Carbon Calculators, what do we measure?

EBU Carbon Calculators Roundtable

Cédric Lejeune, Workflowers, 24th June 2021

Workflowers

- Created in 2006 to help the transition from film to digital
- Specialists in digital workflow for media
- Team of researchers, engineers and artists
- Integrated emissions reduction strategy consulting in 2020
- Contributor to the Eureca European Calculator for Media
- Contributor to the Boavizta project (IT infrastructure emission measurement)

Environmental pledges

- Broadcasters commit to quantitative targets for reducing CO2 e emissions by 2030

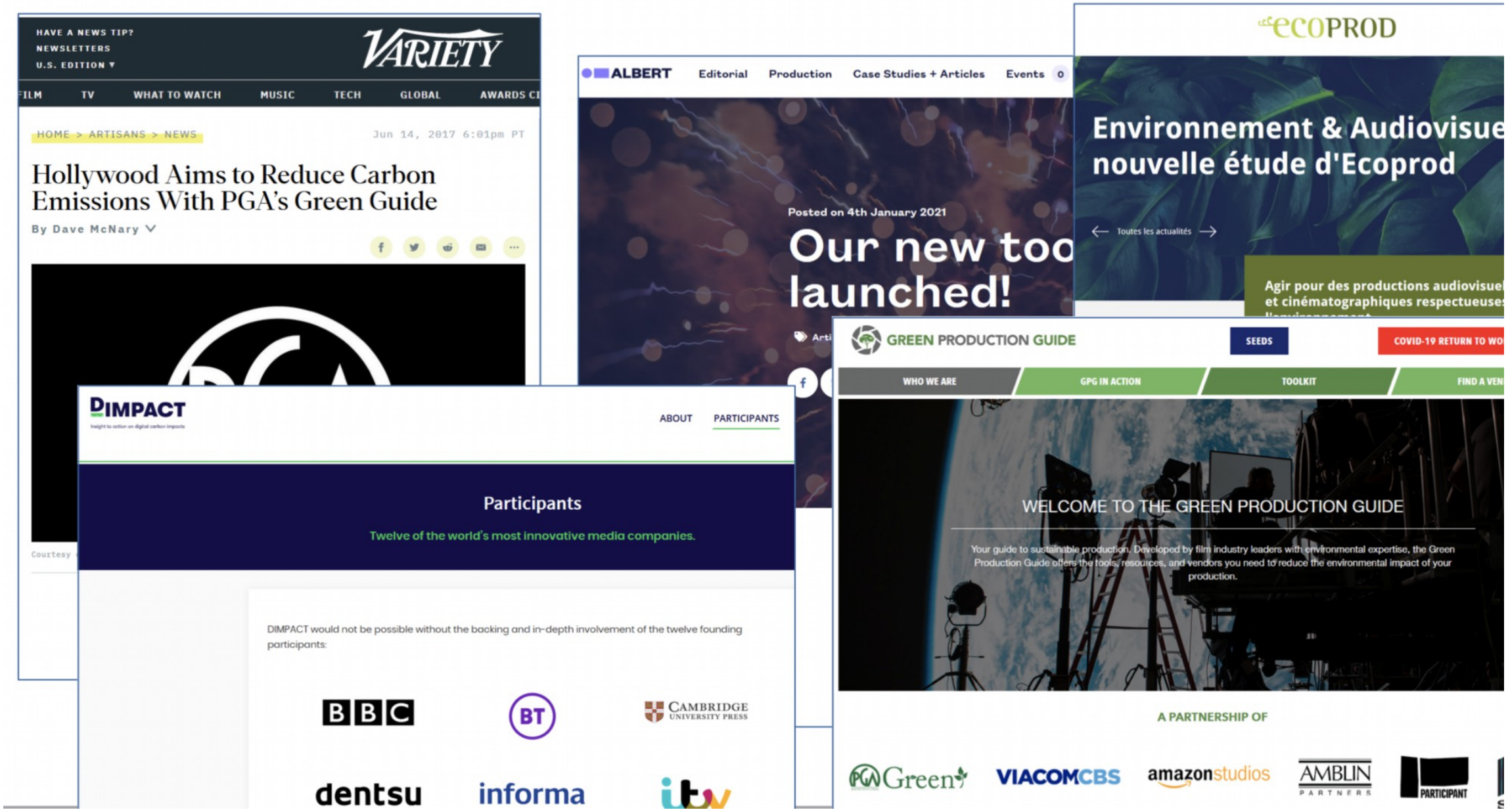
The Sky group has announced its carbon neutrality for 2030 - SKY 0 program.

