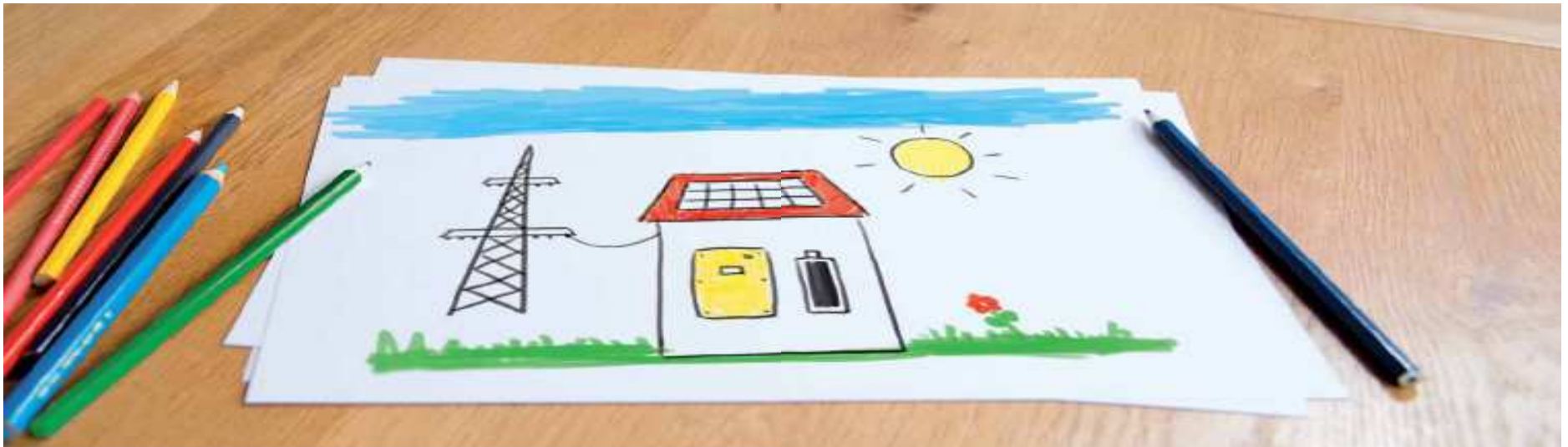
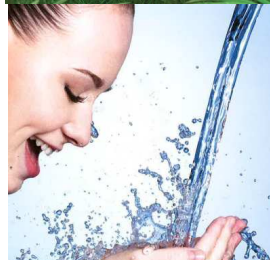


Global Greening Skills Mechanisms and Policy – The Industry Perspective



Green Industrial Skills for Sustainable Development
Risks and Challenges for Least Developed Countries
42nd WorldSkills Competition, 1 July 2013, Leipzig/Germany

Dr. Nader Imani, Head of Global Education
Festo Didactic GmbH & Co. KG, Germany



Overview

- ✓ Corporate Environment Vision
- ✓ Challenges for Environment and Requirements for Greening Skills
e.g. Energy Efficiency, Renewable Energies, E-Mobility, Clean water
- ✓ Labor Market Development and Job Opportunities, *e.g. Renewable Energies*
- ✓ Green Jobs and Greening Skills Based Education - *Target Groups and Benefits*
- ✓ Education Sectors Focus for Green Skills Development
- ✓ Environment Discovery Systems for Green Skills Development
- ✓ Smart Solutions for Greening Skills Qualification Programs
- ✓ Greening Skills Development vs. UN Millennium Development Goals

