



Skills for the green transition – realising VET's potential

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The jobs and skills impacts of greening

EUROPEAN GREEN DEAL

- About **2.5 million additional jobs** in the EU by 2030
- Employment benefits in **most sectors**, but some will be negatively affected (coal mining)
- **Indirect employment benefits** mainly for service-based sectors (e.g. information & communication, real estate)


- Up-/reskilling for all workers
- VET for workers' transitions in 'brown' sectors (e.g. conventional electricity)
- IVET to prepare future workers for green(er) jobs

TRANSITIONS

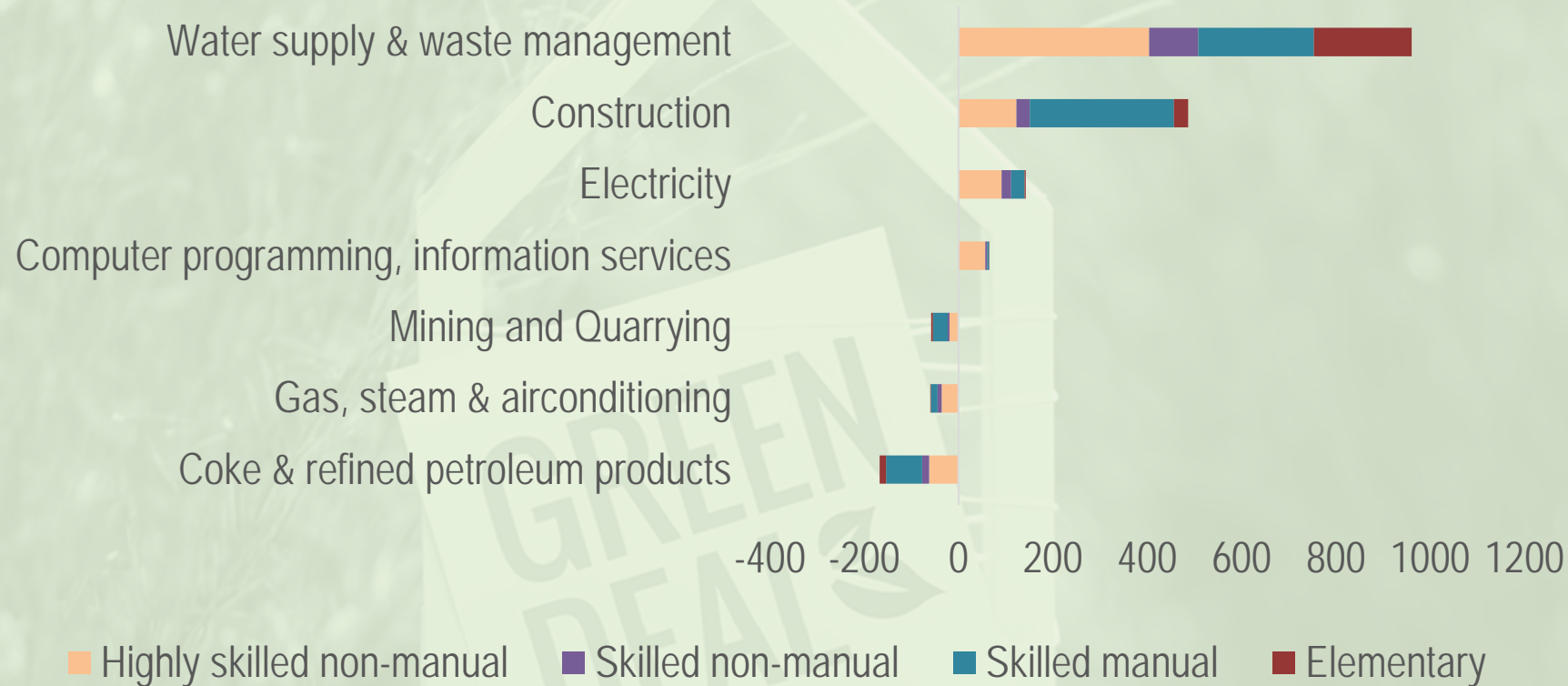
+ *numbers in thousands*

Water supply & waste management	961	
Construction	487	
Wholesale & retail trade	193	
Administrative & support services	153	
Electricity	142	
Basic metals & metal products	97	
Health	94	
Accommodation & catering	80	
Legal, accounting & consulting	79	
Architecture & engineering	74	
Computer programming/info services	65	