The RTL group has announced its carbon neutrality for 2030.

Netflix will achieve net zero greenhouse gas emissions by the end of 2022, and every year thereafter. Netflix will also reduce Scope 1 and 2 emissions by 45% by 2030, based on the Science-Based Targets.

- We need calculators

Many calculators…



Case study: Eureca, focus on coproduction

Green Screen
Interreg Europe

European Union
European Regional
Development Fund

Why ?

- Measuring vs. understanding
- Phases and fields covered
- Conversion factors (EU & up-to-date)
- International focus (coproductions)
- Link € to CO_2
- Language
- Uniform EU tool

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Eureca

- 3 partners: Promálaga, Slovak Film Commission & Flanders Audiovisual Fund
- Database: Catholic University of Leuven (Belgium) & Workflowers (France)
- Learnings: Green Screen & SECOYA CO_2 study
- Aim: uniform EU tool AV productions & funds
- Timeframe: 2020-2021

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Eureca will

Help companies

Convert factors

Consolidate data

Be friendly

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Institutions and advisors

APA ASOCIACE PRODUCENTŮ V AUDIOVIZI
AVMedia audio-visual-media
Ayuntamiento de Málaga Área de Sostenibilidad Medioambiental
Česká televize
ecoPROD
FILM PARIS REGION
FRESCOFILM
GREEN FILM SHOOTING
iep Inštitút environmentálnej politiky
KU LEUVEN
Málaga FilmOffice
PROAMB Protección Ambiental Integrada
Roman Pivovarník
SchoolTraining ESCUELA DE CINE Y SONIDO
SilverArt
TRENTINO FILM COMMISSION

Our A-Team

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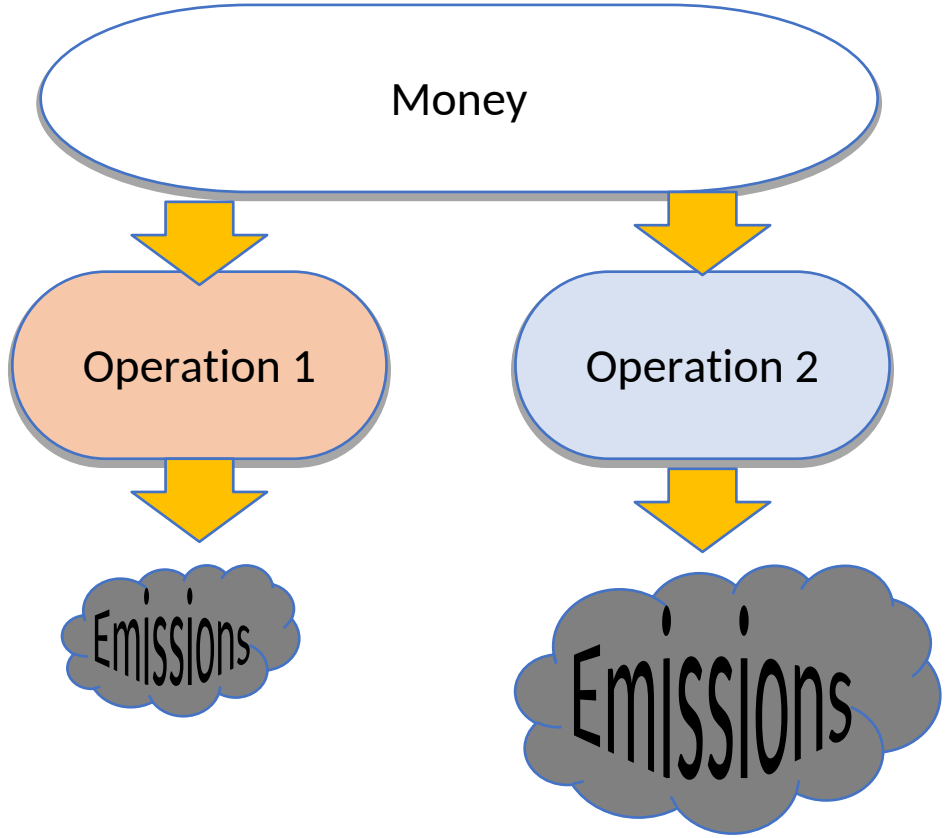
European Regional Development Fund