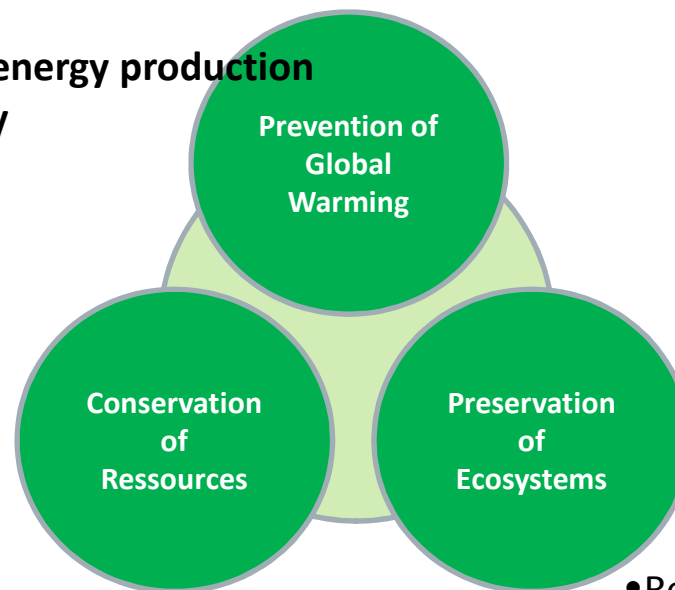
Corporate Environment Vision

Environment Vision Towards a sustainable corporate micro-economy

- Reduce CO2 emissions in **energy production**
- Enhance **energy efficiency**

e.g.

- Industry,
- Agriculture,
- Construction,
- Transportation,
- Water and wastewater management,
- Services and administration.

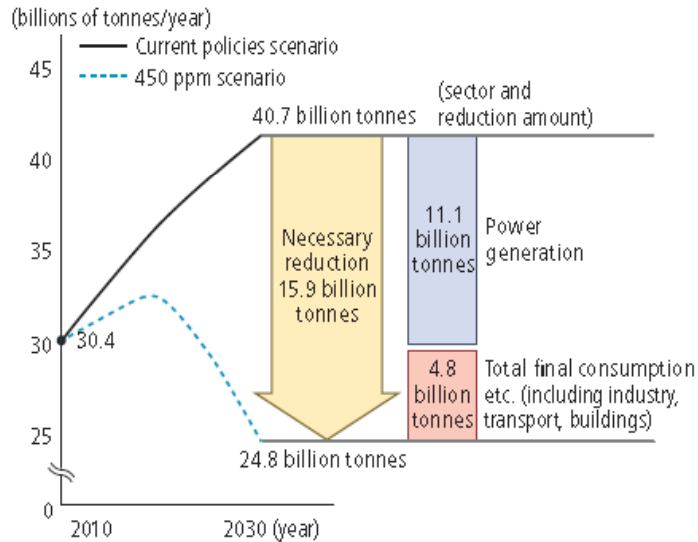


- Collect products , recycling, **waste management**

- Reduce negative effects on air, **water** and soil

Challenges for Environment and Requirements for Greening Skills

World Outlook for Energy-Related CO₂ Emissions and Reduction Scenarios



Based on energy-related CO₂ emissions in IEA *World Energy Outlook 2011*

CO₂ Emission will peak by 2015 and be reduced by **50% to 85 % of their 2000 levels** by the year.

Source: the 4th assessment report, UN Intergovernmental Panel on Climate Change (IPCC)

Energy Efficiency - BSC, to be measured



Energy Turnaround, Source REN21 - 2011



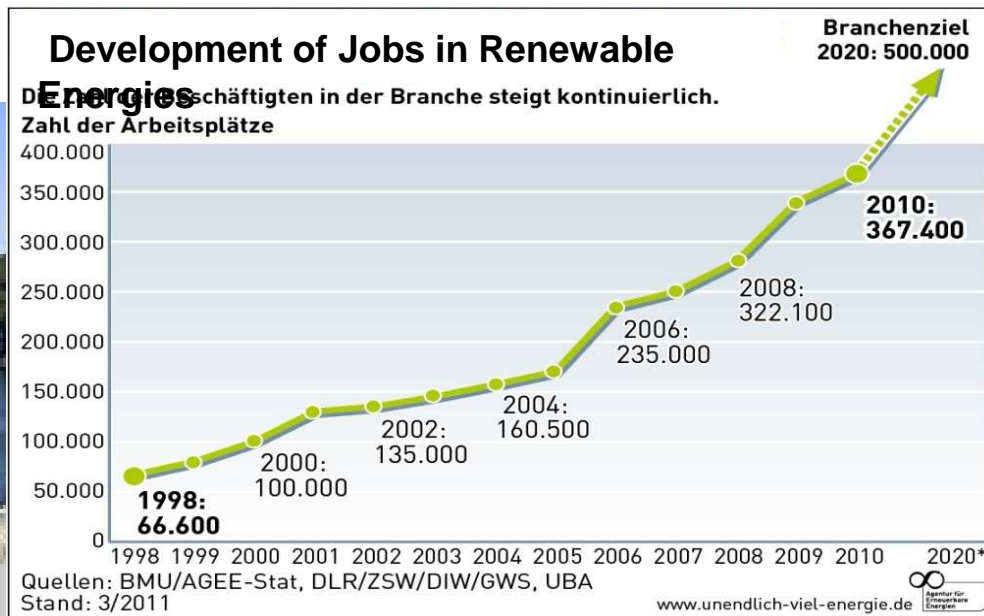
E-Mobility, E-Car 25% in 2020, Germany, Source BMWi 06.2009