- *numbers in thousands*

Mining & quarrying	- 58	
Gas, steam & air conditioning	- 60	
Coke & refined petroleum	- 168	

Mapping trends to uncover up & reskilling potential



- Employment benefits at all skill levels
- Digital transformation as green transition driver: **twin skills demand transition**
- Possible recruitment bottlenecks

All occupations:

more sustainable practices and attitudes

Key occupations

(e.g. EV technicians)

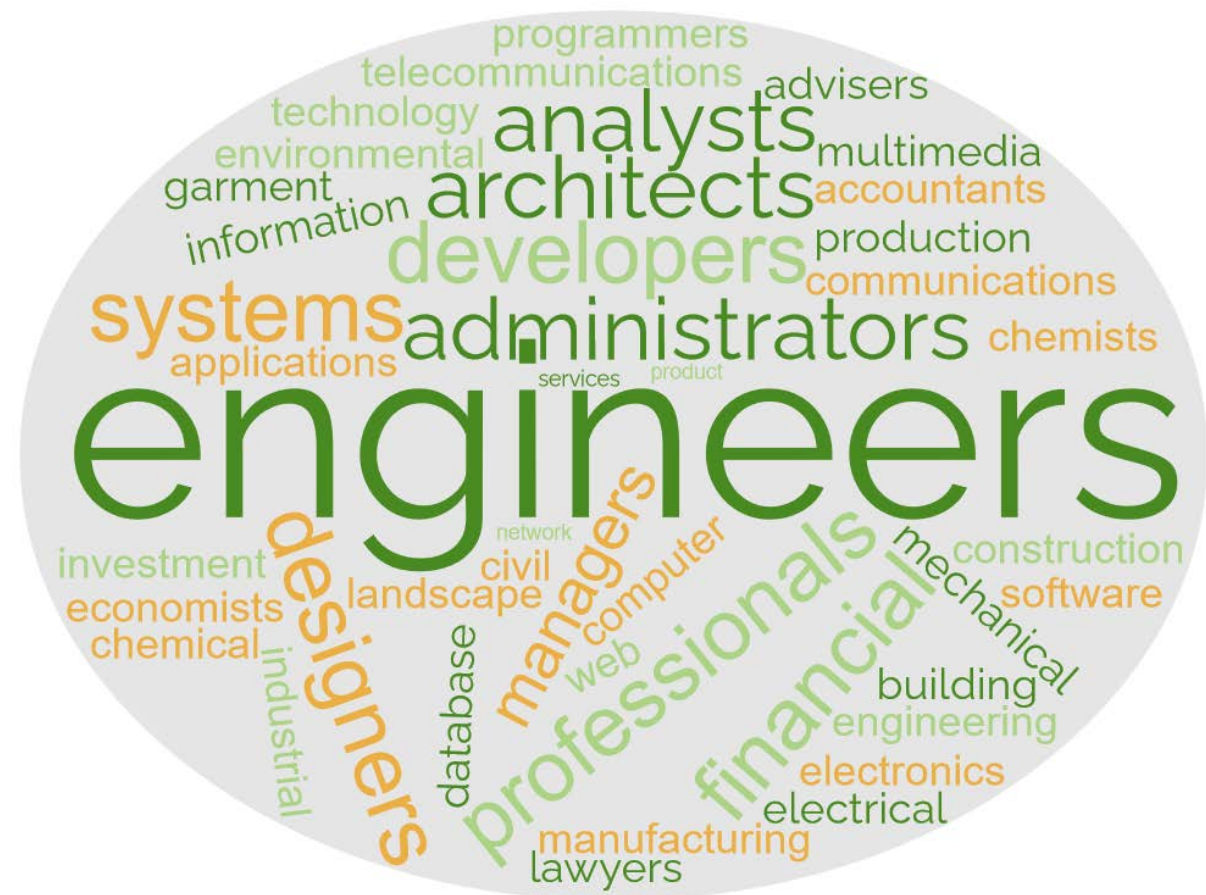
'Thyroid occupations'
(e.g. hydrogen researcher)

