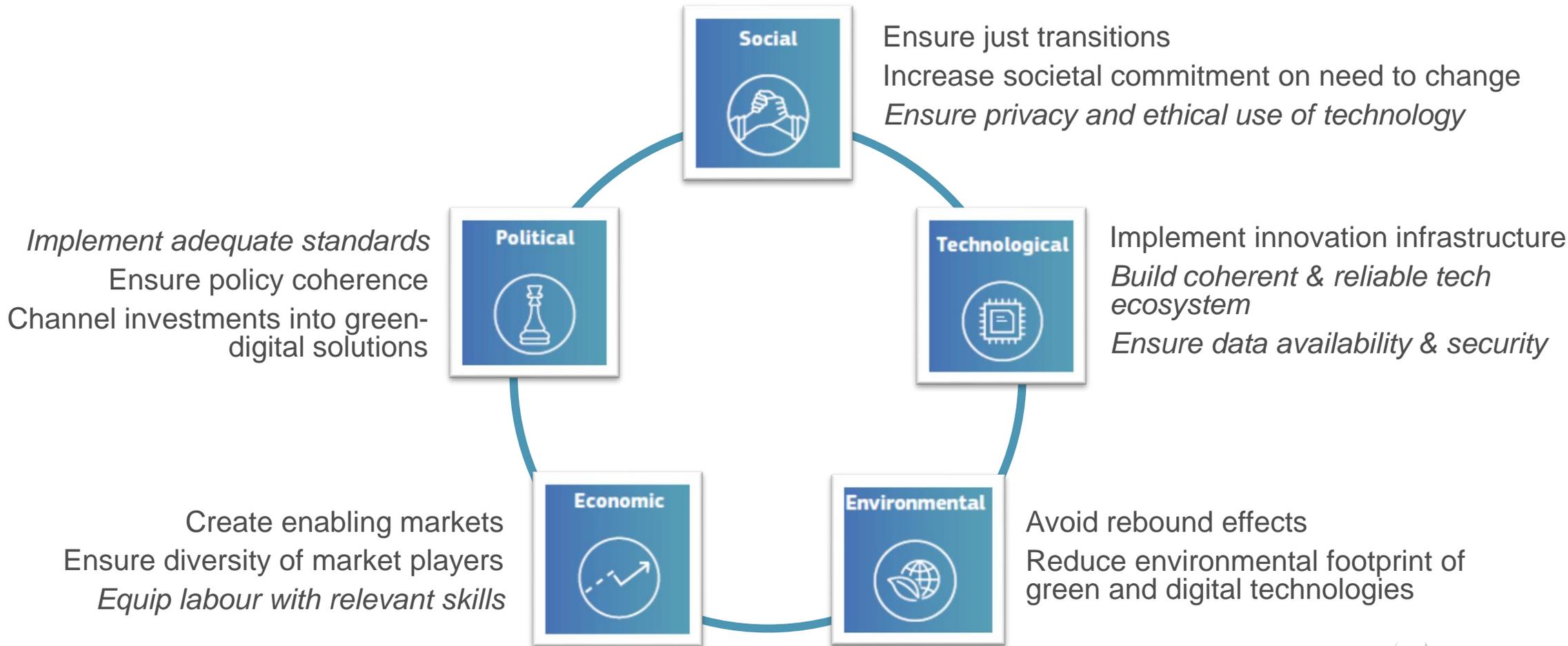


Enabling factors

- Trust in digital tools & data protection, data ownership & secure platforms
- Value chain profitability, collaborative business models
- Digital skills & solution knowledge
- Digital infrastructure, IoT devices
- Interoperability of procedures



There are key requirements we need to achieve successful twin transitions



Thank you



© European Union 2022

Unless otherwise noted the reuse of this presentation is authorised under the [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license. For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders.

Photos: Clay Banks, Conny Schneider, Danist Soh, Greg Rosenke, Gustavo Quepon, James Sullivan, Mathew Schwartz, Milad Fakurian, Red Zepelin, Shubham Dhage - Unsplash.com - Graphic elements based on PureSolution - Adobe Stock

Long-term implications of digital transition for farmers and rural communities

Bilateral AGRI/JRC foresight project (on-going -> 2023)

Evangelina MOURMOURA
Team leader digitalisation
AGRI.A.4 Data governance

Forthcoming (2023) foresight study with JRC
Long-term implications of digital transition for farmers and rural communities

Issue: role of digitalisation in **resilience** of farmers and rural communities

Aim: anticipatory governance, vision, strategy, policy development

Agricultural digitalisation policies and strategies

For CAP, R&I and other relevant policies

Stress-test digitalisation options

Priority: anticipate needs of farmers and other rural communities

More than a study, a participatory process with farmers and rural communities about digital transition

Workshops – experts/stakeholders/policy makers

Brussels/on-line

In Member States/regions

Outcomes: JRC study, tools, strategic insights...

Outreach: including with CDG

Questions?

On foresight: JRC-FORESIGHT@ec.europa.eu

On project on implications of digital transition for farmers and rural communities

AGRI-A@ec.europa.eu

Thank you