Production calculators

- Money is an abstraction layer from operations
- It’s OK in uniform environments
- By adding some variables (energy mix, transportation…) we can be more precise when adding complexity > coproduction

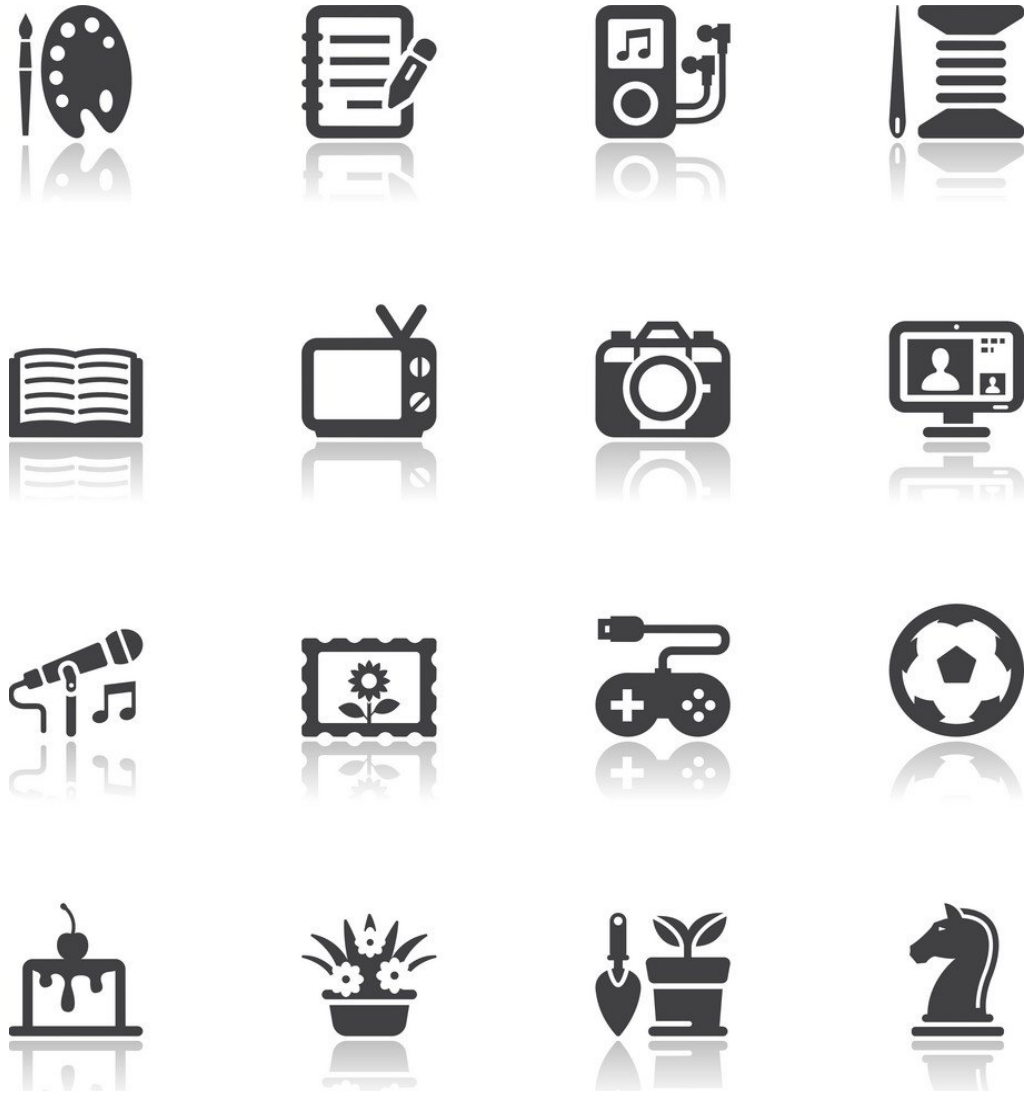
But:

- Granularity is key to build a reduction strategy
- Variations in media industries are enormous
- It’s the essence of our industry