- Highly and medium-skilled
- Tasks change rapidly (emerging 'Greentech')
- Inventing, designing, conceptualising green transition solutions:
 - Engineers, process designers, scientists/R&D

and implementing it:

- Managers, lawyers, renewable energy technicians, communication specialists

Small but indispensable: 'thyroid' occupations are green transition enablers



Using skills intelligence to build up Cedefop Green Observatory (Cedefop GO)



Cedefop sectoral skill foresight at the core of skills intelligence, policy driven, and implementation focused



Smart and green cities



Agrifood



Circular economy



Waste management

Common drivers of change and skills



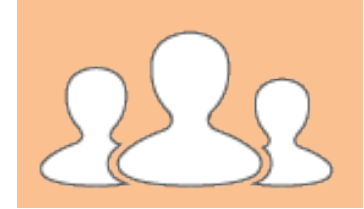
regulation

- EU measures to support EGD implementation, e.g., Circular Economy Action Plan



technological advancements

- affecting which products and services are produced and how



consumer / citizen awareness and behaviours

- affecting decisions (repairing instead of replacing products; buying sustainably produced goods and services)

Green jobs in the future of work and VET's role in accelerating transition



Frontline green jobs

Construction professional
Repair specialist
Energy professional
Material extraction/recycling/reuse expert
Material and process engineers
Circular product designers
Transport and mobility specialist
Environmental protection specialist

Greentech specialists

Industrial problem analysts
Industrial symbiosis facilitators
Hydrogen specialists
Urban space specialist
Energy expert
Circular economy plant designer
Agronomists



Green management

Green/smart city manager
Logistics manager
(Strategic) waste manager
Waste valorisation professional
Renewable energy managers

Digital specialists

ICT professional
Data scientists and data analysts
E-commerce specialists
GPS experts (precision agriculture)
Waste sorting optimisation professional