Clean Water 5% GDP – 80% Diseases, Ecosystem, Source WHO



Labor Market Development and Job Opportunities, e.g. Renewable Energies

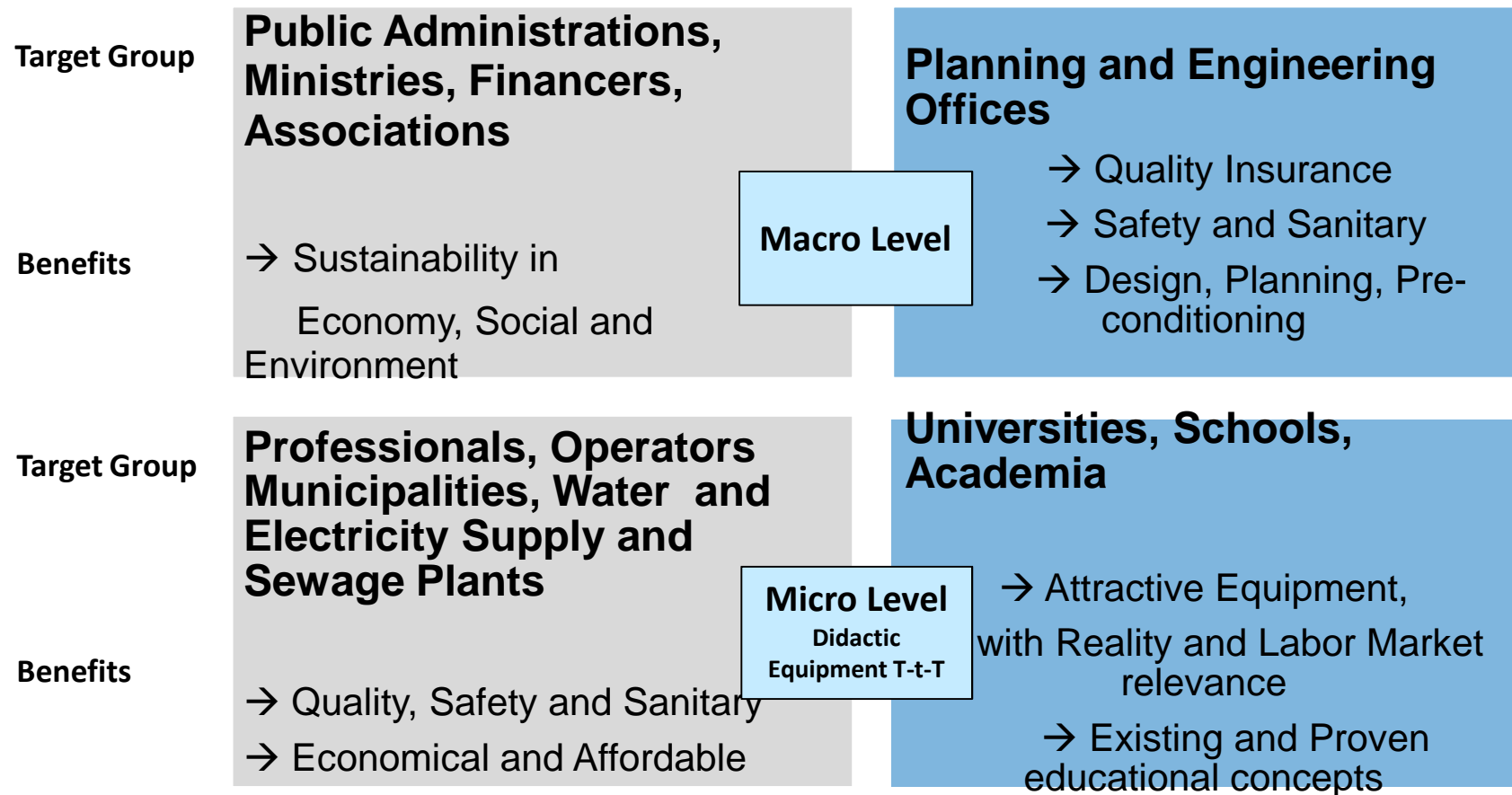