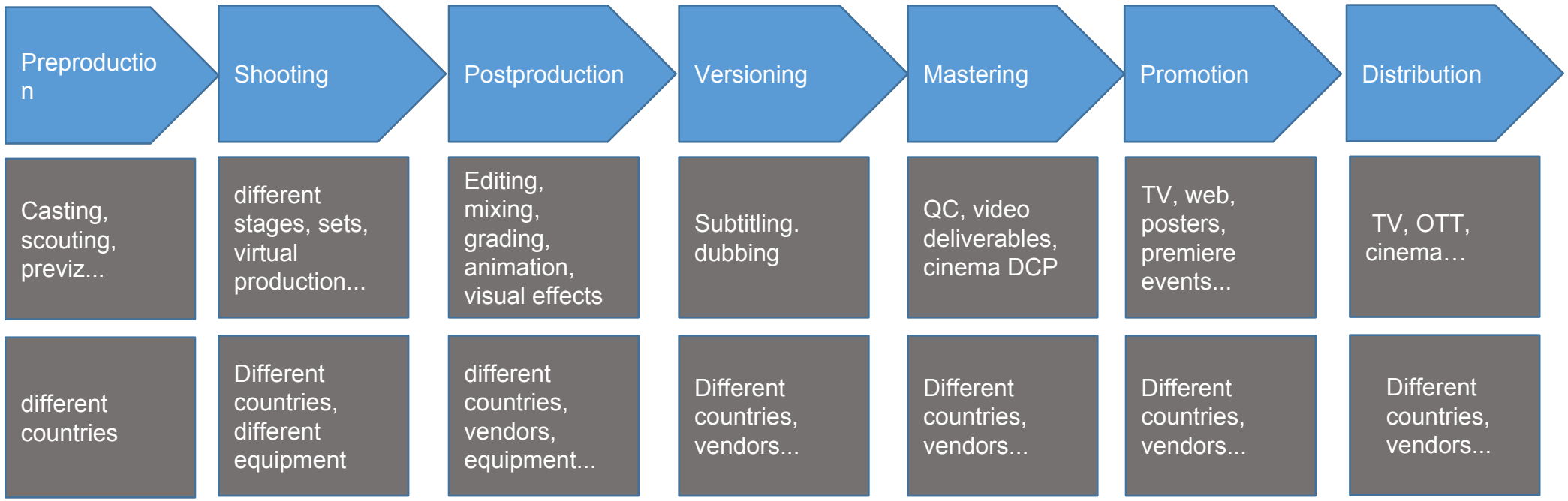


Challenges for broadcasters

- It’s not only about fiction production: sports, news, games…
- Everything has to be measured the same way
- Starting a reduction strategy is a lot about attaching emissions to operations
- It’s all about workflow: connecting resources, human and technical
- … that’s what we do at Workflowers!