Green hearts and minds

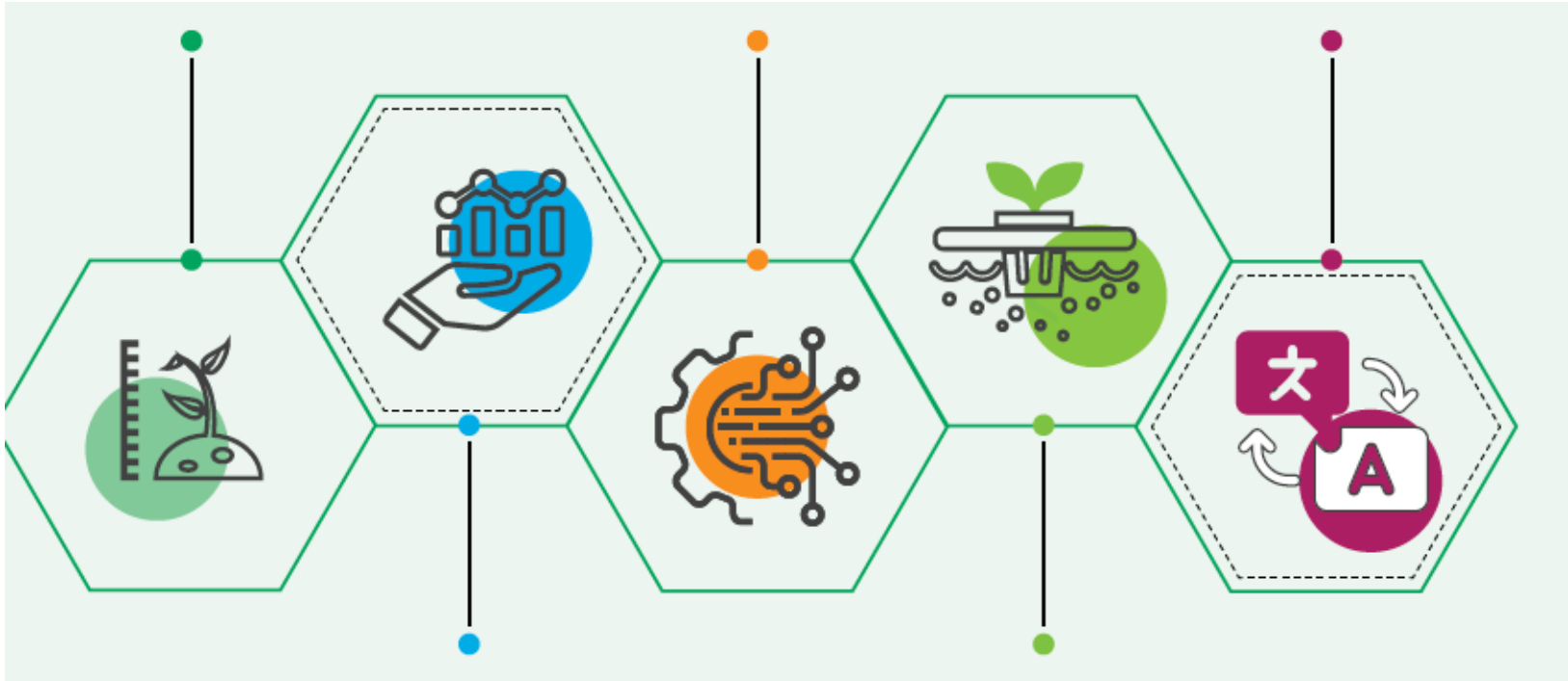
HR specialists
Consumer behaviour specialists
Sustainability trainers
Waste management trainer
Citizen engagement specialist

Skill sets driving the green transition

Strategic skills

Production skills

Marketing / communication skills



Enabling skills: digital and data analysis skills & product and process design skills

Apprenticeships and the green transition

- Building new apprenticeship programmes
- Adapting existing apprenticeship programmes
- Green apprenticeships for up- and re-skilling adults
- Eco-innovation and the diffusion of green technologies across learning venues

Cedefop and OECD symposium – October 2021
[Apprenticeships for greener economies and societies](#)

[Fourth Policy Learning Forum on apprenticeships](#) – October 2022
The role and use of apprenticeships in upskilling and reskilling adults

Apprenticeships
for greener
economies
and societies



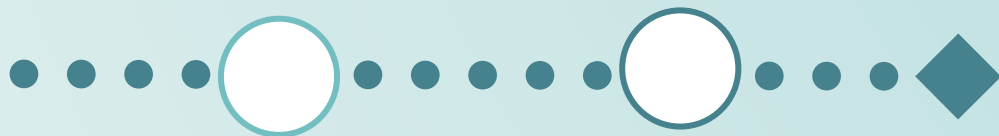
VET's enabling role and responsibility

Short-term (*sprint*)