Assumption: 5% in Education

- 2010: **18.370 Apprentices**
- 2020: **25.000 Apprentices**

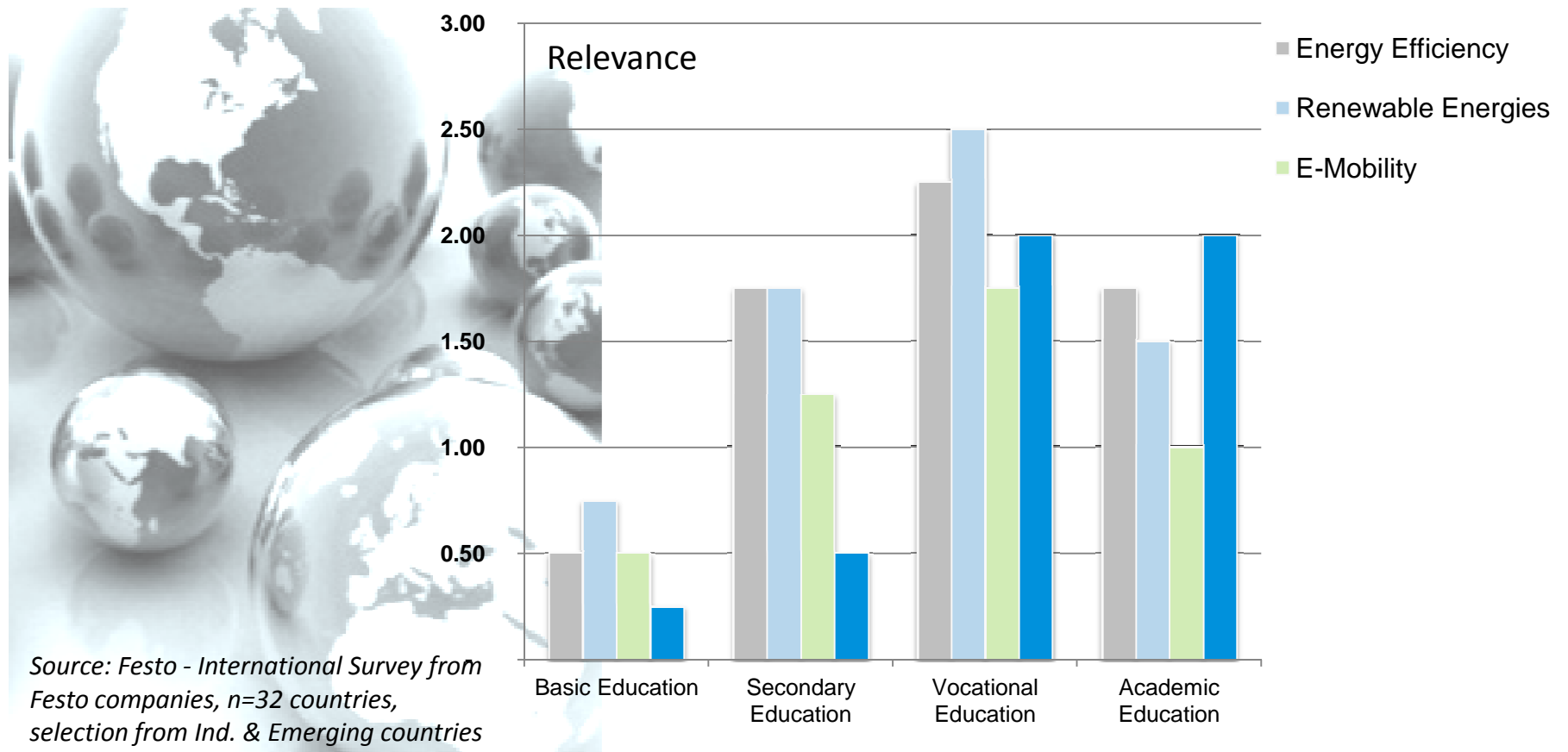