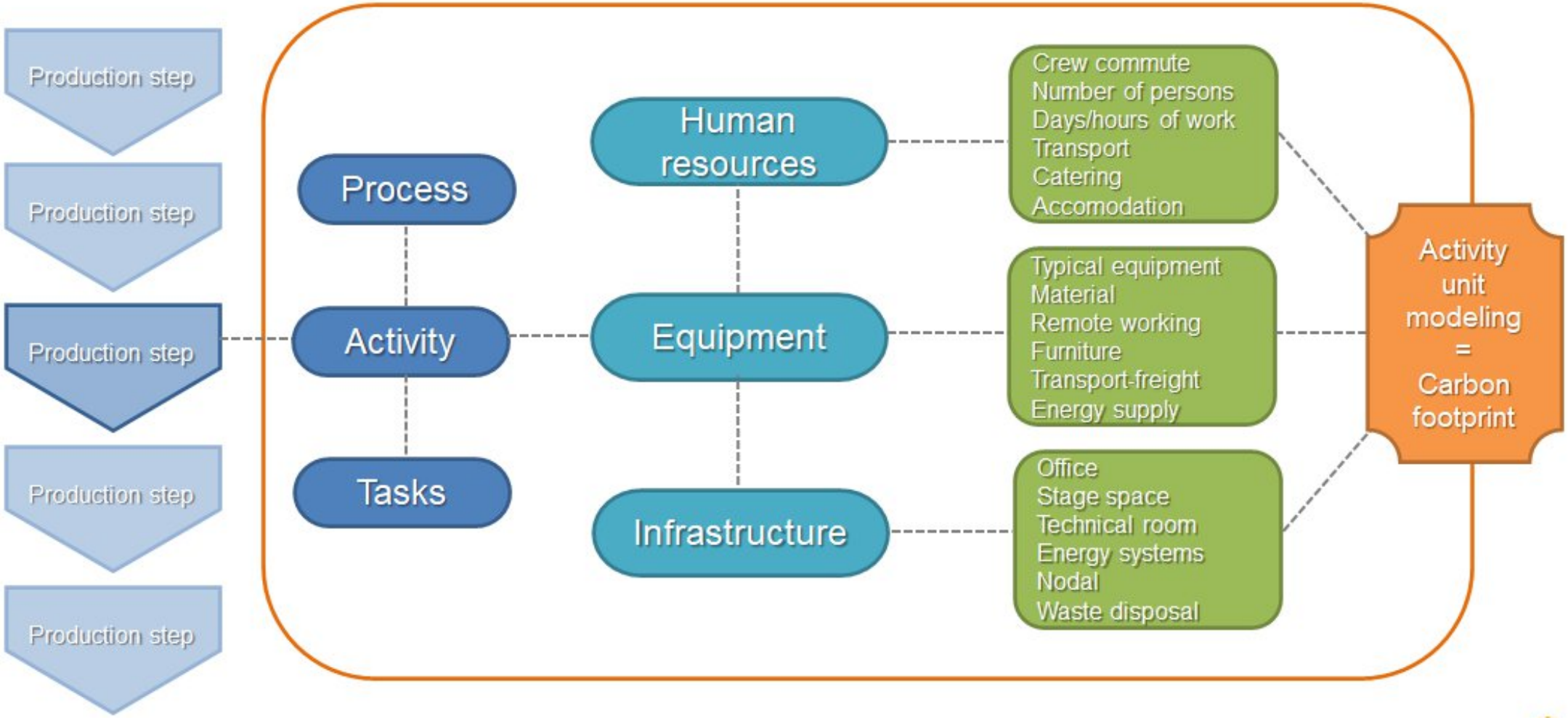


Production steps

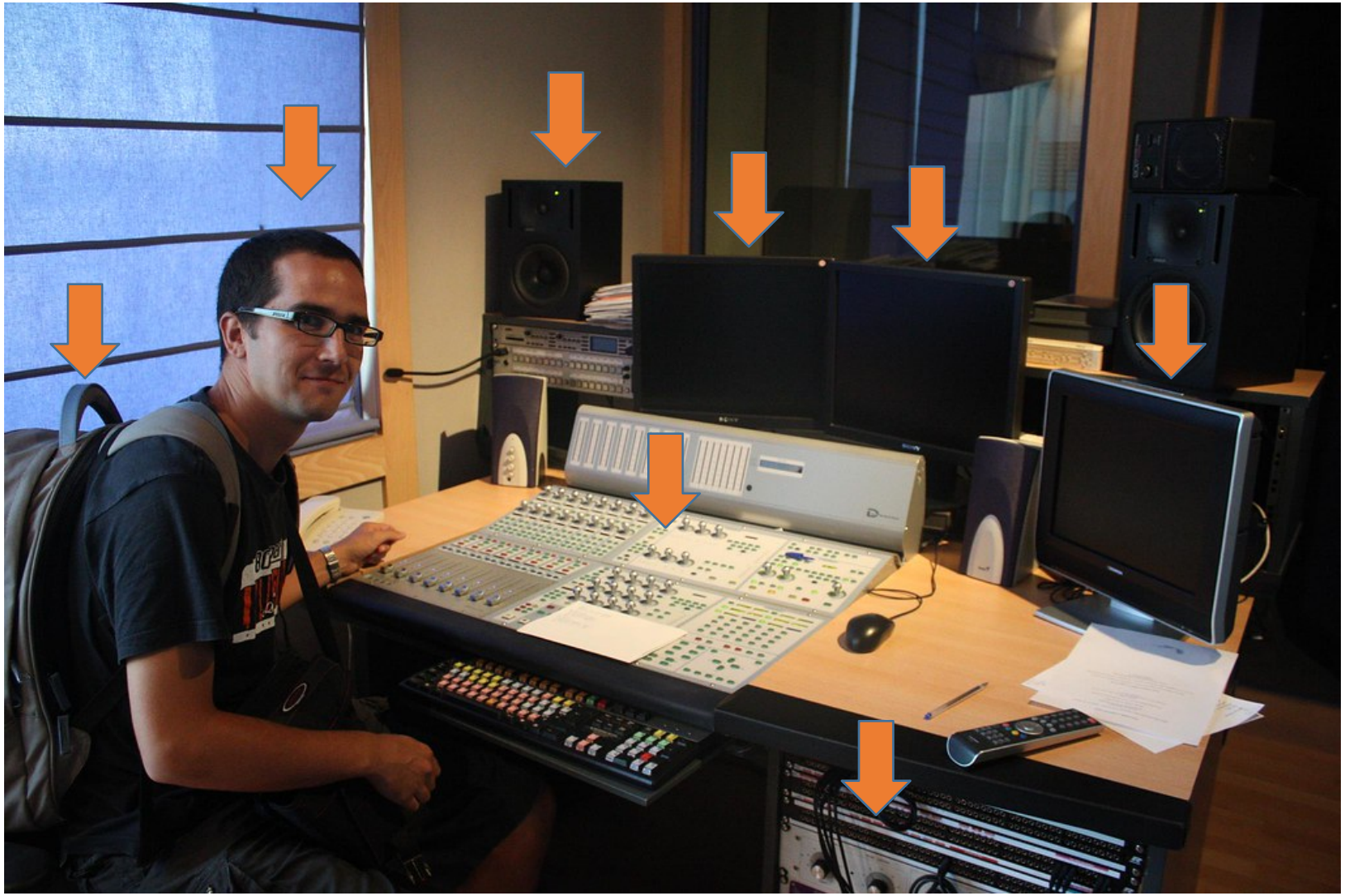


Exponential complexity with the number of steps and vendors

Open Workflow Modelization Methodology for Media



Example: Audio editing room



Example: Audio editing room

BOE Editing room basic	Unit(s)	Country	Electricity mix	Equipment denomination	Weigth (kg)	Manufacturing carbon footprint in kgCO2	Lifespan in years	N
Systems		France (cont	0,0599					
Computer Screen	2			NEC MultiSync® E242N - 24 Ir	5,5	297	6	
TV	1			Panasonic TX-49HX940E 4K - 47 Inch	16	432	7	
Sound Monitoring	1			M-Audio BX4	4,42	119,34	5	
Workstations	1			HP Z4	10	270	4	
Internal modules	1			AJA Kona 4 4K	0,4	10,8	3	
Independent RAID Storage Systems	1			Promise Pegasus R4 4HDD Thunderbolt 3	6,8	183,6	5	
Independent Storage Systems	1			G-Tech G-Drive 1HDD Thunderbolt 3	2,9	78,3	5	
UPS Power regulators (portable system)	1			Eaton 9SX300I	33,4	901,8	5	
Editing room basic carbon footprint per day					79,42			