Accompany change

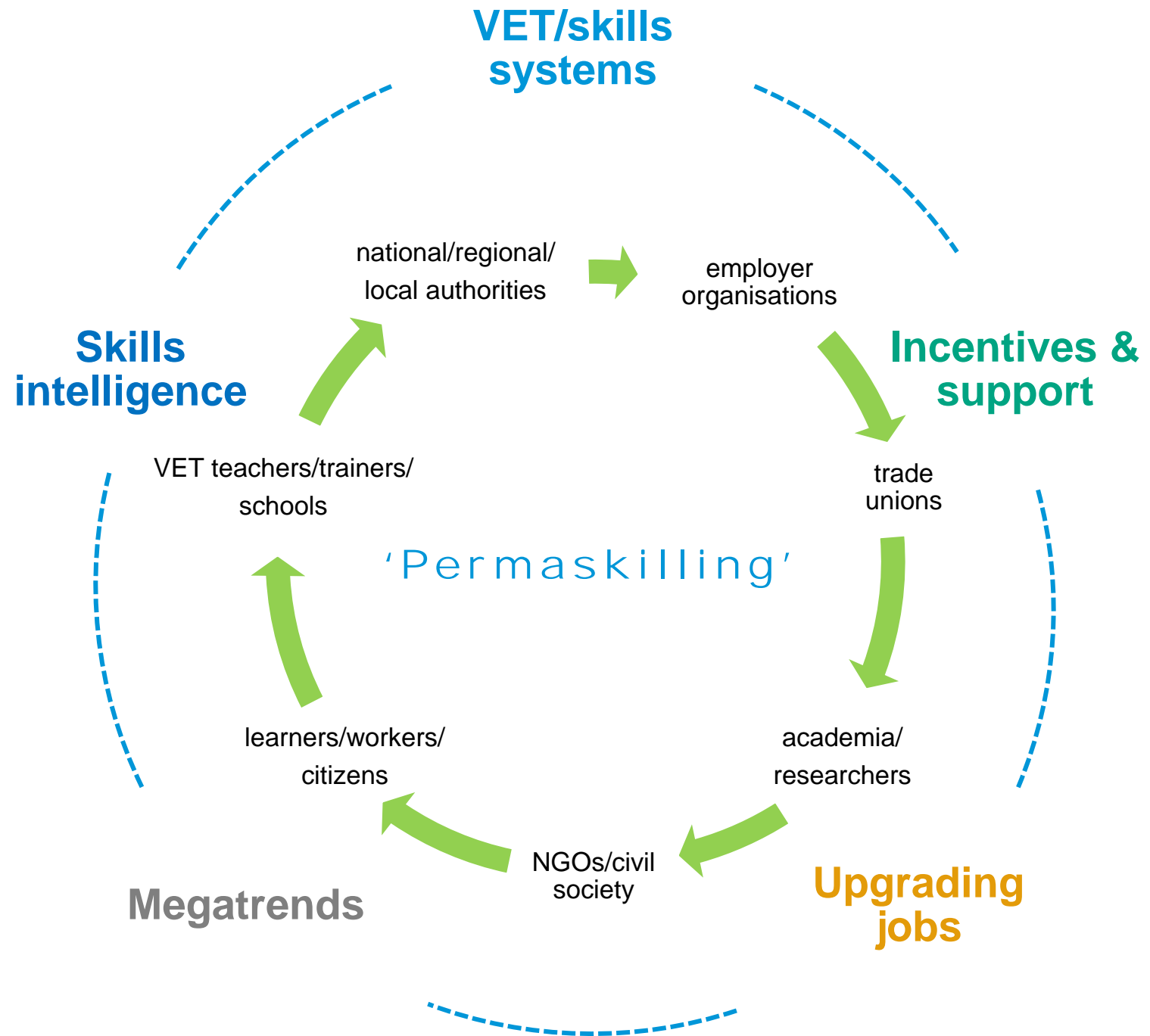
Long-term (*marathon*)



Trigger change

- Recalibrating VET
- Targeted CVET: Adjust training to learners' needs (e.g., short-training modules; microcredentials)
- Work-based learning/apprenticeships
- Shaping circular economy citizenship
- Technical and digital skills; but also *empathy*
- “Green” skills anticipation/skills intelligence
- Stakeholder partnerships/skills ecosystems

Future-proofing jobs: partnerships, feedback loops, learning to learn





Thank you



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