Green Jobs and Greening Skills Based Education – Target Groups and Benefits



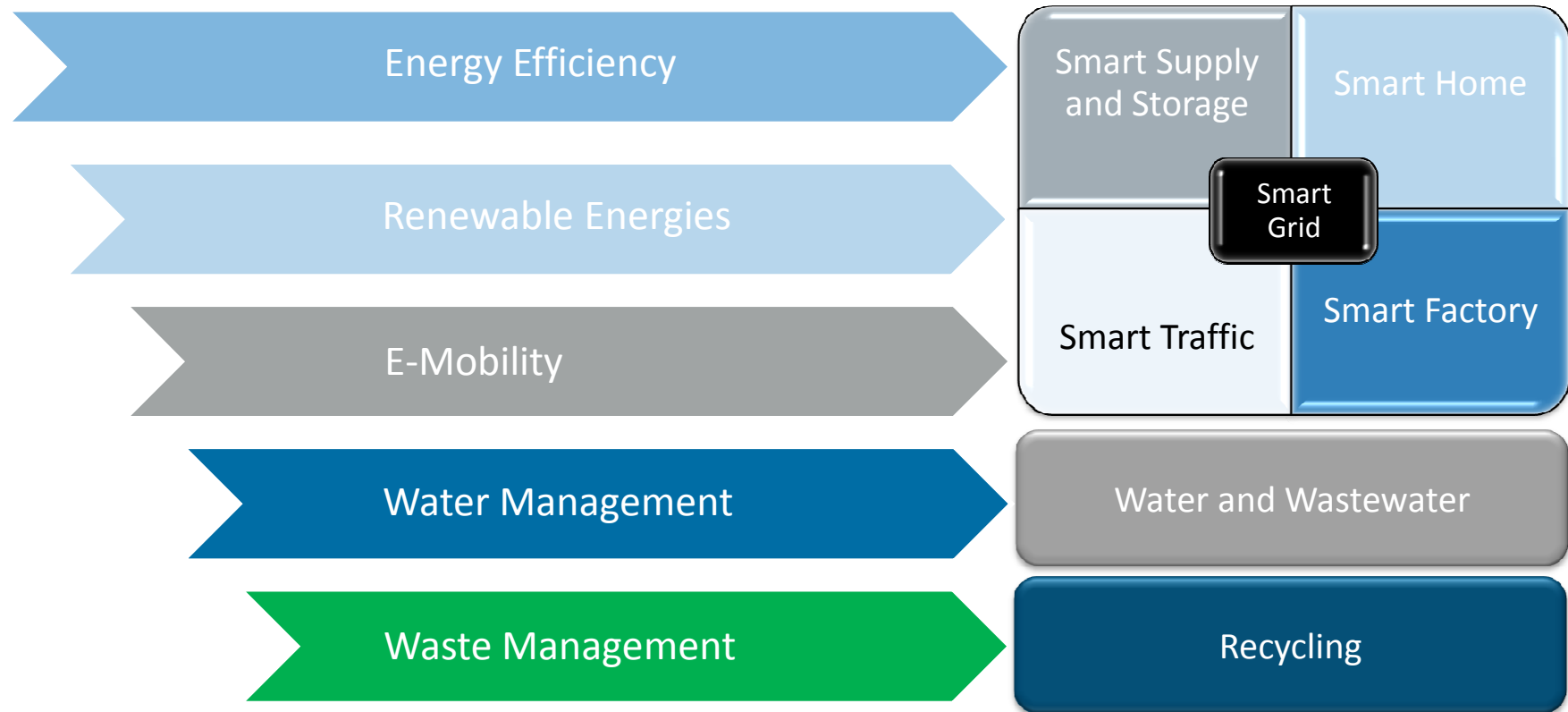
Education Sectors Focus for Green Skills Development