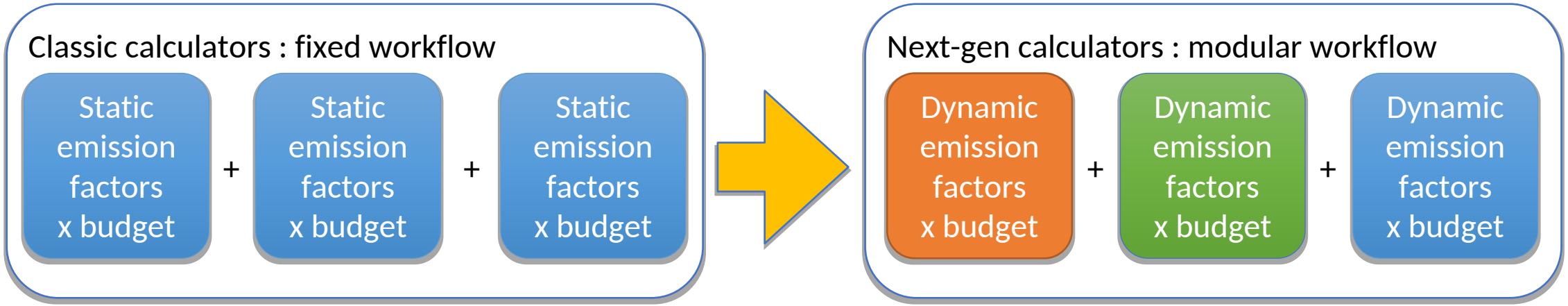
Example: Audio editing room

	Zones rurales ou ZPIU* de moins de 50 000 hab	ZPIU de 50 000 à 300 000 hab		ZPIU de plus de 300 000 hab			ZPIU de Paris		Moyenne nationale
		Ville centre**	Banlieue et périphérie	Ville centre	Banlieue	Périphérie	Paris	Banlieue et périphérie	
Nbre de déplacements quotidiens par personne	2,73	3,06	2,87	2,93	2,84	2,57	2,74	2,71	2,83
Distance moyenne par déplacement (en km)	9,70	6,96	9,23	7,06	7,73	10,14	6,16	9,19	8,61
Total	**26,47**	**21,27**	**26,50**	**20,67**	**21,97**	**26,08**	**16,89**	**24,93**	**24,37**
Répartition modale en %									
Marche à pied	12,37	20,59	12,73	23,41	14,29	12,71	30,64	19,41	16,57
Transports collectifs	2,80	4,86	4,29	11,83	7,26	4,13	35,11	13,90	7,74
Voiture particulière	79,94	70,90	77,31	61,21	73,14	77,33	32,09	62,94	71,03
Deux roues	4,64	3,56	5,34	3,54	5,24	5,67	2,01	3,57	4,47
Autres	0,24	0,10	0,33	0,00	0,07	0,16	0,14	0,17	0,19

Distances parcourues et répartition modale pour la mobilité quotidienne en Métropole

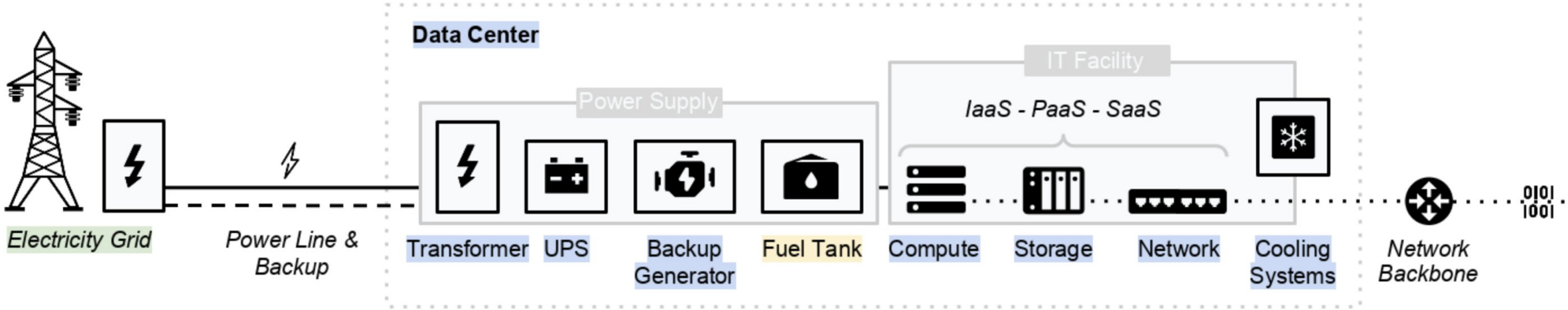
Improvements with workflow modelization approach

- More precise emission factors by default
- Scope 3 integration
- Can be implemented in budgeting tools
- More granularity if needed
- Still compatible with a monetary approach



Where we are now

- Measuring real life power consumption
- Building APIs
- Modelizing complex environments
- Integrating cloud workflows



Scope 1: Backup generator fuel consumption

Scope 2: Electricity grid consumption

Scope 3: Building and equipment embodied emissions from manufacturing

Our proposition

- Build a common, international standard for methodology
- Build a common database with input from science
- Based on verifiable, state-of-the-art research
- Implement it in production tools: fiction, animation, sports…

Let us pimp your calculator!

For more information:

[Eureca]

[Workflowers]

[Carbon Pilot]

Workflowers