Potential for Learning Systems in different Education Sectors

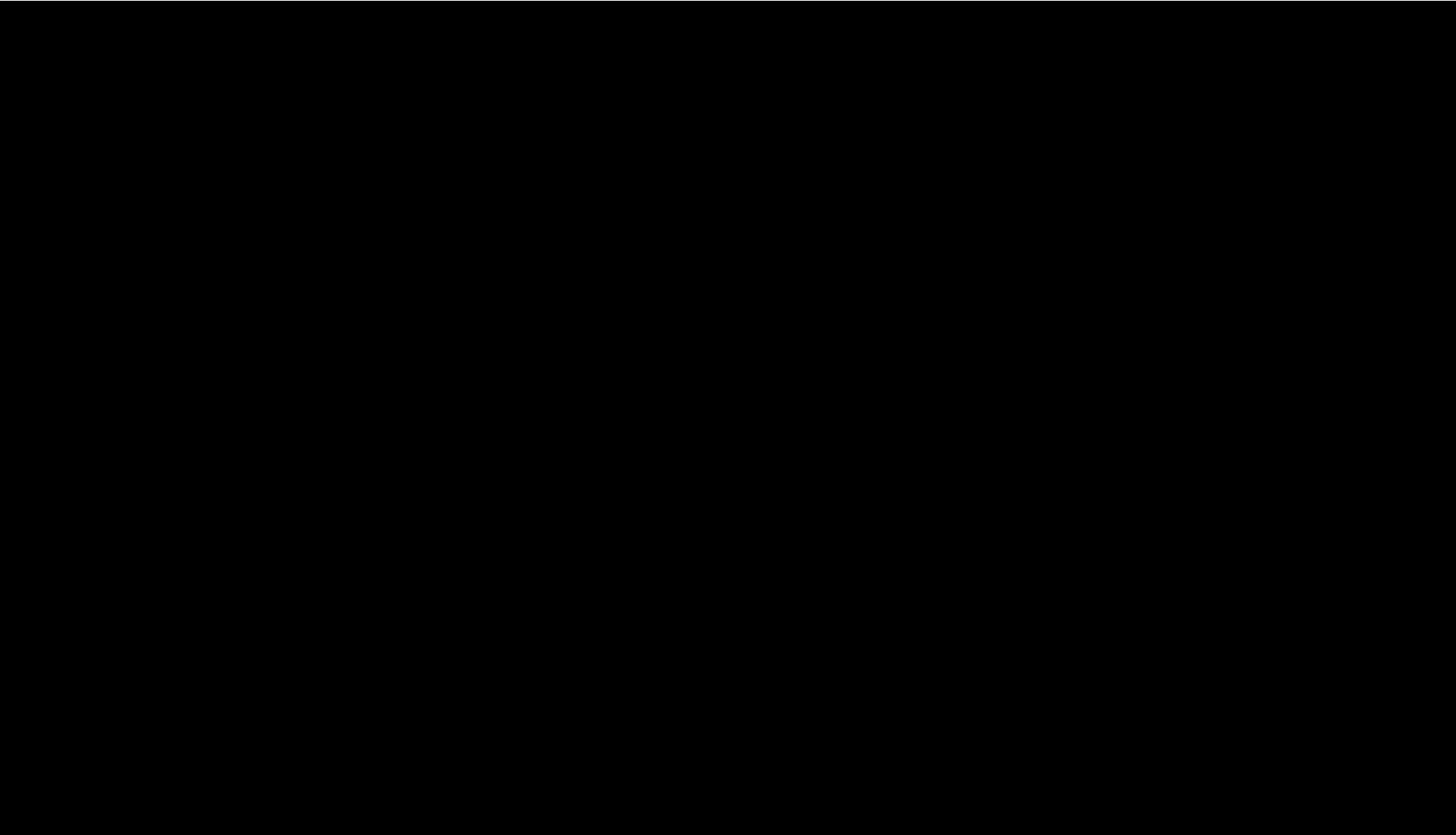


Environment Discovery Systems – EDS for Green Skills Development

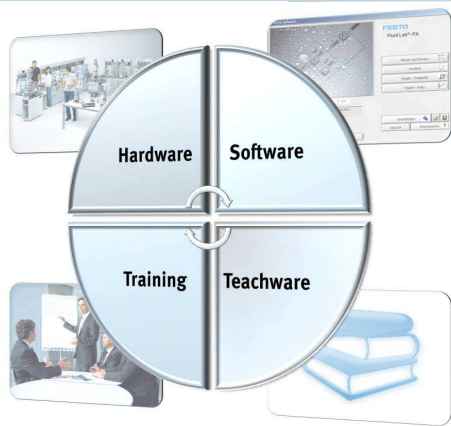
The Holistic Approach



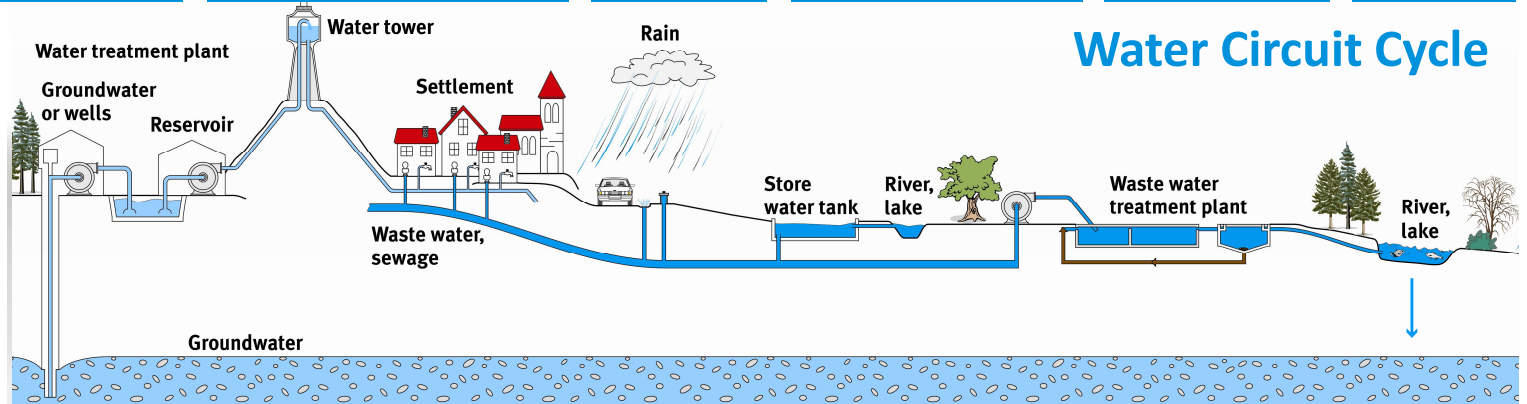
Environment Discovery Systems – EDS for Green Skills Development



Environment Discovery Systems – EDS for Green Skills Development



Pumping Purification Supply, Transport Sewage Drain, Storage Treatment Filtration



Smart Solutions for Greening Skills Qualification Programs in **Energy** and **Water**



PN361: **Energy saving** in pneumatic systems

PA231: **Water purification** processes in modern water works

PA241: Safe and efficient **water transport and distribution**

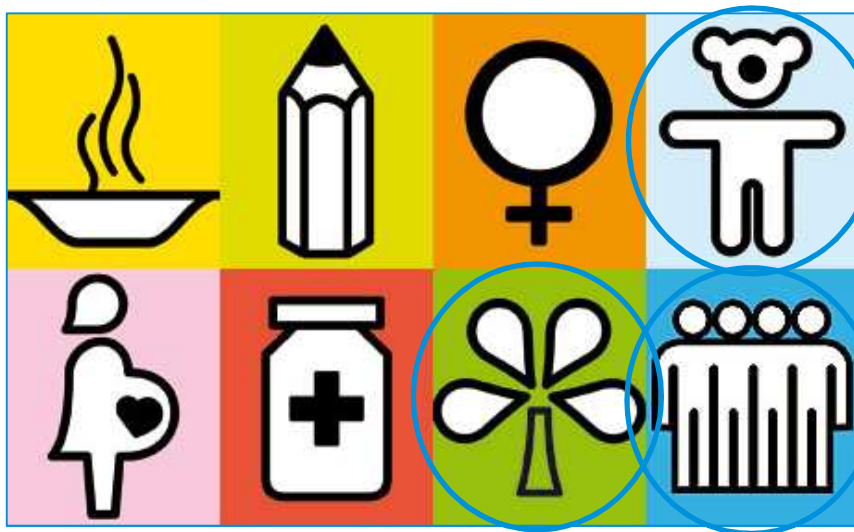
PA251: Key processes of **wastewater transport and control**

PA261: Fundamentals of modern **wastewater treatment** processes

PA271: **Monitoring, controlling** and **optimizing operations** in water and wastewater treatment plants

PA281: **Energy optimization** in water and wastewater treatment plants

Greening Skills Development vs. Millennium Development Goals



Millennium Development Goal 4: **Reduce child mortality**

Sustainable green growth in economy with protection of environment. Child reduced mortality **by means of better hygiene, less diseases** with supply of clean drinking water and waste management.

Millennium Development Goal 7: **Ensure environmental sustainability**

Curbing down CO2 and other greenhouse gazes to international accepted levels, water supply and treatment more efficient will result in the more sustainable use of water resources. **Fewer contaminants with reduced pollution.**

Millennium Development Goal 8: **Developing Global Partnership**

Cooperation among Universities and Companies worldwide **new opportunities for partnership with bi- multilateral development agencies.**

Green Skilling Education
Today guarantees to shape
our **Green** Economic
Growth Tomorrow.



Thank you!
www.festo-didactic.com